Independent Statistics and Analysis
U.S. Energy Information Administration

Short-Term Energy Outlook

STEO

November 2023



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November 2023

Short-Term Energy Outlook

Overview

U.S. energy market indicators	2022	2023	2024
Brent crude oil spot price (dollars per barrel)	**$101**	**$84**	**$93**
Retail gasoline price (dollars per gallon)	**$3.97**	**$3.55**	**$3.61**
U.S. crude oil production (million barrels per day)	**11.91**	**12.90**	**13.15**
Natural gas price at Henry Hub (dollars per million British thermal units)	**$6.42**	**$2.67**	**$3.25**
U.S. liquefied natural gas gross exports (billion cubic feet per day)	**10.6**	**11.8**	**12.3**
Shares of U.S. electricity generation			
Natural gas	39%	42%	41%
Coal	20%	16%	15%
Renewables	21%	22%	24%
Nuclear	19%	19%	19%
U.S. GDP (percentage change)	**1.9%**	**2.4%**	**1.5%**
U.S. CO_2 emissions (billion metric tons)	**4.94**	**4.79**	**4.75**

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook,* November 2023

- **Global oil supply.** We forecast global liquid fuels production will increase by 1.0 million barrels per day (b/d) in 2024. Ongoing OPEC+ production cuts will offset production growth from non-OPEC countries and help maintain a relatively balanced global oil market next year. Although the conflict between Israel and Hamas has not affected physical oil supply at this point, uncertainties surrounding the conflict and other global oil supply conditions could put upward pressure on crude oil prices in the coming months. We forecast the Brent crude oil price will increase from an average of $90 per barrel (b) in the fourth quarter of 2023 to an average of $93/b in 2024.

- **U.S. gasoline consumption.** U.S. gasoline consumption declines by 1% in 2024 in our forecast, which would result in the lowest per capita gasoline consumption in two decades. An increase in remote work in the United States, improvements in the fuel efficiency of the U.S. vehicle fleet, high gasoline prices, and persistently high inflation have reduced per capita gasoline demand.

- **Natural gas inventories.** We estimate that U.S. natural gas inventories totaled 3,835 billion cubic (Bcf) feet at the end of October, 6% more than the five-year (2018–2022) average. We forecast U.S. natural gas inventories will end the winter heating season (November–March) 21% above the five-year average with almost 2,000 Bcf in storage. Inventories are full because of high natural gas production and warmer-than-average winter weather, which reduces demand for space heating in the commercial and residential sectors. We forecast the Henry Hub spot price to average near $3.20 per million British thermal units (MMBtu) in November, down from a price of almost $5.50/MMBtu a year earlier.

- **Coal markets.** U.S. coal exports have returned to pre-pandemic levels, driven by record-high global coal demand stemming primarily from Europe and Asia. We forecast that exports will rise to 97 million short tons (MMst) in 2023, because of increases in both steam and metallurgical coal exports. We expect steam coal exports to rise by 6 MMst compared with2022 to 45 MMst in 2023 and metallurgical coal exports to increase by 6 MMst to reach 52 MMst over the same period. Despite this increase in coal exports, we expect U.S. production to fall by more than 100 MMst in 2024 due to reduced demand from the electric power sector. The decline in electricity generation from coal will be offset by an increase in electricity generation from renewable resources.

- **OPEC production capacity.** Despite rising OPEC spare production capacity in 2023 and in 2024, we lowered our estimate of Iraq's spare capacity by about 0.4 million b/d compared with last month's STEO. We removed Iraq's total production capacity assets in northern Iraq that relied on the northern Iraq-to-Türkiye pipeline for access to global markets. The pipeline has been out of commission since March 2023.

Notable forecast changes
Current forecast: November 7, 2023; previous forecast: October 11, 2023

	2023	2024
OPEC surplus crude oil production capacity (million barrels per day)	**3.7**	**4.3**
Previous forecast	4.1	4.9
Percentage change	-10.0%	-12.0%
U.S. coal power demand (million short tons)	**384**	**356**
Previous forecast	373	342
Percentage change	3.1%	4.0%
U.S. coal production (million short tons)	**585**	**480**
Previous forecast	581	465
Percentage change	0.7%	3.2%

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

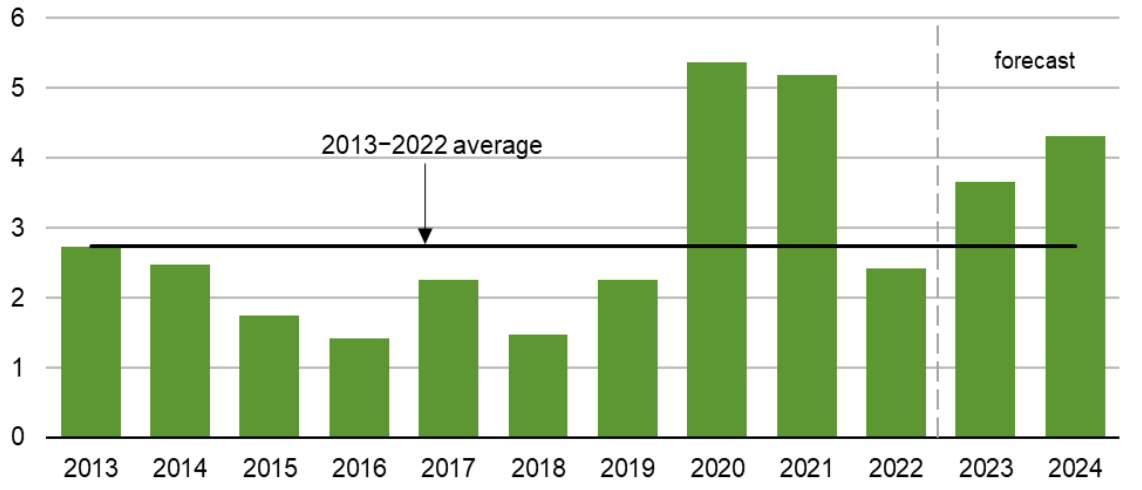
Global Oil Markets

Global oil supply

We forecast global liquid fuels production will increase by 1.0 million barrels per day (b/d) in 2024, down from growth of 1.6 million b/d this year. Although we forecast global oil production to grow next year, we expect ongoing cuts from OPEC+ will keep global production growth lower than global consumption growth and contribute to inventory draws and upward oil price pressure in the early part of 2024.

Growth in global crude oil supply has been limited in 2023 because of voluntary production cuts from Saudi Arabia and ongoing production cuts from other OPEC+ countries, which raised OPEC's spare crude oil production capacity from 2.4 million b/d in 2022 to a forecast of 4.3 million b/d in 2024. Saudi Arabia and the United Arab Emirates hold most of this capacity. Despite rising OPEC spare capacity in 2023 and in 2024, we lowered our estimate of Iraq's spare capacity compared with last month's STEO. We removed production capacity assets in northern Iraq that relied on the northern Iraq-to-Türkiye pipeline for access to global markets. The pipeline has been offline since March 2023 because of a dispute between Türkiye and Iraq over an international court ruling.

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



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, November 2023
Note: Black line represents 2013–2022 average (2.7 million barrels per day).

Although Russia's total liquids production fell significantly after its full-scale invasion of Ukraine in early 2022, its production has stabilized in mid-2023 around 10.6 million b/d. We assume Russia's oil production will remain relatively flat over the remainder of our forecast period at an average of 10.7 million b/d.

Although it has not directly affected physical oil markets so far, heightened uncertainty around the recent attacks on Israel and the potential for tensions spreading to a wider area in the Middle East poses risks to oil supply including available surplus production capacity. At this time, we have not materially

changed our oil production forecast for countries in the region, but the geopolitical situation could change rapidly.

The United States lifted sanctions on Venezuela's crude oil exports on October 18 for six months, contingent on electoral reforms. While the political situation remains in flux, we expect sanctions relief will only lead to limited increases in oil production. With sanctions relief, we forecast that Venezuela will increase crude oil production by less than 0.2 million b/d to an average of 0.9 million b/d by the end of 2024. Further increases in Venezuela's crude oil production will take longer and require significant investment after years of deferred maintenance and lack of access to capital.

Iran's crude oil production rose in recent years as it has increased exports to China using heavily discounted prices. Our assumption is that Iran will raise production by an additional 0.2 million in 2024. Sanctions on Iran's crude oil, insufficient upstream investment, and limited oil consumption growth in China cap Iran's oil production beyond this limited growth.

Global oil prices and inventory levels

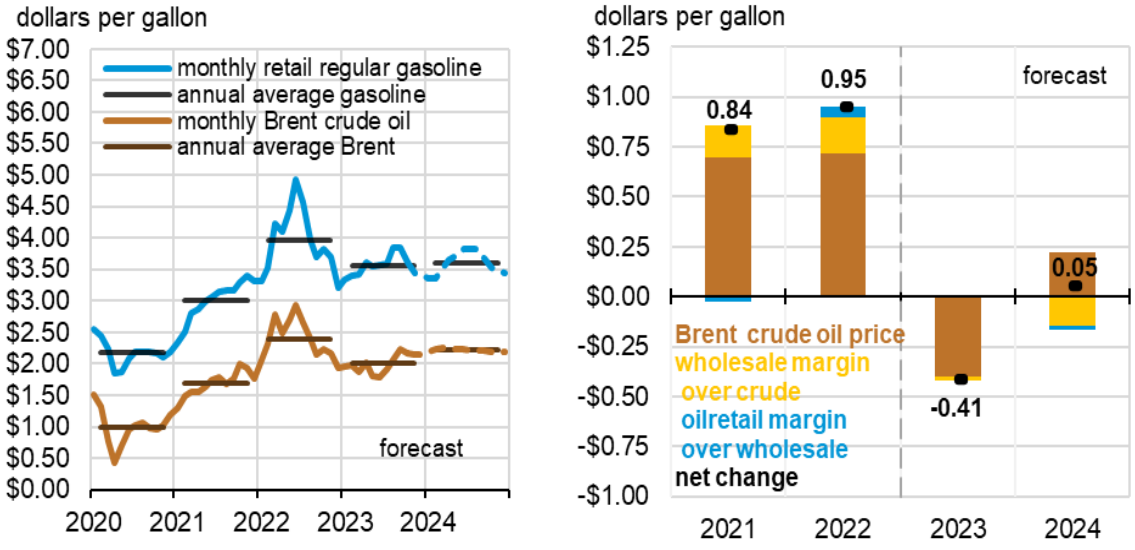
The Brent crude oil spot price averaged $91 per barrel (b) in October, a decrease of $3/b compared with September, accompanied by a significant increase in oil price volatility. We forecast the Brent crude oil price will increase from an average of $90/b in the fourth quarter of 2023 to an average of $94/b during the first half of 2024. Modest upward oil price pressures in the coming months reflect a slight decline in global oil inventories in the first half of 2024 as risks of supply disruptions remain high. Current OPEC+ production targets are set to expire at the end of 2024, and we assume that continuing voluntary cuts and other factors will keep actual OPEC+ crude oil production well below targets as the group tries to limit increases in global oil inventories. However, should OPEC+ produce closer to target levels than we currently assume, it could reduce prices in 2024.

Petroleum Products

Gasoline prices and margins

U.S. regular gasoline retail prices declined throughout October, falling from $3.80 per gallon (gal) on October 2 to $3.47/gal on October 30 because of a sharp decline in wholesale gasoline margins that began in late September. We forecast retail gasoline prices to remain near $3.40/gal for the remainder of 2023, resulting in an average 2023 price of $3.55/gal. We forecast a similar average near $3.60/gal for 2024.

U.S. gasoline and crude oil prices and components of annual gasoline price changes



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, November 2023, and Refinitiv, an LSEG business

Our forecast that retail gasoline prices will rise in 2024 primarily reflects a higher Brent crude oil price. We expect crude oil prices to contribute an additional 22 cents/gal to the retail gasoline price in 2024 compared with 2023. However, we expect much of this increase to be offset by decreases in the wholesale gasoline margin over crude oil. We expect the wholesale gasoline margin with crude oil to average 52 cents/gal in 2024, a decrease of 14 cents/gal from the forecast 2023 average of 67 cents/gal, resulting primarily from reduced demand for motor gasoline.

U.S. per capita gasoline consumption

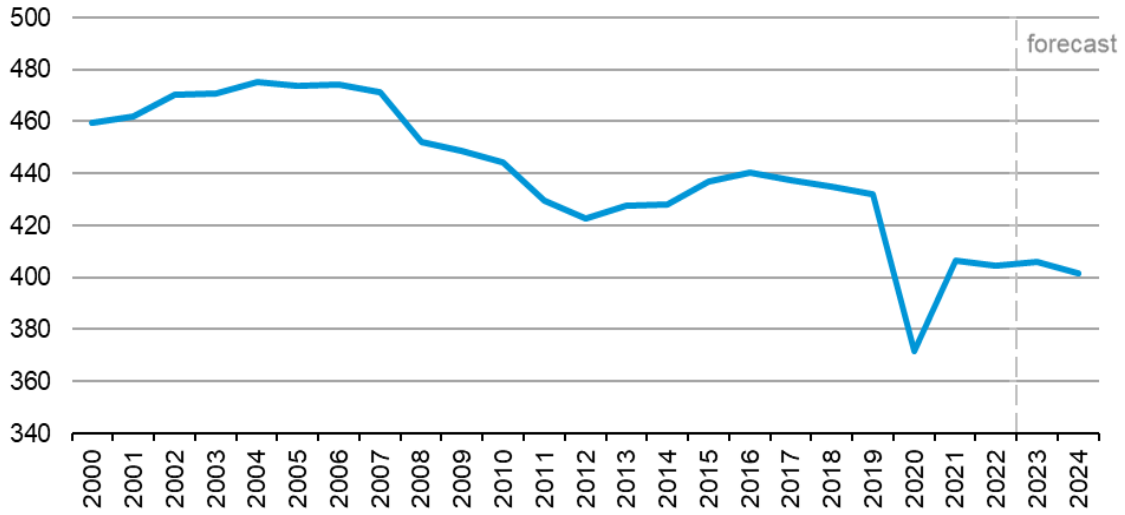
Although the U.S. population has grown in recent years, the nation's gasoline consumption has increased more slowly in comparison, meaning U.S. gasoline consumption has been decreasing on a per capita basis. There are two components to gasoline consumption—travel demand, measured by vehicle miles traveled (VMT), and vehicle fuel efficiency. Some of the major factors that may be contributing to the decline in per capita gasoline consumption include:

- The unclear effects of increased remote work on gasoline consumption since 2020. Although a higher percentage of the workforce engages in some remote work than before the pandemic, some studies suggest these workers drive more for nonwork purposes.
- Relatively high gasoline prices and persistently high inflation may be affecting consumer budgets and reducing discretionary driving.
- An aging population is reducing per person driving. Since 2001, the share of population over the age of 65 has increased, and this age cohort is less likely to be working. Partially offsetting this trend, however, is increasing employment as a share of the working age population, which has reached the highest levels since 2001.

- The replacement of older and less efficient internal combustion engine vehicles for newer internal combustion engine vehicles with higher fuel efficiency. Purchases of newer vehicles is partially offset by people keeping their vehicles longer, contributing to an increase in the average age of the vehicle fleet.
- Increased adoption of electric and hybrid vehicles, which reduces gasoline consumption.

Gradual improvements in fuel efficiency and the growing share of electric vehicles are reducing U.S. motor gasoline demand per capita. Our gasoline consumption forecast contains a variable for fuel economy that captures the combined effects that newer, more efficient internal combustion engine vehicles and electric vehicles have on gasoline consumption. Researchers at Argonne National Laboratory estimated electric vehicle adoption contributed to about 0.5% less U.S. gasoline consumption in 2021 than what would have otherwise occurred. The effects of electric vehicle adoption on gasoline consumption have likely increased since 2021; however, lags in data on vehicle scrappage rates and evolving telework trends, among other factors, complicate the analysis of attributing the degree to which electric vehicles have caused more recent declines in gasoline consumption per capita.

U.S. per capita gasoline consumption
gallons per person per year



Data source: U.S. Energy information Administration, *Short-Term Energy Outlook*, November 2023 and Oxford Economics

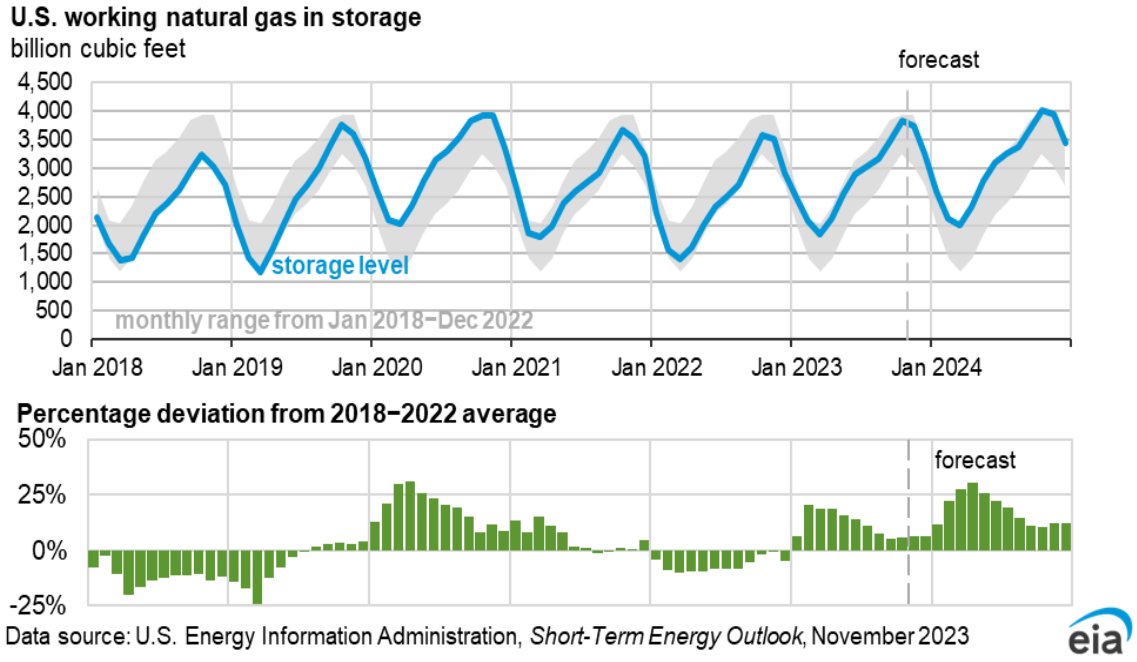
We forecast the average person in the United States will consume 402 gallons of gasoline in 2024, down from a peak of 475 gallons per person in 2004. Because of lower per capita gasoline consumption, we forecast overall U.S. gasoline consumption to decline in 2024 to 8.83 million barrels per day (b/d), from 8.88 million b/d in 2023 and down from the 2019 pre-pandemic average of 9.31 million b/d.

Natural Gas

Natural gas storage

At the end of October, which marks the end of the U.S. natural gas storage injection season (March–October), we expect that U.S. working natural gas in underground storage reached 3,835 billion cubic feet (Bcf), 6% more than the five-year (2018–2022) average.

Driven by strong natural gas production and expected warmer-than-average winter weather, we forecast U.S. natural gas inventories will end the winter heating season in March with 21% more natural gas than the five-year average, with just under 2,000 Bcf in storage. We expect U.S. dry natural gas production to average almost 105 billion cubic feet per day (Bcf/d) during the second half of 2023, up nearly 2 Bcf/d from the first half of the year. We forecast U.S. dry natural gas production will continue to average around 105 Bcf/d during the winter heating season. Our expectation of warmer-than-average winter weather, with 4% fewer heating degree days (HDDs) this winter compared with the prior 10-year (2013–2022) average, reduces consumption for space heating in the commercial and residential sectors by 2% compared with the five-year average. Although we expect this winter on average to be warmer than normal, we expect January and February to be colder than last year's warmer-than-average January and February.



Natural gas storage inventories in the East, Midwest, and South Central are all more than 87% full entering the winter according to our forecast. In the Mountain region, which has much less storage capacity than the other regions, we estimate storage is 98% full, the highest level on record at the end of October. Pacific region storage stocks were well below the five-year average all of last winter,

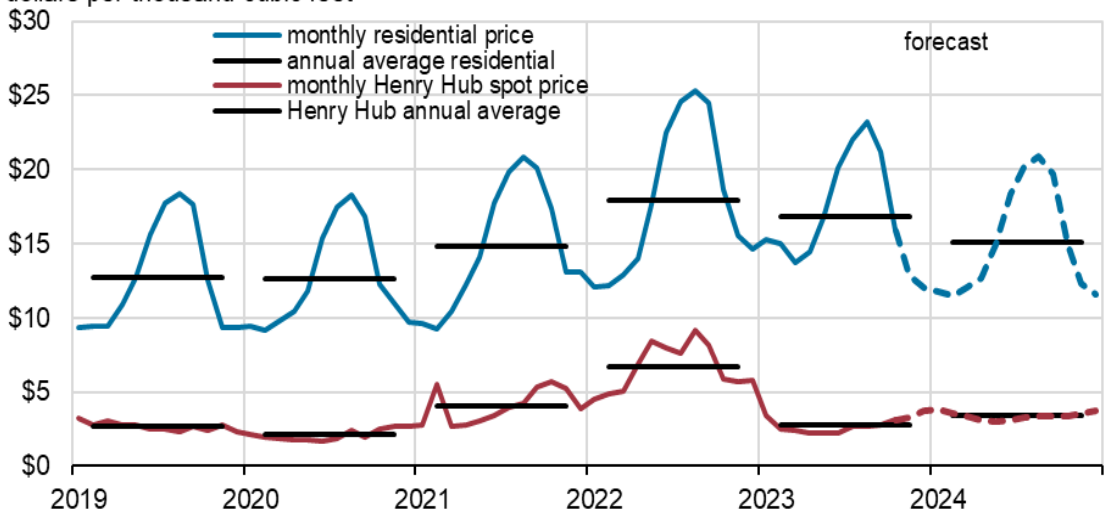
supporting record-high natural gas prices in the region in December 2022, but Pacific inventories have increased steadily this summer and are almost 80% full entering this winter heating season.

Natural gas prices

The U.S. benchmark Henry Hub spot price in our forecast averages around $3.40 per million British thermal units (MMBtu) over the course of the winter, peaking in January at over $3.60/MMBtu. Natural gas prices typically rise during the winter as demand for space heating increases and consumption of natural gas peaks for the year. We forecast prices this winter to be lower than last winter because of increased production and relatively full natural gas storage inventories entering the winter heating season. At the start of the winter last year, prices were over $5.00/MMBtu, and storage inventories were 3% below the five-year average.

Lower wholesale natural gas prices contribute to lower prices for residential consumers this winter compared with last year. Changes in residential natural gas prices lag changes in wholesale natural gas prices because of the nature of some utility regulation. Fixed costs incurred by utility companies are spread over time, usually resulting in lower residential prices in the winter than in the summer on a per-unit basis when all charges are combined. We forecast the residential price of natural gas will average just over $12 per thousand cubic feet this winter, down almost 20% from last year, reducing winter heating expenditures for consumers that heat their homes with natural gas.

U.S. natural gas prices
dollars per thousand cubic feet



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, November 2023, and Refinitiv, an LSEG business

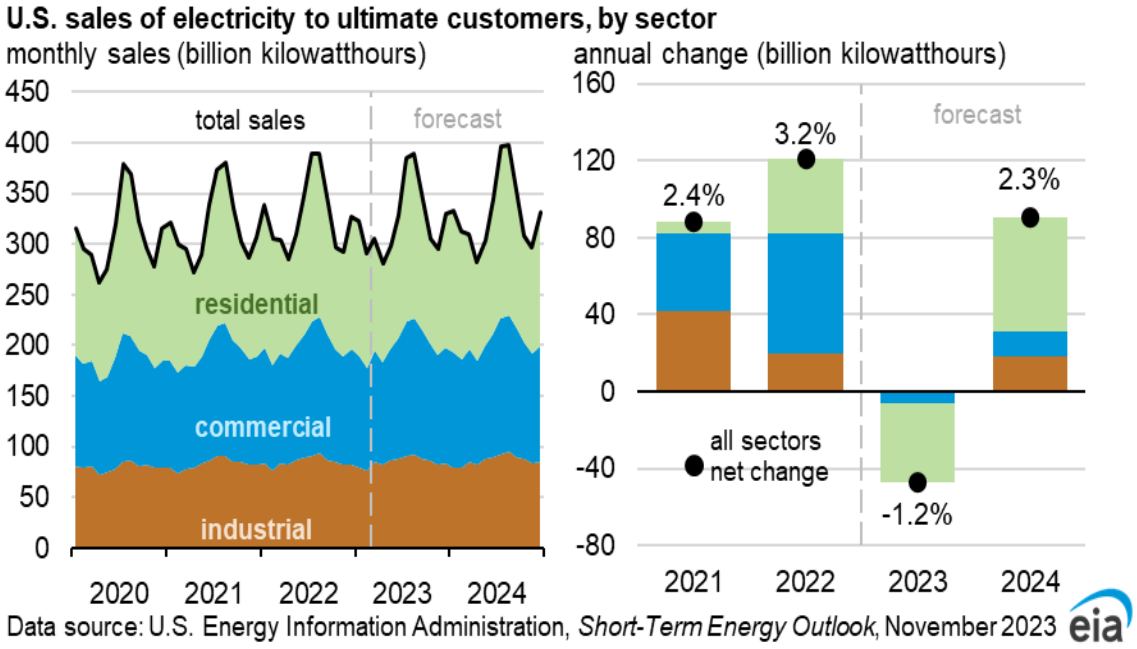
Electricity, Coal, and Renewables

Electricity consumption

Forecast sales of electricity to U.S. customers increase by more than 2% in 2024 after falling by an estimated 1% in 2023. We expect electricity consumption will grow slightly in most sectors next year, but mainly in the residential sector. Residential electricity use is sensitive to weather conditions. We

expect winter temperatures in 2024, as measured by heating degree days (HDDs), will be 2% colder than in 2023. We expect summer temperatures, measured by cooling degree days in our forecast, to be 6% hotter than in 2023. Both a colder winter and a warmer summer increase electricity use by households.

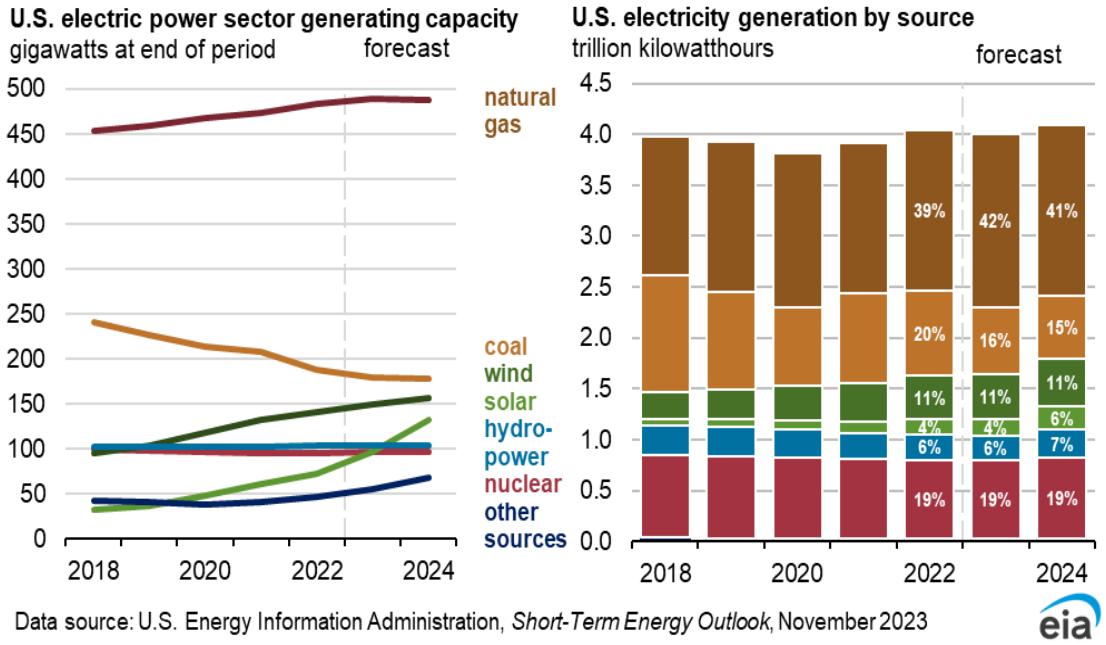
In addition to weather conditions, macroeconomic conditions affect electricity demand in the commercial and industrial sectors. Nationwide, we expect retail sales of electricity to these two sectors to grow slightly in 2024 after a slight decline in 2023. More than 40% of forecast growth in 2024 occurs in the West South Central Census Division where forecast GDP grows by 1.9% next year compared with overall U.S. GDP growth of 1.5%.



Electricity generation

Generation from renewable energy sources is the main contributor to growth in U.S. electricity generation over the STEO forecast horizon. The share of total U.S. generation from renewables rises from 21% in 2022 to a forecast share of 22% in 2023 and to 24% in 2024. Much of this increase is the result of an expected 60 gigawatts of new solar generating capacity entering service during 2023 and 2024. We believe that the solar capacity increase, in addition to our forecast of increased hydropower generation and modest gains in new wind capacity, will reduce generation from fossil fuel-fired power plants. We forecast the U.S. natural gas generation share will fall from its record high of 42% in 2023 to 41% in 2024, while coal's generation share continues to fall from 16% to 15%.

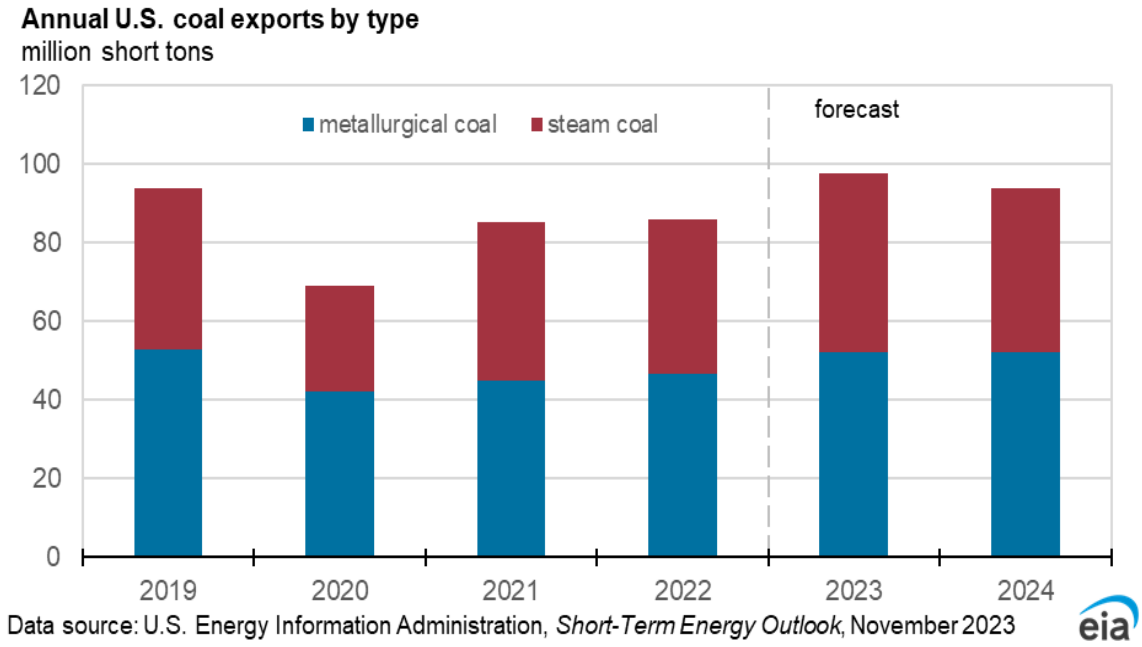
About one-third of the forecast growth in solar capacity occurs in the Texas electricity market. Natural gas is the largest source of power in that market, and we expect the share of generation from natural gas in Texas will fall from 46% in 2023 to 41% in 2024, replaced by a significant increase in generation from solar. New solar and wind capacity also is being added in the Midwest electricity region, which we expect will lead to reduced generation from coal-fired power plants.



Coal markets

Coal production in our forecast totals 585 million short tons (MMst) in 2023 and falls by more than 100 MMst in 2024. The large decrease next year is due to falling demand from the U.S. electric power sector. Reduced coal production is also a consequence of relatively full coal inventories held by electric generating plants, in late 2023 there is 50% more coal held by plants than in mid-2022. Even though coal prices have fallen due to demand reductions, coal-fired power generation is still not cost competitive based on our expectations that natural gas prices for electric generation will average about $3.50/MMBtu in 2024.

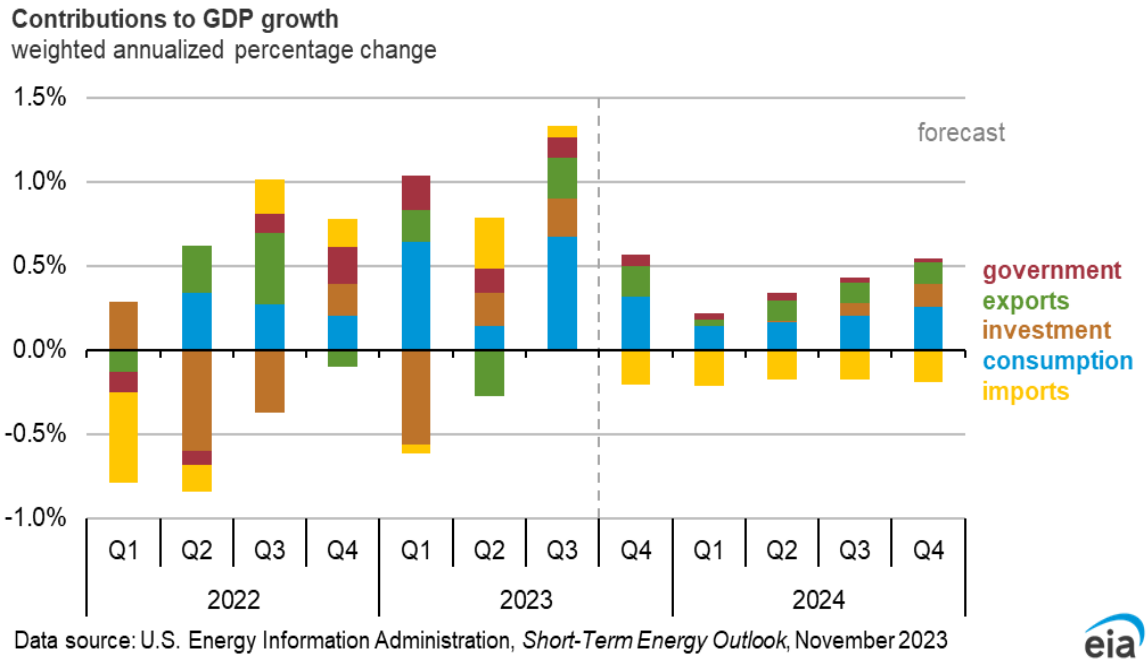
Declines in U.S. coal production from less domestic demand are partially offset by a return of demand from export markets to pre-pandemic levels. We forecast that exports will rise by 13% to reach 97 MMst in 2023, before again falling to 94 MMst in 2024. Exports fell to 69 MMst in 2020 though they returned to 86 MMst in 2022. The increase in coal exports to pre-pandemic levels is made up of both steam and metallurgical coal exports to customers in Europe and Asia. Exports to Europe have been bolstered by a ban on the import of coal from Russia due to the conflict in Ukraine.



Economy, Weather, and CO_2

U.S. macroeconomics

Our forecast assumes real U.S. GDP will grow 2.4% in 2023 and 1.5% in 2024, similar to our assumptions in last month's STEO. Growth in GDP next year is mostly the result of rising consumer expenditures with a significant contribution from exports as well. Our forecast now assumes that GDP will grow at an annualized rate of 4.8% in the third quarter of 2023 (3Q23), close to the Bureau of Economic Analysis's (BEA) 3Q23 advanced estimate of 4.9%. We assume GDP growth will slow in the last quarter, with an annualized growth rate of 1.7% in 4Q23.



Our U.S. macroeconomic forecasts are based on S&P Global's macroeconomic model. We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic assumptions.

Non-farm payroll employment increased by 336,000 jobs in September, but monthly additions are trending down toward pre-pandemic levels. Additions to non-farm payroll averaged 260,000 jobs per month in 2023 through September, down from a monthly average of nearly 400,000 jobs in 2022. Our forecast assumes employment growth will slow further in 2023 and 2024, as the unemployment rate rises to 4.1% by the end of 2024. S&P Global forecasts that slowing GDP growth and a rising unemployment rate are necessary for year-over-year inflation to fall to the Federal Reserve's target of 2%.

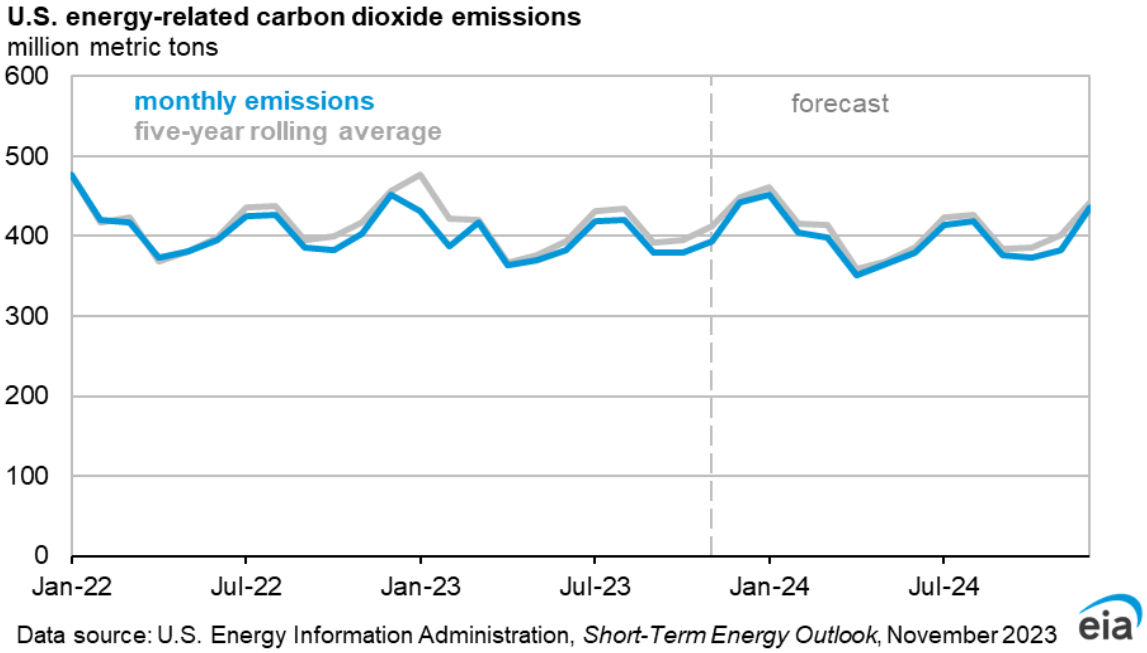
Emissions

U.S. energy-related carbon dioxide (CO_2) emissions increase in our forecast during the last few months of 2023 relative to October and remain relatively high during the first few months of 2024 as we enter the winter. Most of these seasonal emissions increases come from increased consumption of coal, predominantly for electric power, and natural gas for both electricity generation and space heating. Seasonal emissions typically peak in January in the United States.

We expect slightly less emissions this winter than in recent winters. We forecast 3% less U.S. CO_2 emissions between November 2023 and March 2024 than the average over that period during the past five winters. Less-than-average winter emissions are the result of several factors, including higher-than-average temperatures, improvements in energy efficiency, and decreases in the carbon intensity of electricity and space heating.

We expect U.S. CO_2 emissions to decrease by 3% for all of 2023. The largest reduction in CO_2 emissions is from decreased use of coal, down 18% from 2022. Emissions from petroleum remain unchanged as

falling gasoline consumption is offset by rising consumption of jet fuel and diesel, and emissions from natural gas increase slightly. In our forecast, total energy-related U.S. CO_2 emissions fall by 1% in 2024.



Weather

In our forecast, we assume a warmer November than last year, with a total of 488 HDDs, 5% fewer than in November 2022. We expect a colder 1Q24 with 4% more HDDs than in 1Q23. Overall, we expect an average of around 3,220 HDDs in the United States this winter, about the same as last winter and 4% fewer than the previous 10-winter average.

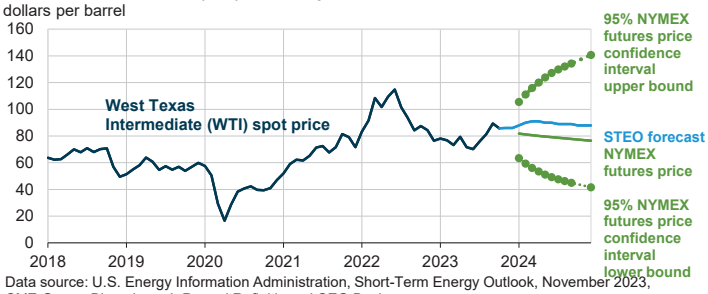
Short-Term Energy Outlook
Chart Gallery

November 7, 2023

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

dollars per barrel

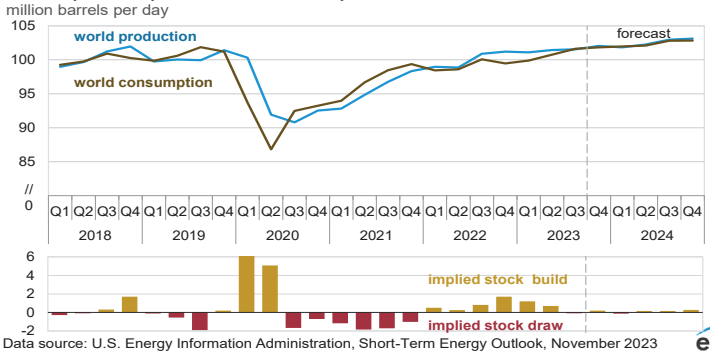


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

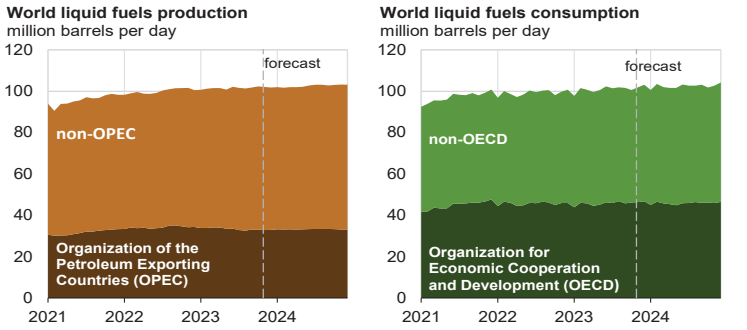
Note: Confidence interval derived from options market information for the five trading days ending November 2, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.

World liquid fuels production and consumption balance

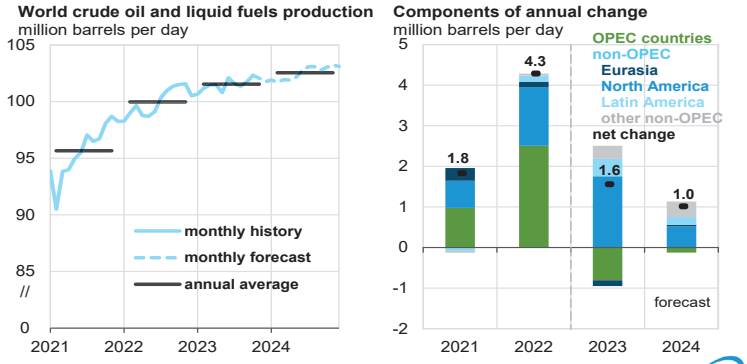
million barrels per day



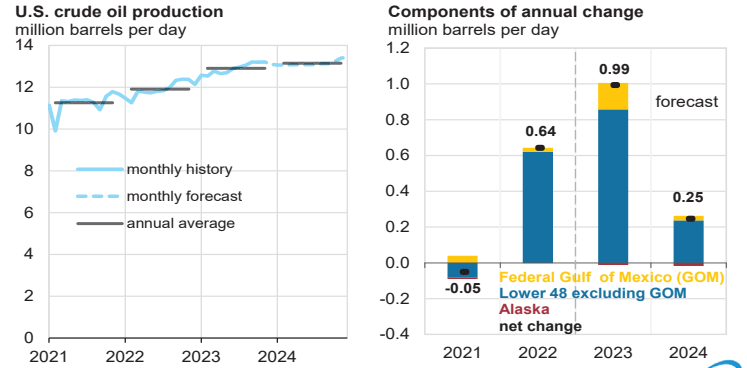
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023



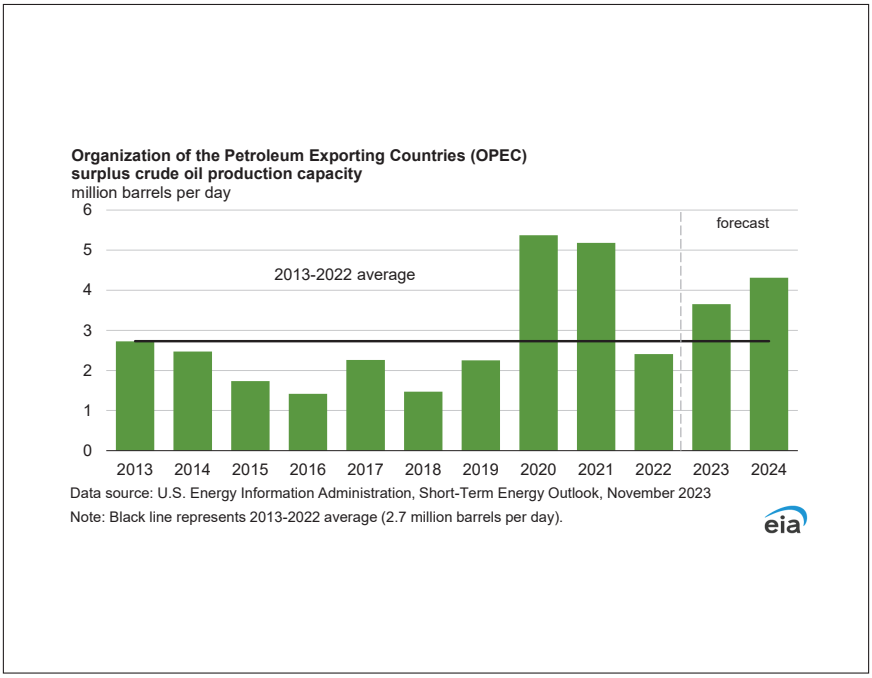
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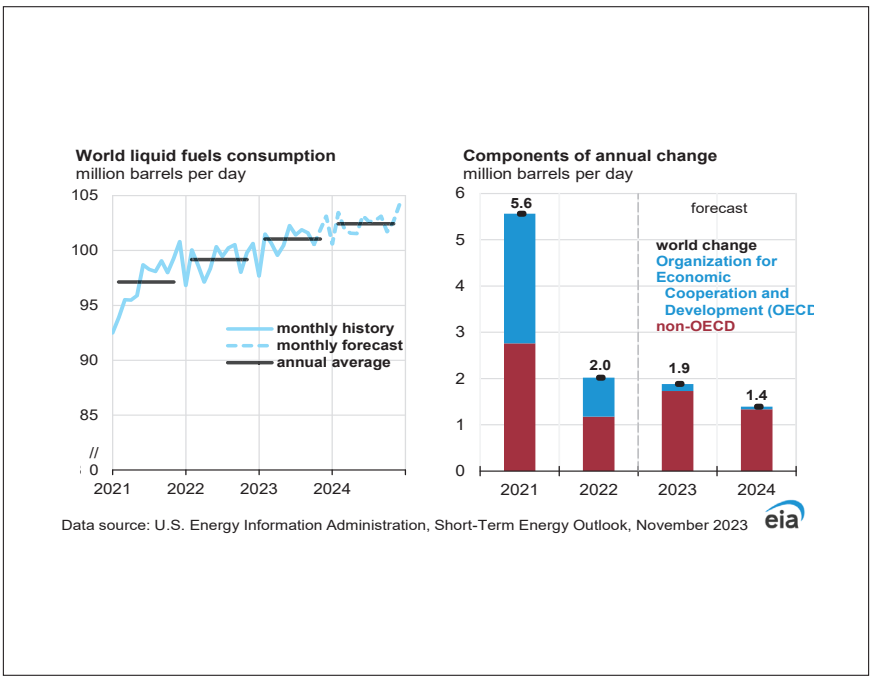


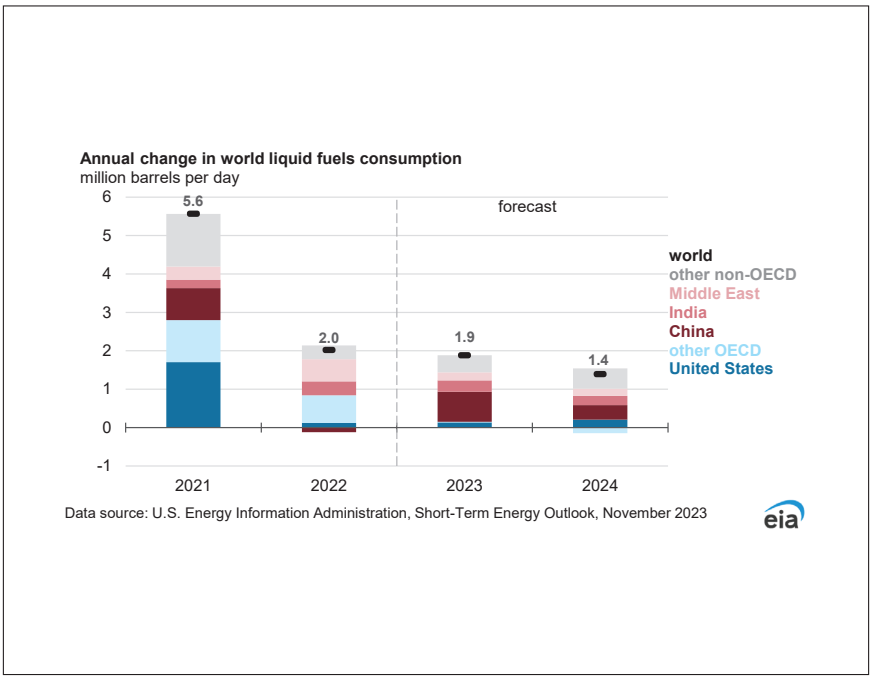
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

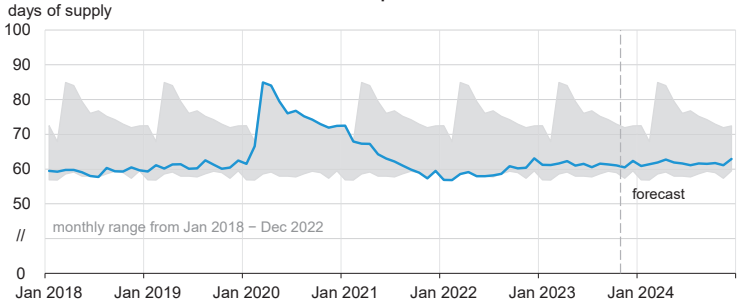

Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity
million barrels per day
6
5
4
3
2
1
0
2013-2022 average
forecast
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
Note: Black line represents 2013-2022 average (2.7 million barrels per day).
eia


World liquid fuels consumption
million barrels per day
105
100
95
90
85
0
monthly history
monthly forecast
annual average
2021
2022
2023
2024
Components of annual change
million barrels per day
6
5
4
3
2
1
0
5.6
2.0
1.9
1.4
forecast
world change
Organization for Economic Cooperation and Development (OECD
non-OECD
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia


Annual change in world liquid fuels consumption
million barrels per day
6
5
4
3
2
1
0
-1
5.6
2.0
1.9
1.4
forecast
world
other non-OECD
Middle East
India
China
other OECD
United States
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia

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

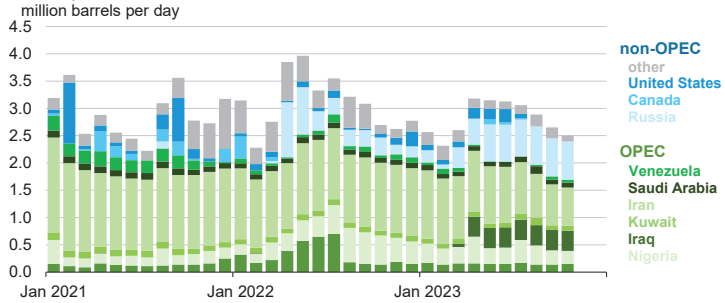
days of supply



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers

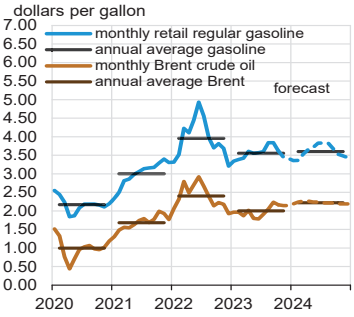
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

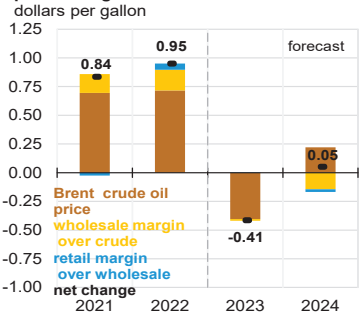
U.S. gasoline and crude oil prices

dollars per gallon



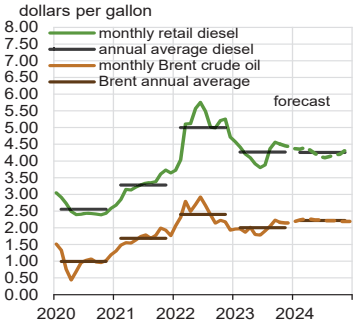
Components of annual gasoline price changes

dollars per gallon

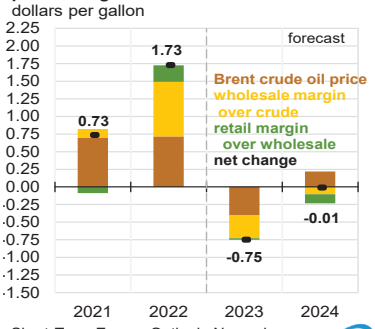


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023, and Refinitiv an LSEG Business

U.S. diesel and crude oil prices

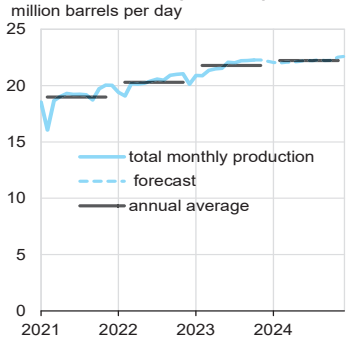


Components of annual diesel price changes

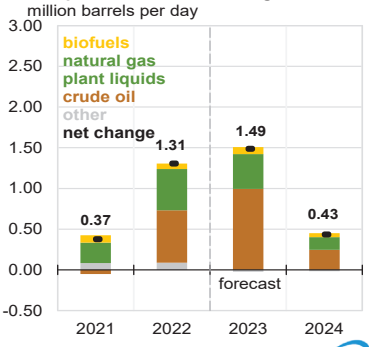


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023, and Refinitiv an LSEG Business

U.S. crude oil and liquid fuels production

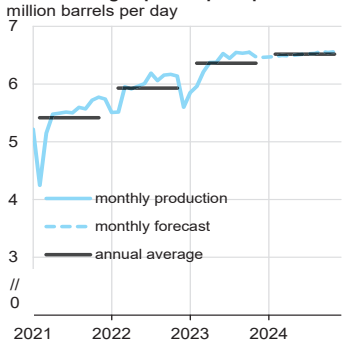


Components of annual change

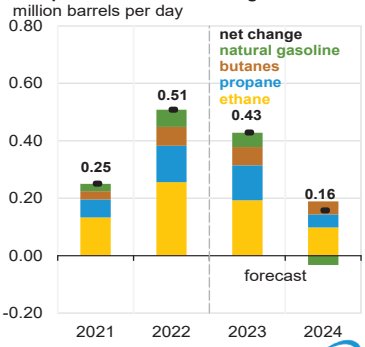


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

U.S. natural gas plant liquids production

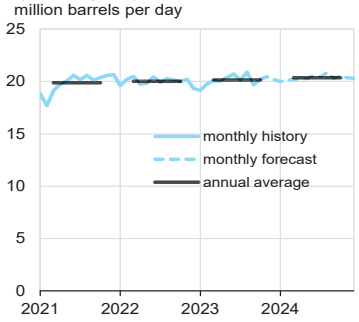


Components of annual change

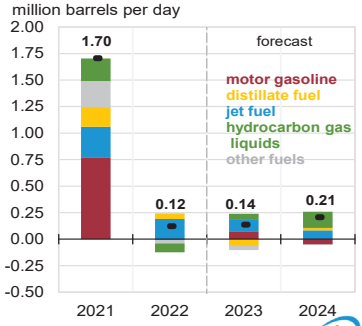


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

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

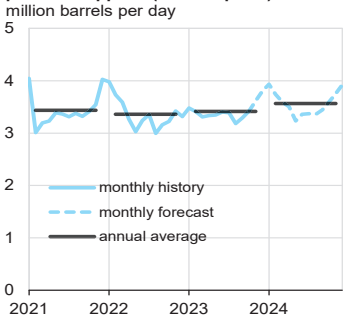


Components of annual change
million barrels per day

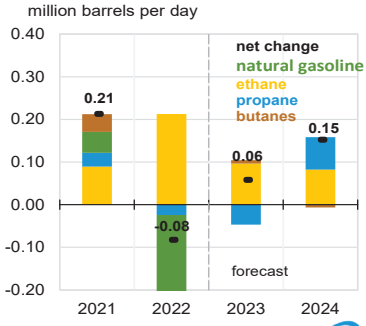


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

U.S. hydrocarbon gas liquids product supplied (consumption)
million barrels per day

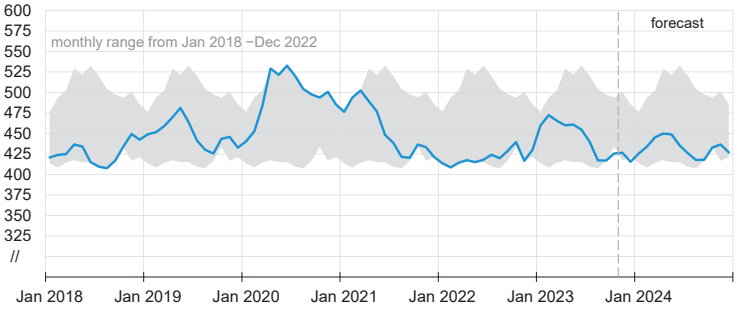


Components of annual change
million barrels per day



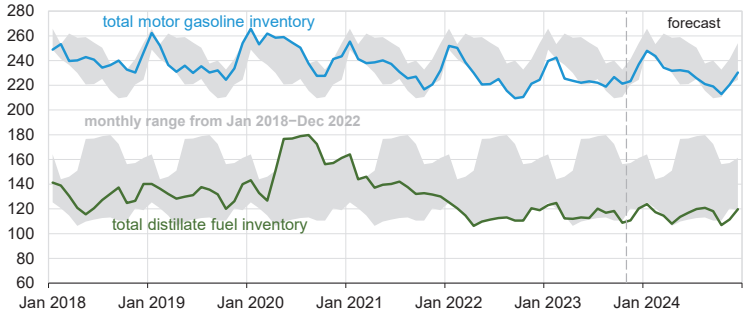
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

U.S. commercial crude oil inventories
million barrels



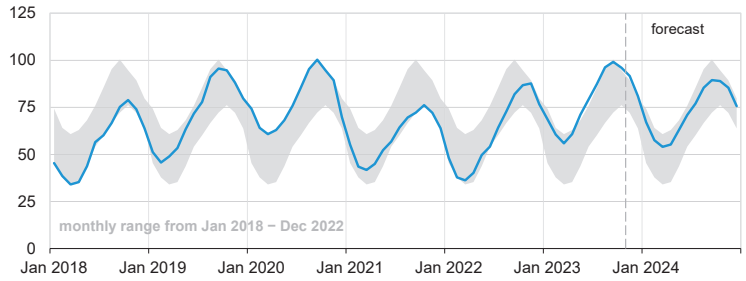
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

U.S. gasoline and distillate inventories
million barrels



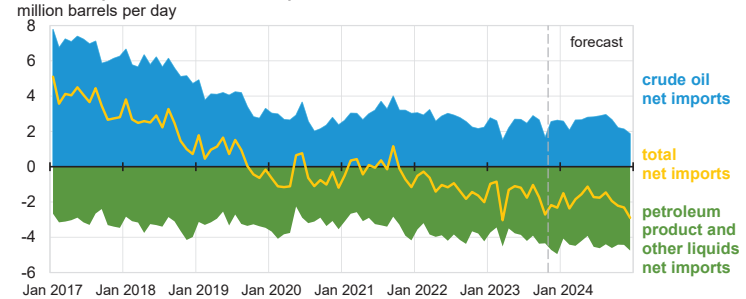
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

U.S. commercial propane inventories
million barrels



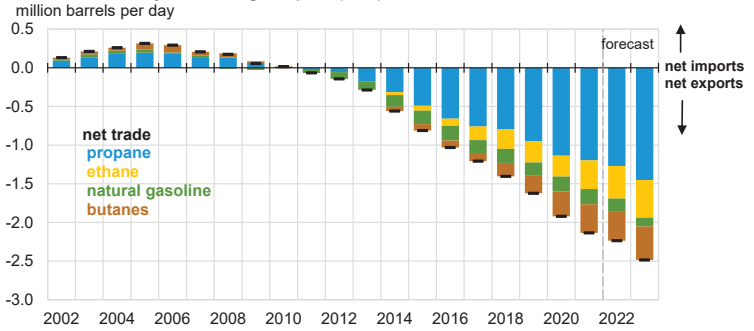
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
Note: Excludes propylene.

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



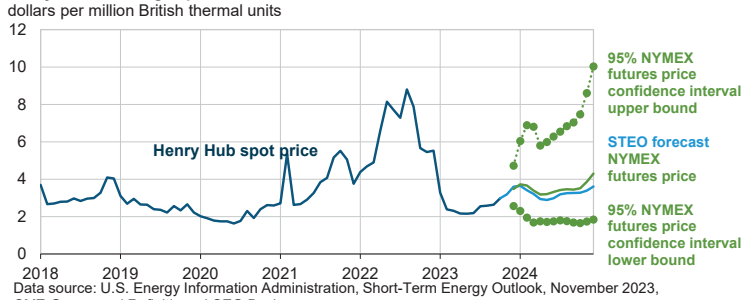
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

U.S. net trade of hydrocarbon gas liquids (HGL)
million barrels per day



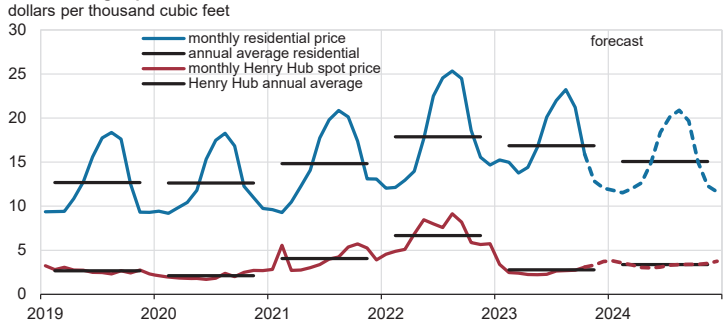
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

Henry Hub natural gas price and NYMEX confidence intervals
dollars per million British thermal units

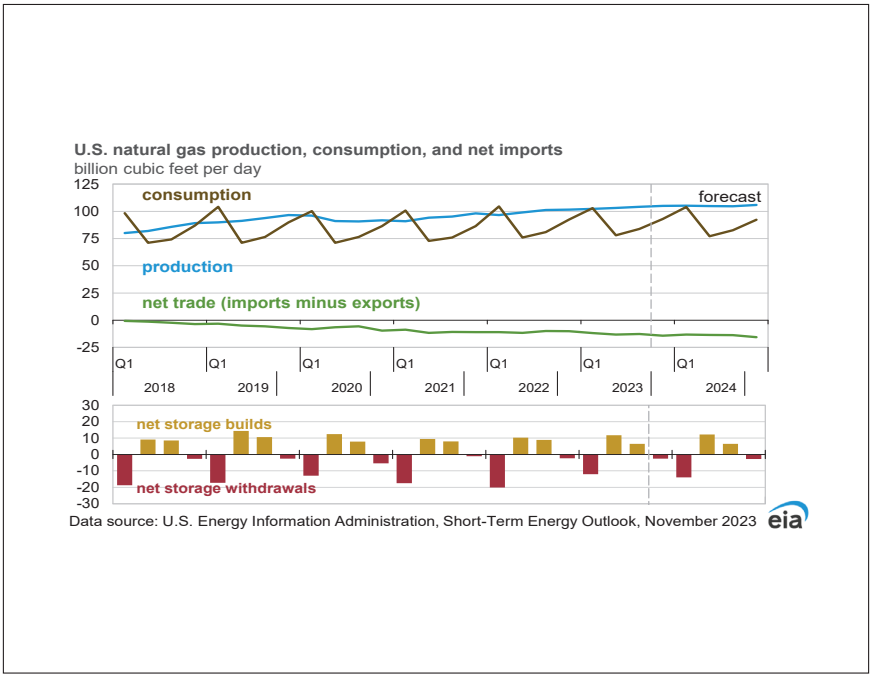


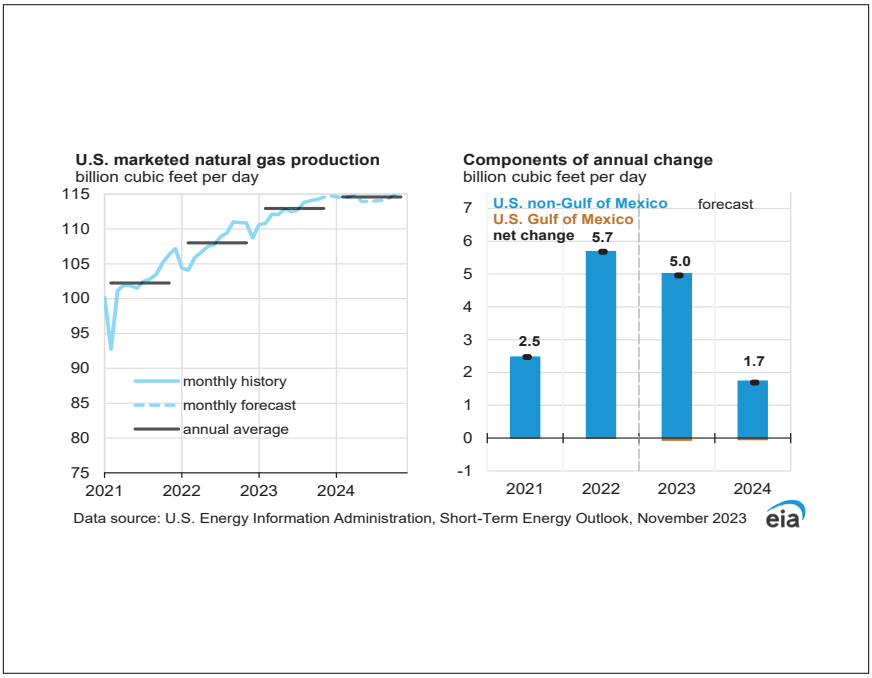
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023, CME Group, and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending November 2, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.

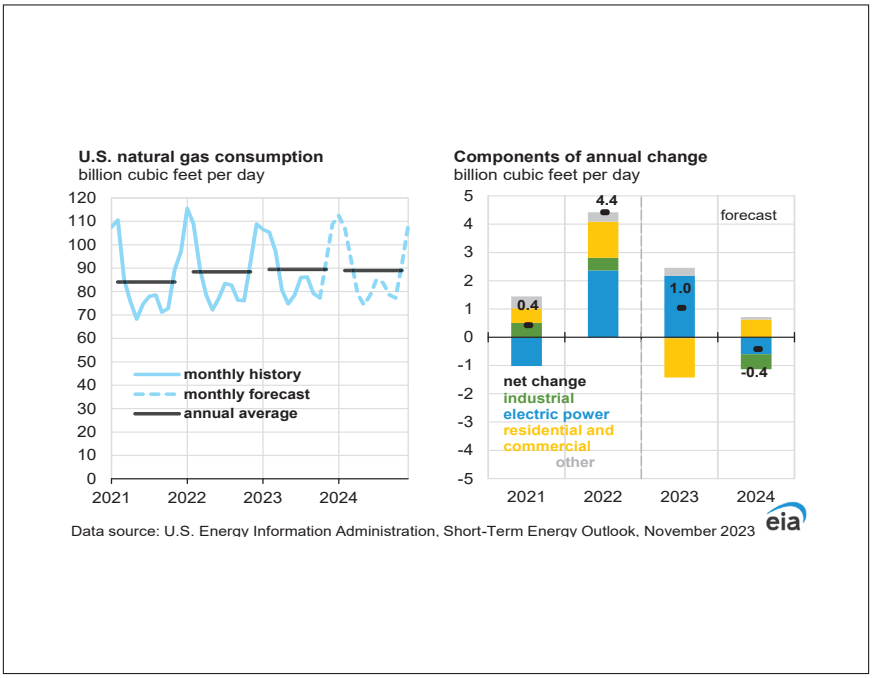
U.S. natural gas prices
dollars per thousand cubic feet

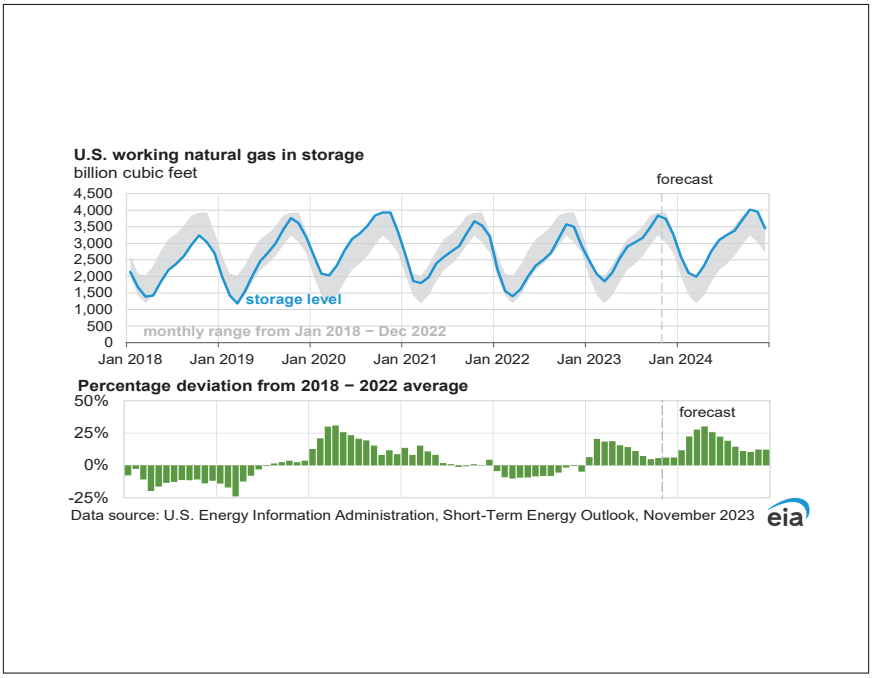


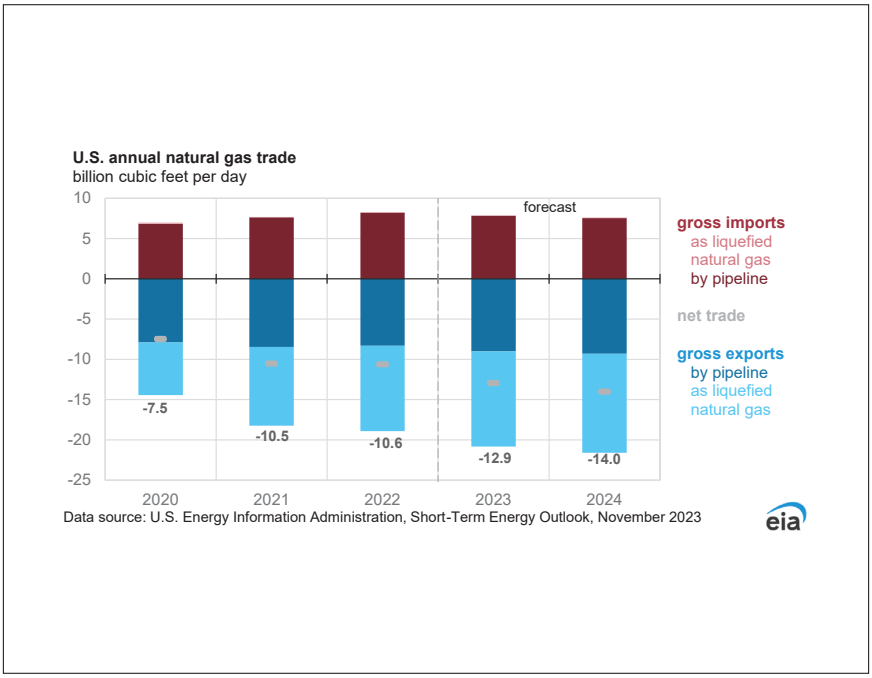
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023, and Refinitiv an LSEG Business

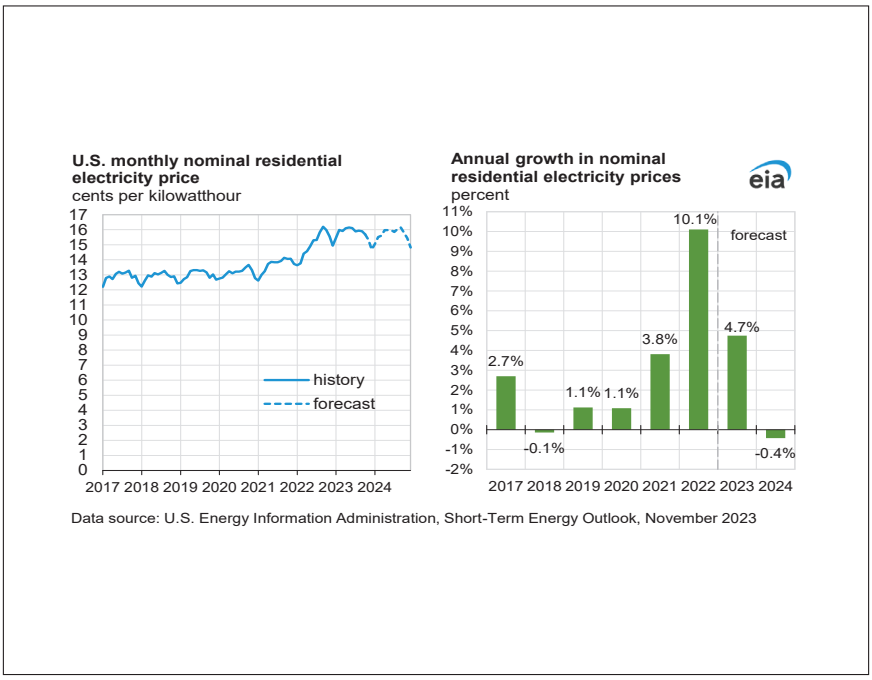

U.S. natural gas production, consumption, and net imports
billion cubic feet per day
consumption
forecast
production
net trade (imports minus exports)
net storage builds
net storage withdrawals
Q1
2018
2019
2020
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia

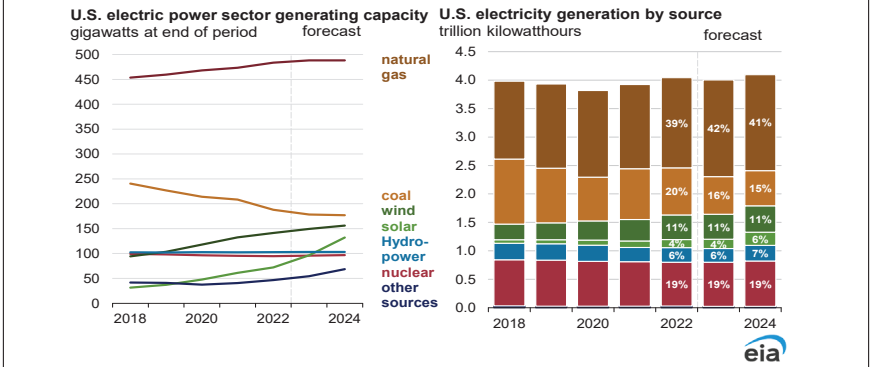

U.S. marketed natural gas production
billion cubic feet per day
monthly history
monthly forecast
annual average
Components of annual change
billion cubic feet per day
U.S. non-Gulf of Mexico
U.S. Gulf of Mexico
net change
forecast
2.5
5.7
5.0
1.7
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia

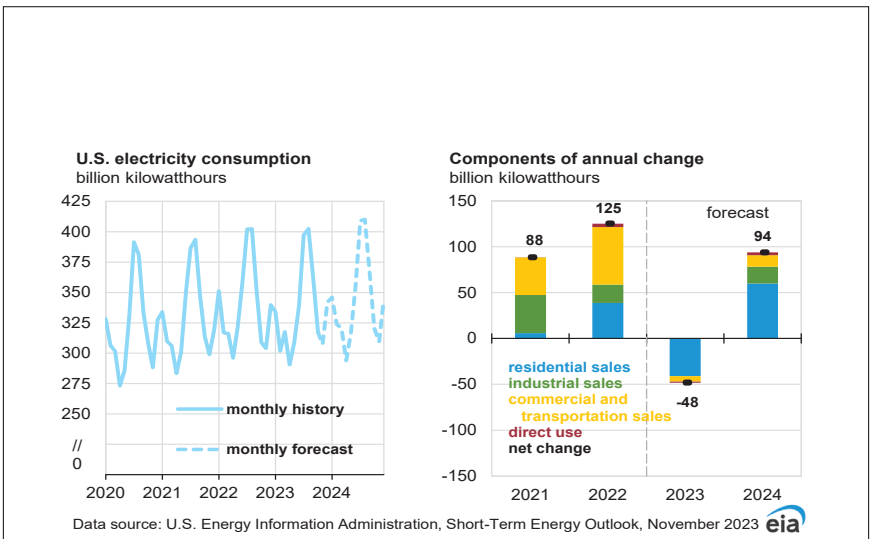

U.S. natural gas consumption
billion cubic feet per day
monthly history
monthly forecast
annual average
Components of annual change
billion cubic feet per day
forecast
0.4
4.4
1.0
-0.4
net change
industrial
electric power
residential and commercial
other
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia

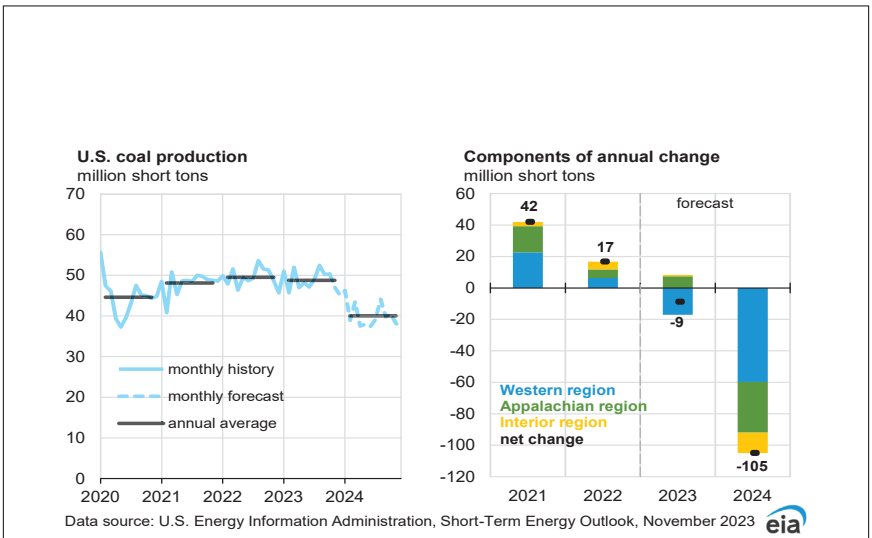

U.S. working natural gas in storage
billion cubic feet
forecast
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
storage level
monthly range from Jan 2018 – Dec 2022
Jan 2018
Jan 2019
Jan 2020
Jan 2021
Jan 2022
Jan 2023
Jan 2024
Percentage deviation from 2018 – 2022 average
50%
25%
0%
-25%
forecast
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia

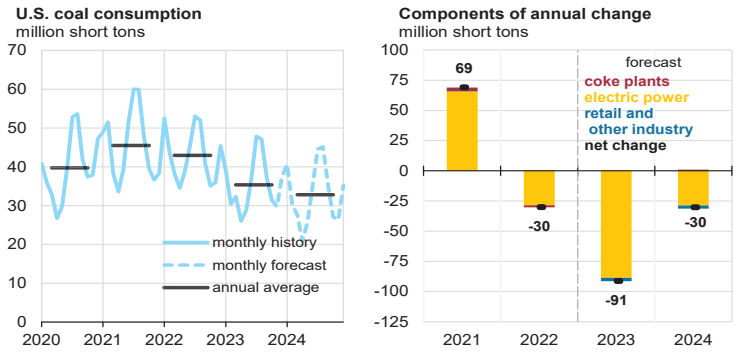

U.S. annual natural gas trade
billion cubic feet per day
10
5
0
-5
-10
-15
-20
-25
forecast
-7.5
-10.5
-10.6
-12.9
-14.0
2020
2021
2022
2023
2024
gross imports
as liquefied
natural gas
by pipeline
net trade
gross exports
by pipeline
as liquefied
natural gas
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia


U.S. monthly nominal residential electricity price
cents per kilowatthour
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
history
forecast
2017 2018 2019 2020 2021 2022 2023 2024
Annual growth in nominal residential electricity prices
percent
eia
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
-1%
-2%
2.7%
-0.1%
1.1%
1.1%
3.8%
10.1%
4.7%
-0.4%
forecast
2017 2018 2019 2020 2021 2022 2023 2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

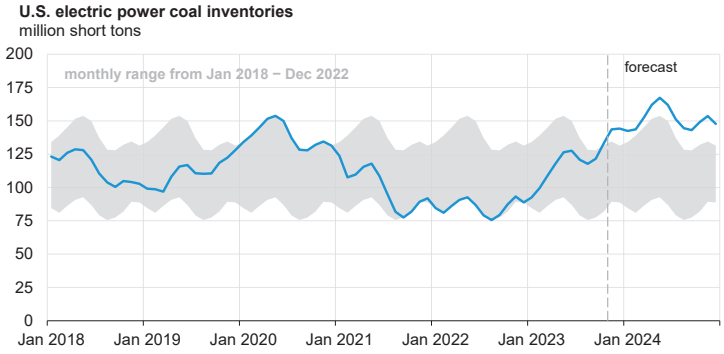

U.S. electric power sector generating capacity
gigawatts at end of period
forecast
natural gas
coal
wind
solar
Hydro-power
nuclear
other sources
U.S. electricity generation by source
trillion kilowatthours
forecast
39%
42%
41%
20%
16%
15%
11%
11%
11%
6%
4%
4%
6%
6%
7%
19%
19%
19%
2018
2020
2022
2024
eia


U.S. electricity consumption
billion kilowatthours
monthly history
monthly forecast
Components of annual change
billion kilowatthours
forecast
88
125
94
-48
residential sales
industrial sales
commercial and transportation sales
direct use
net change
2020
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia

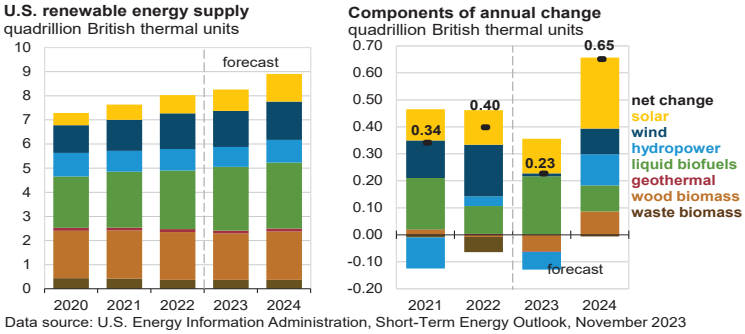

U.S. coal production
million short tons
monthly history
monthly forecast
annual average
Components of annual change
million short tons
forecast
42
17
-9
-105
Western region
Appalachian region
Interior region
net change
2020
2021
2022
2023
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

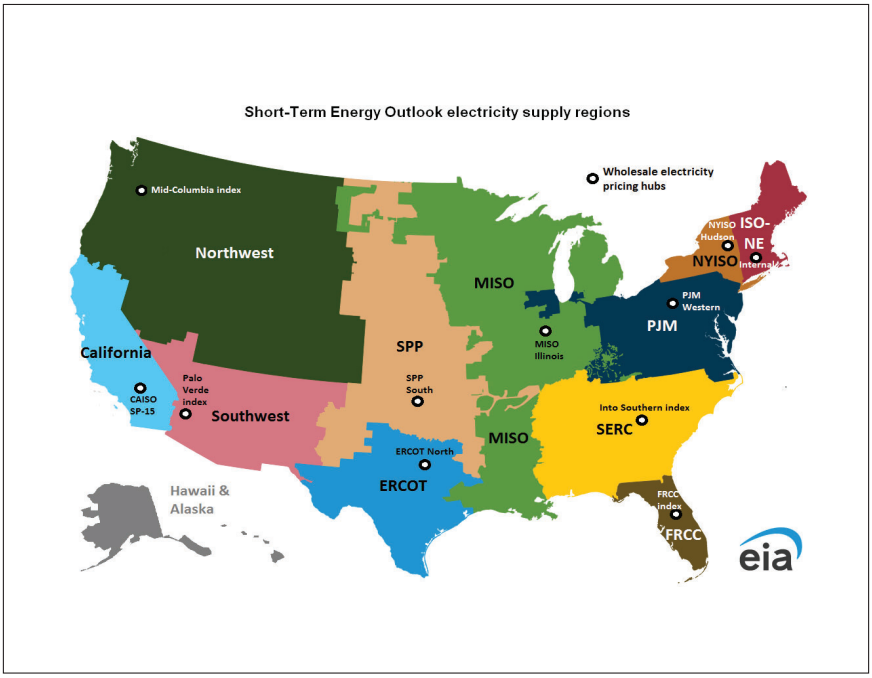


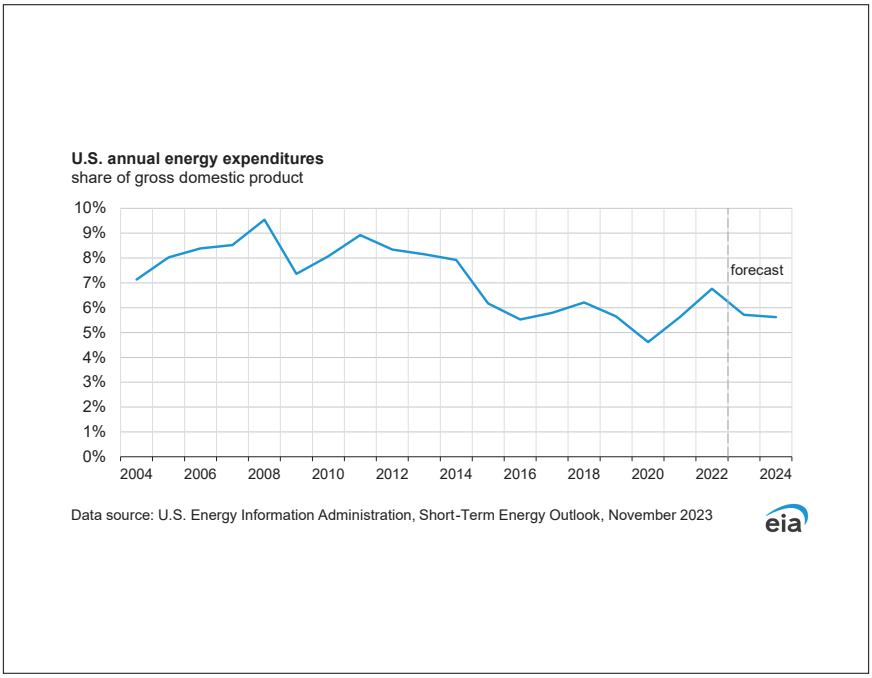
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

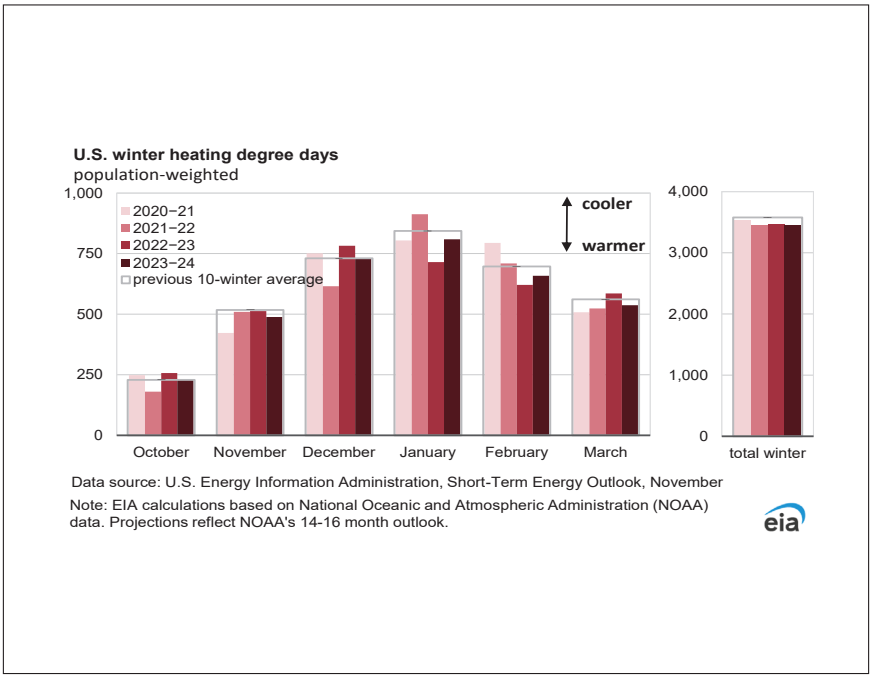


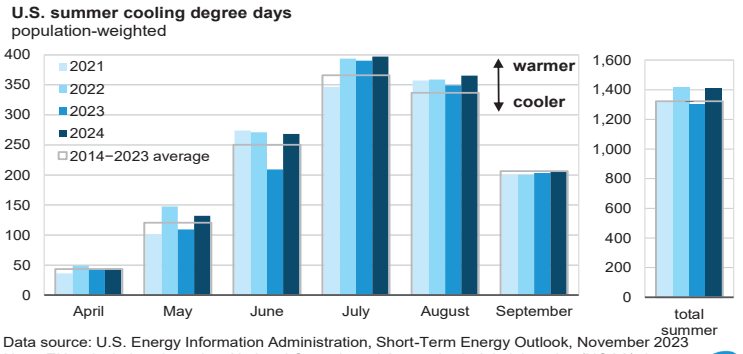
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

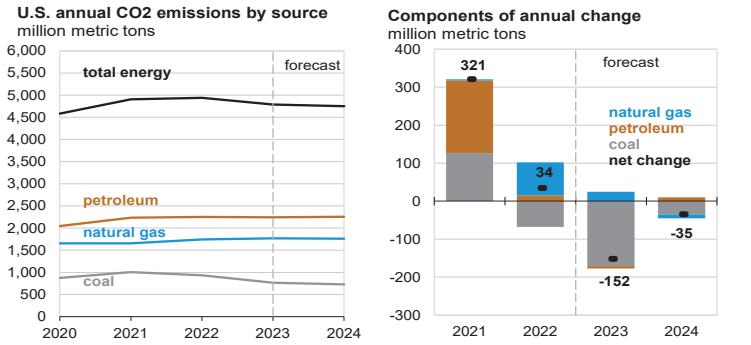

Short-Term Energy Outlook electricity supply regions
Wholesale electricity pricing hubs
Mid-Columbia index
Northwest
California
CAISO SP-15
Palo Verde index
Southwest
SPP
SPP South
MISO
MISO Illinois
MISO
PJM
PJM Western
NYISO
NYISO Hudson
ISO-NE
Into Southern index
SERC
ERCOT North
ERCOT
FRCC index
FRCC
Hawaii & Alaska
eia


U.S. annual energy expenditures
share of gross domestic product
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
forecast
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
eia


U.S. winter heating degree days
population-weighted
1,000
750
500
250
0
2020–21
2021–22
2022–23
2023–24
previous 10-winter average
cooler
warmer
4,000
3,000
2,000
1,000
0
October
November
December
January
February
March
total winter
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.
eia



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2023

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**11.52**	**11.77**	**12.05**	**12.30**	**12.63**	**12.75**	**13.07**	*13.17*	*13.06*	*13.08*	*13.11*	*13.35*	**11.91**	*12.90*	*13.15*
Dry Natural Gas Production															
(billion cubic feet per day)	**96.6**	**98.9**	**101.2**	**101.6**	**102.3**	**103.2**	**104.1**	*105.1*	*105.1*	*104.8*	*104.7*	*105.9*	**99.6**	*103.7*	*105.1*
Coal Production															
(million short tons)	**149**	**145**	**154**	**146**	**149**	**142**	**152**	*143*	*129*	*113*	*123*	*116*	**594**	*585*	*480*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.09**	**20.00**	**20.11**	**19.85**	**19.66**	**20.38**	**20.24**	*20.29*	*20.10*	*20.38*	*20.53*	*20.39*	**20.01**	*20.15*	*20.35*
Natural Gas															
(billion cubic feet per day)	**104.5**	**75.9**	**80.9**	**92.4**	**102.9**	**78.0**	**83.9**	*93.1*	*104.0*	*77.2*	*82.6*	*92.2*	**88.4**	*89.4*	*89.0*
Coal (b)															
(million short tons)	**134**	**119**	**146**	**116**	**102**	**91**	**132**	*99*	*98*	*82*	*125*	*89*	**516**	*424*	*394*
Electricity															
(billion kilowatt hours per day)	**10.94**	**10.73**	**12.57**	**10.35**	**10.60**	**10.32**	**12.63**	*10.51*	*10.88*	*10.62*	*12.88*	*10.59*	**11.15**	*11.02*	*11.24*
Renewables (c)															
(quadrillion Btu)	**2.00**	**2.11**	**1.95**	**1.96**	**2.03**	**2.09**	**2.03**	*2.10*	*2.20*	*2.29*	*2.22*	*2.20*	**8.03**	*8.26*	*8.91*
Total Energy Consumption (d)															
(quadrillion Btu)	**24.95**	**22.36**	**23.82**	**24.06**	**24.04**	**21.94**	**23.65**	*23.79*	*24.68*	*22.01*	*23.69*	*23.59*	**95.19**	*93.41*	*93.96*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**95.18**	**108.93**	**93.07**	**82.69**	**75.96**	**73.49**	**82.25**	*85.93*	*89.64*	*90.34*	*89.00*	*88.00*	**94.91**	*79.41*	*89.24*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**4.66**	**7.48**	**7.99**	**5.55**	**2.65**	**2.16**	**2.59**	*3.26*	*3.42*	*2.94*	*3.24*	*3.42*	**6.42**	*2.67*	*3.25*
Coal															
(dollars per million Btu)	**2.18**	**2.25**	**2.49**	**2.54**	**2.57**	**2.49**	**2.49**	*2.44*	*2.44*	*2.42*	*2.42*	*2.38*	**2.37**	*2.50*	*2.41*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2017 dollars - SAAR)	**21,739**	**21,708**	**21,851**	**21,990**	**22,112**	**22,225**	**22,493**	*22,586*	*22,597*	*22,640*	*22,699*	*22,779*	**21,822**	*22,354*	*22,679*
Percent change from prior year	**3.6**	**1.9**	**1.7**	**0.7**	**1.7**	**2.4**	**2.9**	*2.7*	*2.2*	*1.9*	*0.9*	*0.9*	**1.9**	*2.4*	*1.5*
GDP Implicit Price Deflator															
(Index, 2017=100)	**115.2**	**117.7**	**119.0**	**120.1**	**121.3**	**121.8**	**122.4**	*123.2*	*124.2*	*125.0*	*125.8*	*126.6*	**118.0**	*122.2*	*125.4*
Percent change from prior year	**6.9**	**7.7**	**7.2**	**6.4**	**5.3**	**3.5**	**2.9**	*2.6*	*2.4*	*2.7*	*2.7*	*2.8*	**7.1**	*3.5*	*2.6*
Real Disposable Personal Income															
(billion chained 2017 dollars - SAAR)	**16,067**	**16,010**	**16,152**	**16,239**	**16,663**	**16,808**	**16,780**	*16,859*	*17,009*	*17,137*	*17,260*	*17,366*	**16,117**	*16,777*	*17,193*
Percent change from prior year	**-12.6**	**-5.6**	**-3.5**	**-1.5**	**3.7**	**5.0**	**3.9**	*3.8*	*2.1*	*2.0*	*2.9*	*3.0*	**-6.0**	*4.1*	*2.5*
Manufacturing Production Index															
(Index, 2017=100)	**100.1**	**100.8**	**100.9**	**100.0**	**99.9**	**100.1**	**100.1**	*99.4*	*98.8*	*98.5*	*98.6*	*99.1*	**100.5**	*99.9*	*98.7*
Percent change from prior year	**4.5**	**3.6**	**2.8**	**0.7**	**-0.2**	**-0.7**	**-0.8**	*-0.6*	*-1.1*	*-1.7*	*-1.5*	*-0.4*	**2.9**	*-0.6*	*-1.2*
Weather															
U.S. Heating Degree-Days	**2,146**	**490**	**54**	**1,552**	**1,921**	**486**	**61**	*1,445*	*2,004*	*472*	*75*	*1,454*	**4,243**	*3,913*	*4,005*
U.S. Cooling Degree-Days	**47**	**467**	**953**	**90**	**68**	**362**	**943**	*101*	*50*	*444*	*968*	*105*	**1,557**	*1,476*	*1,568*

(a) Includes lease condensate.

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

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy. EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's *Monthly Energy Review* (MER). Consequently, the historical data may not precisely match those published in the MER.

- = no data available

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Prices are not adjusted for inflation.

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

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

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Weather forecasts from National Oceanic and Atmospheric Administration and Energy Information Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**95.18**	**108.93**	**93.07**	**82.69**	**75.96**	**73.49**	**82.25**	*85.93*	*89.64*	*90.34*	*89.00*	*88.00*	**94.91**	*79.41*	*89.24*
Brent Spot Average	**101.17**	**113.84**	**100.53**	**88.44**	**81.04**	**78.02**	**86.64**	*90.27*	*93.64*	*94.34*	*93.00*	*92.00*	**100.94**	*83.99*	*93.24*
U.S. Imported Average	**90.06**	**108.10**	**92.18**	**78.14**	**69.58**	**71.08**	**79.80**	*83.20*	*86.90*	*87.57*	*86.25*	*85.25*	**92.83**	*75.99*	*86.56*
U.S. Refiner Average Acquisition Cost	**92.68**	**110.12**	**95.19**	**83.11**	**74.44**	**73.99**	**81.94**	*85.44*	*89.16*	*89.82*	*88.50*	*87.50*	**95.33**	*79.04*	*88.75*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**278**	**376**	**311**	**267**	**262**	**265**	**296**	*244*	*254*	*289*	*292*	*261*	**309**	*267*	*274*
Diesel Fuel	**301**	**418**	**357**	**364**	**295**	**245**	**309**	*302*	*308*	*294*	*292*	*303*	**360**	*288*	*299*
Fuel Oil	**284**	**419**	**344**	**359**	**278**	**233**	**284**	*294*	*298*	*280*	*276*	*292*	**352**	*267*	*292*
Refiner Prices to End Users															
Jet Fuel	**283**	**400**	**340**	**332**	**305**	**233**	**291**	*294*	*304*	*292*	*287*	*298*	**340**	*281*	*295*
No. 6 Residual Fuel Oil (a)	**251**	**259**	**228**	**201**	**196**	**189**	**202**	*218*	*227*	*228*	*226*	*224*	**234**	*202*	*226*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**371**	**450**	**408**	**357**	**338**	**358**	**376**	*349*	*342*	*373*	*378*	*348*	**397**	*355*	*361*
Gasoline All Grades (b)	**380**	**460**	**419**	**369**	**349**	**369**	**387**	*362*	*354*	*385*	*390*	*361*	**408**	*367*	*373*
On-highway Diesel Fuel	**431**	**549**	**516**	**508**	**439**	**394**	**428**	*446*	*438*	*423*	*414*	*427*	**501**	*427*	*425*
Heating Oil	**415**	**553**	**497**	**493**	**406**	**353**	**384**	*417*	*414*	*390*	*375*	*414*	**466**	*399*	*407*
Propane															
Mont Belvieu Spot	**130**	**125**	**108**	**80**	**82**	**68**	**68**	*72*	*78*	*81*	*80*	*80*	**111**	*73*	*80*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**4.84**	**7.77**	**8.30**	**5.76**	**2.76**	**2.25**	**2.69**	*3.38*	*3.56*	*3.05*	*3.36*	*3.56*	**6.67**	*2.77*	*3.38*
Henry Hub Spot (dollars per million Btu)	**4.66**	**7.48**	**7.99**	**5.55**	**2.65**	**2.16**	**2.59**	*3.26*	*3.42*	*2.94*	*3.24*	*3.42*	**6.42**	*2.67*	*3.25*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**6.64**	**7.97**	**8.93**	**7.33**	**6.06**	**3.76**	**3.89**	*4.72*	*5.34*	*4.25*	*4.27*	*4.88*	**7.66**	*4.67*	*4.72*
Commercial Sector	**9.99**	**11.65**	**14.05**	**12.11**	**11.81**	**10.48**	**10.90**	*9.16*	*9.05*	*9.51*	*10.11*	*8.84*	**11.32**	*10.67*	*9.18*
Residential Sector	**12.30**	**16.51**	**24.78**	**15.56**	**14.72**	**16.19**	**22.10**	*12.92*	*11.76*	*14.45*	*20.20*	*12.38*	**14.77**	*14.88*	*12.97*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.18**	**2.25**	**2.49**	**2.54**	**2.57**	**2.49**	**2.49**	*2.44*	*2.44*	*2.42*	*2.42*	*2.38*	**2.37**	*2.50*	*2.41*
Natural Gas	**5.93**	**7.39**	**8.23**	**6.86**	**4.98**	**2.60**	**2.89**	*3.54*	*3.95*	*3.07*	*3.29*	*3.71*	**7.23**	*3.42*	*3.48*
Residual Fuel Oil (c)	**16.59**	**25.86**	**26.65**	**21.22**	**19.23**	**17.88**	**17.66**	*17.29*	*17.41*	*18.20*	*17.26*	*17.19*	**21.58**	*18.06*	*17.46*
Distillate Fuel Oil	**21.32**	**30.71**	**26.71**	**24.73**	**22.84**	**19.91**	**22.52**	*23.13*	*23.51*	*22.57*	*22.17*	*23.12*	**25.00**	*22.24*	*22.97*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.28**	**8.28**	**9.25**	**8.36**	**8.06**	**7.74**	**8.54**	*8.04*	*8.19*	*7.81*	*8.51*	*8.14*	**8.32**	*8.10*	*8.17*
Commercial Sector	**11.52**	**12.21**	**13.24**	**12.50**	**12.64**	**12.45**	**13.11**	*11.91*	*12.02*	*12.22*	*13.33*	*12.24*	**12.41**	*12.55*	*12.50*
Residential Sector	**13.91**	**14.96**	**15.74**	**15.44**	**15.77**	**16.12**	**15.91**	*15.18*	*15.36*	*15.98*	*16.01*	*15.31*	**15.04**	*15.75*	*15.69*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

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

WTI and Brent crude oil spot prices, the Mt. Belvieu propane spot price, and the Henry Hub natural gas spot price are from Refinitiv,an LSEG company, via EIA (https://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm).

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Production (million barrels per day) (a)															
OECD	**31.75**	**32.00**	**32.59**	**33.03**	**33.48**	**33.76**	**34.49**	*35.03*	*34.88*	*34.51*	*34.69*	*35.34*	**32.35**	*34.19*	*34.86*
U.S. (50 States)	**19.57**	**20.24**	**20.65**	**20.72**	**21.05**	**21.69**	**22.15**	*22.24*	*22.04*	*22.15*	*22.24*	*22.45*	**20.30**	*21.79*	*22.22*
Canada	**5.66**	**5.51**	**5.72**	**5.91**	**5.79**	**5.44**	**5.80**	*6.00*	*5.99*	*5.65*	*5.84*	*6.05*	**5.70**	*5.76*	*5.88*
Mexico	**1.91**	**1.89**	**1.90**	**1.90**	**2.07**	**2.16**	**2.11**	*2.11*	*2.11*	*2.08*	*2.06*	*2.03*	**1.90**	*2.11*	*2.07*
Other OECD	**4.61**	**4.35**	**4.32**	**4.49**	**4.56**	**4.47**	**4.43**	*4.69*	*4.73*	*4.64*	*4.55*	*4.80*	**4.44**	*4.54*	*4.68*
Non-OECD	**67.21**	**66.86**	**68.30**	**68.17**	**67.63**	**67.70**	**67.06**	*67.01*	*66.97*	*67.74*	*68.29*	*67.78*	**67.64**	*67.35*	*67.70*
OPEC	**33.75**	**33.76**	**34.71**	**34.43**	**33.95**	**33.69**	**32.85**	*32.97*	*33.15*	*33.21*	*33.39*	*33.19*	**34.17**	*33.36*	*33.24*
Crude Oil Portion	**28.19**	**28.33**	**29.23**	**28.92**	**28.46**	**28.38**	**27.50**	*27.58*	*27.67*	*27.85*	*28.01*	*27.77*	**28.67**	*27.98*	*27.83*
Other Liquids (b)	**5.56**	**5.43**	**5.48**	**5.52**	**5.49**	**5.31**	**5.35**	*5.39*	*5.49*	*5.35*	*5.38*	*5.42*	**5.50**	*5.38*	*5.41*
Eurasia	**14.39**	**13.39**	**13.59**	**14.01**	**14.11**	**13.67**	**13.45**	*13.63*	*13.67*	*13.73*	*13.76*	*13.84*	**13.84**	*13.71*	*13.75*
China	**5.18**	**5.18**	**5.05**	**5.09**	**5.32**	**5.32**	**5.19**	*5.32*	*5.27*	*5.30*	*5.29*	*5.33*	**5.12**	*5.29*	*5.30*
Other Non-OECD	**13.90**	**14.53**	**14.94**	**14.65**	**14.26**	**15.02**	**15.58**	*15.10*	*14.88*	*15.51*	*15.85*	*15.42*	**14.51**	*14.99*	*15.41*
Total World Production	**98.96**	**98.86**	**100.88**	**101.20**	**101.11**	**101.45**	**101.55**	*102.05*	*101.85*	*102.25*	*102.98*	*103.12*	**99.99**	*101.54*	*102.55*
Non-OPEC Production	**65.22**	**65.10**	**66.18**	**66.76**	**67.16**	**67.77**	**68.70**	*69.08*	*68.70*	*69.04*	*69.59*	*69.93*	**65.82**	*68.18*	*69.32*
Consumption (million barrels per day) (c)															
OECD	**45.63**	**45.11**	**46.22**	**45.63**	**45.20**	**45.33**	**46.20**	*46.45*	*45.74*	*45.35*	*46.13*	*46.20*	**45.65**	*45.80*	*45.86*
U.S. (50 States)	**20.09**	**20.00**	**20.11**	**19.85**	**19.66**	**20.38**	**20.24**	*20.29*	*20.10*	*20.38*	*20.53*	*20.39*	**20.01**	*20.15*	*20.35*
U.S. Territories	**0.11**	**0.12**	**0.13**	**0.12**	**0.12**	**0.12**	**0.12**	*0.12*	*0.12*	*0.12*	*0.12*	*0.12*	**0.12**	*0.12*	*0.12*
Canada	**2.24**	**2.21**	**2.38**	**2.30**	**2.24**	**2.23**	**2.32**	*2.30*	*2.26*	*2.21*	*2.31*	*2.29*	**2.28**	*2.27*	*2.27*
Europe	**13.19**	**13.43**	**14.04**	**13.35**	**13.06**	**13.32**	**13.98**	*13.74*	*13.17*	*13.32*	*13.73*	*13.49*	**13.50**	*13.53*	*13.43*
Japan	**3.70**	**3.03**	**3.19**	**3.56**	**3.72**	**3.03**	**3.15**	*3.48*	*3.62*	*3.00*	*3.10*	*3.43*	**3.37**	*3.34*	*3.29*
Other OECD	**6.30**	**6.33**	**6.37**	**6.45**	**6.39**	**6.26**	**6.38**	*6.52*	*6.46*	*6.31*	*6.34*	*6.47*	**6.36**	*6.39*	*6.40*
Non-OECD	**52.83**	**53.49**	**53.86**	**53.85**	**54.70**	**55.43**	**55.44**	*55.39*	*56.24*	*56.74*	*56.68*	*56.65*	**53.51**	*55.24*	*56.58*
Eurasia	**4.28**	**4.43**	**4.73**	**4.65**	**4.32**	**4.47**	**4.78**	*4.69*	*4.39*	*4.54*	*4.86*	*4.76*	**4.53**	*4.57*	*4.64*
Europe	**0.74**	**0.76**	**0.76**	**0.77**	**0.74**	**0.76**	**0.76**	*0.77*	*0.75*	*0.77*	*0.77*	*0.77*	**0.76**	*0.76*	*0.77*
China	**15.12**	**15.10**	**15.09**	**15.28**	**15.89**	**16.08**	**15.77**	*15.98*	*16.27*	*16.47*	*16.14*	*16.36*	**15.15**	*15.93*	*16.31*
Other Asia	**13.74**	**13.75**	**13.41**	**13.84**	**14.30**	**14.37**	**13.79**	*14.09*	*14.90*	*14.88*	*14.27*	*14.58*	**13.69**	*14.14*	*14.66*
Other Non-OECD	**18.95**	**19.45**	**19.86**	**19.32**	**19.45**	**19.74**	**20.34**	*19.86*	*19.93*	*20.10*	*20.65*	*20.17*	**19.39**	*19.85*	*20.21*
Total World Consumption	**98.46**	**98.60**	**100.08**	**99.48**	**99.90**	**100.76**	**101.64**	*101.85*	*101.98*	*102.09*	*102.82*	*102.85*	**99.16**	*101.04*	*102.44*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.80**	**0.51**	**0.45**	**0.41**	**-0.08**	**-0.11**	**-0.14**	*0.47*	*-0.06*	*-0.31*	*0.01*	*0.37*	**0.54**	*0.04*	*0.00*
Other OECD	**-0.09**	**-0.29**	**-0.48**	**-0.26**	**0.32**	**-0.53**	**0.07**	*-0.22*	*0.06*	*0.05*	*-0.05*	*-0.20*	**-0.28**	*-0.09*	*-0.04*
Other Stock Draws and Balance	**-1.21**	**-0.49**	**-0.79**	**-1.85**	**-1.45**	**-0.06**	**0.16**	*-0.45*	*0.13*	*0.10*	*-0.12*	*-0.44*	**-1.09**	*-0.45*	*-0.08*
Total Stock Draw	**-0.51**	**-0.26**	**-0.81**	**-1.71**	**-1.21**	**-0.70**	**0.09**	*-0.20*	*0.13*	*-0.16*	*-0.16*	*-0.27*	**-0.83**	*-0.50*	*-0.12*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,154**	**1,180**	**1,216**	**1,223**	**1,231**	**1,264**	**1,273**	*1,230*	*1,235*	*1,264*	*1,262*	*1,229*	**1,223**	*1,230*	*1,229*
OECD Commercial Inventory	**2,604**	**2,657**	**2,736**	**2,767**	**2,746**	**2,828**	**2,830**	*2,807*	*2,807*	*2,831*	*2,834*	*2,819*	**2,767**	*2,807*	*2,819*

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

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

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

- = no data available

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

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

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Historical data: Latest data available from Energy Information Administration *International Energy Statistics* (https://www.eia.gov/international/data/world).

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
North America	**27.14**	**27.65**	**28.27**	**28.54**	**28.91**	**29.29**	**30.06**	*30.34*	*30.14*	*29.88*	*30.14*	*30.54*	**27.90**	*29.66*	*30.18*
Canada	**5.66**	**5.51**	**5.72**	**5.91**	**5.79**	**5.44**	**5.80**	*6.00*	*5.99*	*5.65*	*5.84*	*6.05*	**5.70**	*5.76*	*5.88*
Mexico	**1.91**	**1.89**	**1.90**	**1.90**	**2.07**	**2.16**	**2.11**	*2.11*	*2.11*	*2.08*	*2.06*	*2.03*	**1.90**	*2.11*	*2.07*
United States	**19.57**	**20.24**	**20.65**	**20.72**	**21.05**	**21.69**	**22.15**	*22.24*	*22.04*	*22.15*	*22.24*	*22.45*	**20.30**	*21.79*	*22.22*
Central and South America	**5.83**	**6.41**	**6.87**	**6.58**	**6.31**	**7.00**	**7.54**	*7.06*	*6.87*	*7.50*	*7.84*	*7.40*	**6.43**	*6.98*	*7.40*
Argentina	**0.77**	**0.78**	**0.79**	**0.82**	**0.81**	**0.81**	**0.82**	*0.87*	*0.85*	*0.87*	*0.89*	*0.92*	**0.79**	*0.83*	*0.88*
Brazil	**3.33**	**3.79**	**4.15**	**3.78**	**3.55**	**4.19**	**4.69**	*4.14*	*3.84*	*4.42*	*4.74*	*4.29*	**3.76**	*4.15*	*4.32*
Colombia	**0.77**	**0.77**	**0.78**	**0.79**	**0.79**	**0.81**	**0.81**	*0.80*	*0.80*	*0.79*	*0.78*	*0.78*	**0.78**	*0.80*	*0.79*
Ecuador	**0.48**	**0.47**	**0.49**	**0.49**	**0.46**	**0.48**	**0.49**	*0.49*	*0.49*	*0.49*	*0.50*	*0.50*	**0.48**	*0.48*	*0.50*
Guyana	**0.12**	**0.24**	**0.32**	**0.35**	**0.35**	**0.37**	**0.40**	*0.44*	*0.56*	*0.61*	*0.61*	*0.61*	**0.26**	*0.39*	*0.60*
Europe	**4.04**	**3.76**	**3.81**	**3.93**	**4.01**	**3.92**	**3.89**	*4.14*	*4.17*	*4.08*	*4.00*	*4.26*	**3.89**	*3.99*	*4.13*
Norway	**1.97**	**1.74**	**1.91**	**1.99**	**2.03**	**2.03**	**1.96**	*2.09*	*2.11*	*2.04*	*2.05*	*2.22*	**1.90**	*2.03*	*2.10*
United Kingdom	**0.97**	**0.91**	**0.80**	**0.84**	**0.87**	**0.79**	**0.81**	*0.93*	*0.92*	*0.91*	*0.82*	*0.90*	**0.88**	*0.85*	*0.89*
Eurasia	**14.39**	**13.39**	**13.59**	**14.01**	**14.11**	**13.67**	**13.45**	*13.63*	*13.67*	*13.73*	*13.76*	*13.84*	**13.84**	*13.71*	*13.75*
Azerbaijan	**0.70**	**0.67**	**0.65**	**0.67**	**0.65**	**0.62**	**0.62**	*0.62*	*0.62*	*0.62*	*0.62*	*0.63*	**0.67**	*0.62*	*0.62*
Kazakhstan	**2.01**	**1.77**	**1.62**	**1.92**	**2.02**	**1.97**	**1.85**	*1.99*	*1.93*	*1.99*	*2.02*	*2.08*	**1.83**	*1.96*	*2.01*
Russia	**11.30**	**10.59**	**10.95**	**11.06**	**11.06**	**10.68**	**10.58**	*10.62*	*10.72*	*10.72*	*10.72*	*10.73*	**10.97**	*10.73*	*10.72*
Turkmenistan	**0.26**	**0.26**	**0.26**	**0.26**	**0.27**	**0.27**	**0.27**	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	**0.26**	*0.27*	*0.27*
Middle East	**3.23**	**3.29**	**3.34**	**3.28**	**3.22**	**3.22**	**3.19**	*3.17*	*3.20*	*3.21*	*3.20*	*3.20*	**3.28**	*3.20*	*3.20*
Oman	**1.05**	**1.07**	**1.10**	**1.08**	**1.07**	**1.06**	**1.05**	*1.03*	*1.03*	*1.03*	*1.03*	*1.03*	**1.07**	*1.05*	*1.03*
Qatar	**1.85**	**1.86**	**1.86**	**1.86**	**1.86**	**1.86**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.86**	*1.86*	*1.86*
Asia and Oceania	**9.17**	**9.16**	**8.87**	**9.00**	**9.21**	**9.26**	**9.13**	*9.28*	*9.24*	*9.25*	*9.23*	*9.26*	**9.05**	*9.22*	*9.25*
Australia	**0.44**	**0.47**	**0.39**	**0.43**	**0.41**	**0.42**	**0.41**	*0.42*	*0.41*	*0.41*	*0.40*	*0.39*	**0.43**	*0.42*	*0.40*
China	**5.18**	**5.18**	**5.05**	**5.09**	**5.32**	**5.32**	**5.19**	*5.32*	*5.27*	*5.30*	*5.29*	*5.33*	**5.12**	*5.29*	*5.30*
India	**0.88**	**0.89**	**0.87**	**0.85**	**0.85**	**0.90**	**0.91**	*0.89*	*0.91*	*0.91*	*0.91*	*0.90*	**0.87**	*0.89*	*0.91*
Indonesia	**0.84**	**0.83**	**0.81**	**0.83**	**0.82**	**0.85**	**0.82**	*0.82*	*0.82*	*0.81*	*0.80*	*0.80*	**0.83**	*0.83*	*0.81*
Malaysia	**0.62**	**0.60**	**0.58**	**0.62**	**0.61**	**0.58**	**0.58**	*0.59*	*0.59*	*0.58*	*0.58*	*0.57*	**0.60**	*0.59*	*0.58*
Africa	**1.40**	**1.43**	**1.44**	**1.44**	**1.38**	**1.41**	**1.44**	*1.44*	*1.39*	*1.40*	*1.41*	*1.42*	**1.43**	*1.42*	*1.41*
Egypt	**0.66**	**0.68**	**0.67**	**0.67**	**0.66**	**0.67**	**0.66**	*0.65*	*0.61*	*0.61*	*0.61*	*0.61*	**0.67**	*0.66*	*0.61*
South Sudan	**0.15**	**0.15**	**0.16**	**0.15**	**0.13**	**0.13**	**0.16**	*0.16*	*0.16*	*0.16*	*0.15*	*0.15*	**0.16**	*0.15*	*0.15*
Total non-OPEC liquids	**65.22**	**65.10**	**66.18**	**66.76**	**67.16**	**67.77**	**68.70**	*69.08*	*68.70*	*69.04*	*69.59*	*69.93*	**65.82**	*68.18*	*69.32*
OPEC non-crude liquids	**5.56**	**5.43**	**5.48**	**5.52**	**5.49**	**5.31**	**5.35**	*5.39*	*5.49*	*5.35*	*5.38*	*5.42*	**5.50**	*5.38*	*5.41*
Non-OPEC + OPEC non-crude	**70.77**	**70.54**	**71.66**	**72.28**	**72.65**	**73.08**	**74.05**	*74.46*	*74.18*	*74.40*	*74.97*	*75.35*	**71.32**	*73.57*	*74.73*
Unplanned non-OPEC Production Outages	**0.76**	**1.31**	**0.78**	**0.56**	**0.56**	**1.02**	**0.92**	-	-	-	-	-	**0.85**	-	-

- = no data available

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

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

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

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

Historical data: Latest data available from Energy Information Administration *International Energy Statistics* (https://www.eia.gov/international/data/world).

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Crude Oil															
Algeria	**0.97**	**1.00**	**1.02**	**1.02**	**1.01**	**0.98**	**0.95**	-	-	-	-	-	**1.00**	-	-
Angola	**1.15**	**1.19**	**1.16**	**1.10**	**1.08**	**1.14**	**1.14**	-	-	-	-	-	**1.15**	-	-
Congo (Brazzaville)	**0.27**	**0.29**	**0.28**	**0.26**	**0.27**	**0.25**	**0.26**	-	-	-	-	-	**0.27**	-	-
Equatorial Guinea	**0.09**	**0.09**	**0.09**	**0.07**	**0.06**	**0.06**	**0.06**	-	-	-	-	-	**0.09**	-	-
Gabon	**0.19**	**0.19**	**0.20**	**0.21**	**0.20**	**0.21**	**0.20**	-	-	-	-	-	**0.20**	-	-
Iran	**2.55**	**2.53**	**2.53**	**2.56**	**2.60**	**2.74**	**2.97**	-	-	-	-	-	**2.54**	-	-
Iraq	**4.30**	**4.42**	**4.55**	**4.51**	**4.41**	**4.19**	**4.32**	-	-	-	-	-	**4.45**	-	-
Kuwait	**2.61**	**2.69**	**2.80**	**2.72**	**2.68**	**2.59**	**2.56**	-	-	-	-	-	**2.71**	-	-
Libya	**1.06**	**0.76**	**0.95**	**1.14**	**1.14**	**1.15**	**1.15**	-	-	-	-	-	**0.98**	-	-
Nigeria	**1.27**	**1.11**	**0.97**	**1.07**	**1.24**	**1.19**	**1.21**	-	-	-	-	-	**1.10**	-	-
Saudi Arabia	**10.08**	**10.30**	**10.85**	**10.50**	**10.02**	**10.18**	**9.02**	-	-	-	-	-	**10.43**	-	-
United Arab Emirates	**2.94**	**3.04**	**3.17**	**3.09**	**3.06**	**2.94**	**2.91**	-	-	-	-	-	**3.06**	-	-
Venezuela	**0.70**	**0.72**	**0.66**	**0.69**	**0.70**	**0.75**	**0.76**	-	-	-	-	-	**0.69**	-	-
OPEC Total	**28.19**	**28.33**	**29.23**	**28.92**	**28.46**	**28.38**	**27.50**	*27.58*	*27.67*	*27.85*	*28.01*	*27.77*	**28.67**	*27.98*	*27.83*
Other Liquids (a)	**5.56**	**5.43**	**5.48**	**5.52**	**5.49**	**5.31**	**5.35**	*5.39*	*5.49*	*5.35*	*5.38*	*5.42*	**5.50**	*5.38*	*5.41*
Total OPEC Production	**33.75**	**33.76**	**34.71**	**34.43**	**33.95**	**33.69**	**32.85**	*32.97*	*33.15*	*33.21*	*33.39*	*33.19*	**34.17**	*33.36*	*33.24*
OPEC+ Crude Oil Production	**39.43**	**38.99**	**40.06**	**39.78**	**39.29**	**38.60**	**37.36**	*37.60*	*37.69*	*37.86*	*38.00*	*37.75*	**39.57**	*38.20*	*37.83*
Crude Oil Production Capacity															
Middle East	**25.48**	**25.46**	**25.55**	**25.66**	**25.88**	**25.67**	**25.90**	*25.96*	*26.29*	*26.31*	*26.39*	*26.70*	**25.54**	*25.85*	*26.42*
Other	**5.83**	**5.45**	**5.35**	**5.55**	**5.71**	**5.78**	**5.81**	*5.82*	*5.73*	*5.72*	*5.71*	*5.70*	**5.54**	*5.78*	*5.72*
OPEC Total	**31.31**	**30.91**	**30.89**	**31.21**	**31.59**	**31.45**	**31.70**	*31.78*	*32.02*	*32.03*	*32.10*	*32.40*	**31.08**	*31.63*	*32.14*
Surplus Crude Oil Production Capacity															
Middle East	**3.00**	**2.47**	**1.65**	**2.28**	**3.10**	**3.02**	**4.12**	*4.13*	*4.30*	*4.11*	*4.03*	*4.57*	**2.35**	*3.60*	*4.25*
Other	**0.12**	**0.11**	**0.01**	**0.01**	**0.02**	**0.05**	**0.08**	*0.07*	*0.06*	*0.06*	*0.06*	*0.06*	**0.06**	*0.06*	*0.06*
OPEC Total	**3.12**	**2.58**	**1.67**	**2.29**	**3.13**	**3.07**	**4.20**	*4.20*	*4.36*	*4.17*	*4.09*	*4.63*	**2.41**	*3.65*	*4.31*
Unplanned OPEC Production Outages	**1.98**	**2.42**	**2.50**	**2.14**	**1.94**	**2.13**	**1.95**	-	-	-	-	-	**2.26**	-	-

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

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

OPEC+ = OPEC (excluding Iran, Libya, and Venezuela) plus Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan, and Sudan.

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration *International Energy Statistics* (https://www.eia.gov/international/data/world).

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
North America	**24.10**	**24.20**	**24.46**	**24.11**	**23.78**	**24.50**	**24.50**	*24.54*	*24.25*	*24.50*	*24.74*	*24.60*	**24.22**	*24.33*	*24.52*
Canada	**2.24**	**2.21**	**2.38**	**2.30**	**2.24**	**2.23**	**2.32**	*2.30*	*2.26*	*2.21*	*2.31*	*2.29*	**2.28**	*2.27*	*2.27*
Mexico	**1.76**	**1.99**	**1.96**	**1.95**	**1.87**	**1.88**	**1.93**	*1.94*	*1.87*	*1.90*	*1.89*	*1.91*	**1.92**	*1.91*	*1.89*
United States	**20.09**	**20.00**	**20.11**	**19.85**	**19.66**	**20.38**	**20.24**	*20.29*	*20.10*	*20.38*	*20.53*	*20.39*	**20.01**	*20.15*	*20.35*
Central and South America	**6.27**	**6.43**	**6.57**	**6.54**	**6.42**	**6.57**	**6.66**	*6.59*	*6.46*	*6.61*	*6.71*	*6.64*	**6.45**	*6.56*	*6.61*
Brazil	**2.85**	**2.93**	**3.02**	**3.02**	**2.98**	**3.04**	**3.11**	*3.10*	*2.97*	*3.03*	*3.11*	*3.09*	**2.96**	*3.06*	*3.05*
Europe	**13.93**	**14.19**	**14.80**	**14.11**	**13.81**	**14.08**	**14.74**	*14.51*	*13.92*	*14.09*	*14.50*	*14.27*	**14.26**	*14.29*	*14.20*
Eurasia	**4.28**	**4.43**	**4.73**	**4.65**	**4.32**	**4.47**	**4.78**	*4.69*	*4.39*	*4.54*	*4.86*	*4.76*	**4.53**	*4.57*	*4.64*
Russia	**3.27**	**3.36**	**3.64**	**3.50**	**3.31**	**3.39**	**3.68**	*3.54*	*3.33*	*3.42*	*3.71*	*3.57*	**3.44**	*3.48*	*3.51*
Middle East	**8.92**	**9.28**	**9.67**	**9.02**	**9.20**	**9.32**	**9.91**	*9.32*	*9.50*	*9.51*	*10.05*	*9.45*	**9.23**	*9.44*	*9.63*
Asia and Oceania	**36.50**	**35.62**	**35.49**	**36.58**	**37.82**	**37.26**	**36.57**	*37.55*	*38.79*	*38.17*	*37.35*	*38.36*	**36.05**	*37.30*	*38.17*
China	**15.12**	**15.10**	**15.09**	**15.28**	**15.89**	**16.08**	**15.77**	*15.98*	*16.27*	*16.47*	*16.14*	*16.36*	**15.15**	*15.93*	*16.31*
Japan	**3.70**	**3.03**	**3.19**	**3.56**	**3.72**	**3.03**	**3.15**	*3.48*	*3.62*	*3.00*	*3.10*	*3.43*	**3.37**	*3.34*	*3.29*
India	**5.08**	**5.07**	**4.84**	**5.18**	**5.30**	**5.47**	**5.12**	*5.44*	*5.62*	*5.69*	*5.32*	*5.65*	**5.04**	*5.33*	*5.57*
Africa	**4.45**	**4.45**	**4.34**	**4.48**	**4.55**	**4.56**	**4.48**	*4.64*	*4.67*	*4.68*	*4.60*	*4.76*	**4.43**	*4.56*	*4.68*
Total OECD Liquid Fuels Consumption	**45.63**	**45.11**	**46.22**	**45.63**	**45.20**	**45.33**	**46.20**	*46.45*	*45.74*	*45.35*	*46.13*	*46.20*	**45.65**	*45.80*	*45.86*
Total non-OECD Liquid Fuels Consumption	**52.83**	**53.49**	**53.86**	**53.85**	**54.70**	**55.43**	**55.44**	*55.39*	*56.24*	*56.74*	*56.68*	*56.65*	**53.51**	*55.24*	*56.58*
Total World Liquid Fuels Consumption	**98.46**	**98.60**	**100.08**	**99.48**	**99.90**	**100.76**	**101.64**	*101.85*	*101.98*	*102.09*	*102.82*	*102.85*	**99.16**	*101.04*	*102.44*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**122.2**	**122.3**	**124.0**	**124.9**	**125.5**	**126.6**	**127.5**	*128.2*	*128.6*	*129.5*	*130.6*	*131.8*	**123.4**	*126.9*	*130.1*
Percent change from prior year	**4.4**	**3.4**	**3.3**	**2.2**	**2.7**	**3.5**	**2.8**	*2.7*	*2.4*	*2.3*	*2.5*	*2.8*	**3.3**	*2.9*	*2.5*
OECD Index, 2015 = 100													**113.8**	*115.4*	*116.1*
Percent change from prior year													**2.9**	*1.4*	*0.6*
Non-OECD Index, 2015 = 100													**128.9**	*134.2*	*139.6*
Percent change from prior year													**3.6**	*4.1*	*4.0*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**109.5**	**112.8**	**117.1**	**118.4**	**114.1**	**113.5**	**114.2**	*116.7*	*118.0*	*118.2*	*117.5*	*116.6*	**114.5**	*114.6*	*117.6*
Percent change from prior year	**2.8**	**6.4**	**9.0**	**8.6**	**4.2**	**0.6**	**-2.5**	*-1.4*	*3.4*	*4.1*	*2.9*	*-0.1*	**6.7**	*0.1*	*2.6*

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

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

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Historical data: Energy Information Administration *International Energy Statistics* (https://www.eia.gov/international/data/world) and Oxford Economics.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.52**	**11.77**	**12.05**	**12.30**	**12.63**	**12.75**	**13.07**	*13.17*	*13.06*	*13.08*	*13.11*	*13.35*	**11.91**	*12.90*	*13.15*
Alaska	**0.45**	**0.44**	**0.42**	**0.44**	**0.44**	**0.43**	**0.40**	*0.43*	*0.43*	*0.41*	*0.39*	*0.41*	**0.44**	*0.43*	*0.41*
Federal Gulf of Mexico (b)	**1.66**	**1.70**	**1.77**	**1.79**	**1.87**	**1.77**	**1.93**	*1.94*	*1.92*	*1.91*	*1.86*	*1.92*	**1.73**	*1.88*	*1.90*
Lower 48 States (excl GOM)	**9.42**	**9.63**	**9.85**	**10.06**	**10.31**	**10.55**	**10.74**	*10.80*	*10.71*	*10.76*	*10.85*	*11.02*	**9.74**	*10.60*	*10.84*
Transfers to Crude Oil Supply	**0.41**	**0.37**	**0.42**	**0.48**	**0.39**	**0.51**	**0.65**	*0.46*	*0.36*	*0.36*	*0.37*	*0.34*	**0.42**	*0.50*	*0.36*
Crude Oil Net Imports (c)	**3.06**	**2.81**	**2.75**	**2.20**	**2.27**	**2.51**	**2.66**	*2.27*	*2.43*	*2.75*	*2.83*	*2.06*	**2.71**	*2.43*	*2.52*
SPR Net Withdrawals	**0.31**	**0.80**	**0.84**	**0.48**	**0.01**	**0.26**	**-0.04**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.61**	*0.06*	*0.00*
Commercial Inventory Net Withdrawals	**0.08**	**-0.04**	**-0.12**	**-0.01**	**-0.39**	**0.12**	**0.41**	*0.02*	*-0.33*	*0.11*	*0.19*	*-0.10*	**-0.02**	*0.04*	*-0.03*
Crude Oil Adjustment (d)	**0.20**	**0.45**	**0.38**	**0.41**	**0.34**	**0.00**	**-0.27**	*0.24*	*0.37*	*0.37*	*0.36*	*0.39*	**0.36**	*0.08*	*0.37*
Total Crude Oil Input to Refineries	**15.58**	**16.15**	**16.31**	**15.86**	**15.25**	**16.15**	**16.48**	*15.90*	*15.53*	*16.31*	*16.49*	*15.70*	**15.98**	*15.94*	*16.01*
Other Supply															
Refinery Processing Gain	**0.97**	**1.08**	**1.06**	**1.01**	**0.97**	**1.01**	**1.05**	*1.03*	*0.98*	*1.01*	*1.02*	*1.00*	**1.03**	*1.02*	*1.00*
Natural Gas Plant Liquids Production	**5.66**	**5.96**	**6.13**	**5.97**	**6.01**	**6.42**	**6.51**	*6.50*	*6.48*	*6.50*	*6.54*	*6.55*	**5.93**	*6.36*	*6.52*
Renewables and Oxygenate Production (e)	**1.20**	**1.20**	**1.18**	**1.23**	**1.24**	**1.29**	**1.29**	*1.32*	*1.32*	*1.34*	*1.35*	*1.33*	**1.20**	*1.29*	*1.33*
Fuel Ethanol Production	**1.02**	**1.01**	**0.97**	**1.01**	**1.00**	**1.00**	**1.00**	*1.02*	*1.00*	*0.99*	*1.00*	*0.98*	**1.00**	*1.01*	*0.99*
Petroleum Products Adjustment (f)	**0.22**	**0.23**	**0.22**	**0.22**	**0.20**	**0.22**	**0.22**	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.22*
Petroleum Products Transfers to Crude Oil Supply	**-0.41**	**-0.37**	**-0.42**	**-0.48**	**-0.39**	**-0.51**	**-0.65**	*-0.46*	*-0.36*	*-0.36*	*-0.37*	*-0.34*	**-0.42**	*-0.50*	*-0.36*
Product Net Imports (c)	**-3.54**	**-4.02**	**-4.12**	**-3.90**	**-3.91**	**-3.71**	**-4.16**	*-4.67*	*-4.32*	*-4.22*	*-4.54*	*-4.54*	**-3.90**	*-4.12*	*-4.41*
Hydrocarbon Gas Liquids	**-2.07**	**-2.36**	**-2.25**	**-2.26**	**-2.47**	**-2.39**	**-2.43**	*-2.66*	*-2.69*	*-2.63*	*-2.60*	*-2.59*	**-2.24**	*-2.48*	*-2.63*
Unfinished Oils	**0.17**	**0.29**	**0.29**	**0.30**	**0.28**	**0.27**	**0.23**	*0.30*	*0.24*	*0.30*	*0.33*	*0.21*	**0.26**	*0.27*	*0.27*
Other HC/Oxygenates	**-0.07**	**-0.10**	**-0.06**	**-0.02**	**-0.05**	**-0.07**	**-0.05**	*-0.06*	*-0.06*	*-0.05*	*-0.04*	*-0.04*	**-0.06**	*-0.06*	*-0.05*
Motor Gasoline Blend Comp.	**0.38**	**0.60**	**0.48**	**0.40**	**0.45**	**0.67**	**0.58**	*0.41*	*0.43*	*0.65*	*0.50*	*0.40*	**0.46**	*0.53*	*0.50*
Finished Motor Gasoline	**-0.69**	**-0.75**	**-0.79**	**-0.84**	**-0.75**	**-0.58**	**-0.73**	*-0.95*	*-0.76*	*-0.67*	*-0.74*	*-0.78*	**-0.77**	*-0.75*	*-0.74*
Jet Fuel	**-0.03**	**-0.06**	**-0.10**	**-0.03**	**-0.05**	**0.01**	**-0.06**	*0.01*	*-0.02*	*0.00*	*0.01*	*0.00*	**-0.06**	*-0.02*	*0.00*
Distillate Fuel Oil	**-0.74**	**-1.08**	**-1.24**	**-1.00**	**-0.76**	**-0.97**	**-1.01**	*-1.01*	*-0.80*	*-1.08*	*-1.19*	*-0.98*	**-1.02**	*-0.94*	*-1.01*
Residual Fuel Oil	**0.09**	**0.08**	**0.10**	**0.09**	**0.01**	**-0.04**	**-0.03**	*0.01*	*0.00*	*0.00*	*-0.06*	*0.02*	**0.09**	*-0.01*	*-0.01*
Other Oils (g)	**-0.58**	**-0.64**	**-0.53**	**-0.54**	**-0.58**	**-0.61**	**-0.66**	*-0.73*	*-0.66*	*-0.74*	*-0.74*	*-0.78*	**-0.57**	*-0.64*	*-0.73*
Product Inventory Net Withdrawals	**0.42**	**-0.25**	**-0.26**	**-0.06**	**0.30**	**-0.49**	**-0.51**	*0.45*	*0.27*	*-0.42*	*-0.18*	*0.46*	**-0.04**	*-0.06*	*0.03*
Total Supply	**20.09**	**20.00**	**20.11**	**19.85**	**19.67**	**20.38**	**20.24**	*20.29*	*20.10*	*20.38*	*20.53*	*20.39*	**20.01**	*20.15*	*20.35*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.77**	**3.18**	**3.17**	**3.32**	**3.40**	**3.36**	**3.29**	*3.61*	*3.76*	*3.36*	*3.39*	*3.76*	**3.36**	*3.42*	*3.57*
Other HC/Oxygenates	**0.14**	**0.17**	**0.17**	**0.19**	**0.22**	**0.28**	**0.26**	*0.24*	*0.26*	*0.28*	*0.28*	*0.30*	**0.17**	*0.25*	*0.28*
Unfinished Oils	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Motor Gasoline	**8.57**	**9.00**	**8.93**	**8.74**	**8.67**	**9.13**	**8.95**	*8.79*	*8.58*	*9.01*	*9.04*	*8.71*	**8.81**	*8.88*	*8.83*
Fuel Ethanol blended into Motor Gasoline	**0.88**	**0.93**	**0.92**	**0.93**	**0.90**	**0.94**	**0.93**	*0.93*	*0.89*	*0.93*	*0.94*	*0.91*	**0.91**	*0.93*	*0.92*
Jet Fuel	**1.45**	**1.61**	**1.60**	**1.58**	**1.55**	**1.67**	**1.73**	*1.71*	*1.65*	*1.77*	*1.83*	*1.75*	**1.56**	*1.67*	*1.75*
Distillate Fuel Oil	**4.22**	**3.97**	**3.91**	**4.00**	**4.01**	**3.93**	**3.91**	*4.00*	*4.08*	*3.97*	*3.89*	*4.01*	**4.03**	*3.96*	*3.98*
Residual Fuel Oil	**0.33**	**0.30**	**0.38**	**0.30**	**0.29**	**0.22**	**0.27**	*0.27*	*0.22*	*0.21*	*0.20*	*0.23*	**0.33**	*0.26*	*0.22*
Other Oils (g)	**1.61**	**1.78**	**1.94**	**1.70**	**1.53**	**1.79**	**1.84**	*1.67*	*1.55*	*1.77*	*1.90*	*1.63*	**1.76**	*1.71*	*1.71*
Total Consumption	**20.09**	**20.00**	**20.11**	**19.85**	**19.66**	**20.38**	**20.24**	*20.29*	*20.10*	*20.38*	*20.53*	*20.39*	**20.01**	*20.15*	*20.35*
Total Petroleum and Other Liquids Net Imports	**-0.48**	**-1.21**	**-1.37**	**-1.69**	**-1.64**	**-1.20**	**-1.50**	*-2.40*	*-1.90*	*-1.47*	*-1.71*	*-2.47*	**-1.19**	*-1.69*	*-1.89*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**414.2**	**417.8**	**429.0**	**430.1**	**465.4**	**454.7**	**417.0**	*415.5*	*445.3*	*435.2*	*417.9*	*426.9*	**430.1**	*415.5*	*426.9*
Hydrocarbon Gas Liquids	**142.1**	**186.7**	**243.7**	**211.1**	**174.3**	**225.4**	**274.8**	*229.5*	*189.8*	*236.6*	*275.6*	*230.1*	**211.1**	*229.5*	*230.1*
Unfinished Oils	**88.1**	**88.9**	**82.3**	**86.4**	**88.6**	**87.0**	**84.2**	*80.1*	*90.7*	*87.9*	*86.8*	*78.9*	**86.4**	*80.1*	*78.9*
Other HC/Oxygenates	**34.4**	**29.7**	**27.3**	**31.6**	**34.3**	**30.1**	**29.7**	*29.7*	*31.7*	*30.5*	*30.2*	*30.5*	**31.6**	*29.7*	*30.5*
Total Motor Gasoline	**238.5**	**221.0**	**209.5**	**224.4**	**225.3**	**223.2**	**226.6**	*237.0*	*234.3*	*231.1*	*219.0*	*230.3*	**224.4**	*237.0*	*230.3*
Finished Motor Gasoline	**17.3**	**17.1**	**17.6**	**17.2**	**14.7**	**17.6**	**17.4**	*18.3*	*15.8*	*16.6*	*18.2*	*19.3*	**17.2**	*18.3*	*19.3*
Motor Gasoline Blend Comp.	**221.2**	**203.9**	**191.9**	**207.2**	**210.6**	**205.6**	**209.2**	*218.7*	*218.6*	*214.5*	*200.8*	*211.0*	**207.2**	*218.7*	*211.0*
Jet Fuel	**35.6**	**39.4**	**36.5**	**35.0**	**37.7**	**42.7**	**42.7**	*38.1*	*38.9*	*37.7*	*38.3*	*35.2*	**35.0**	*38.1*	*35.2*
Distillate Fuel Oil	**114.7**	**111.3**	**110.5**	**118.9**	**112.3**	**112.6**	**118.3**	*120.4*	*114.5*	*116.9*	*118.1*	*119.7*	**118.9**	*120.4*	*119.7*
Residual Fuel Oil	**28.1**	**29.3**	**27.4**	**30.7**	**29.6**	**30.4**	**27.6**	*27.2*	*28.4*	*28.2*	*26.5*	*25.9*	**30.7**	*27.2*	*25.9*
Other Oils (g)	**58.6**	**56.3**	**49.3**	**54.3**	**63.3**	**58.3**	**52.5**	*52.5*	*61.6*	*59.3*	*49.9*	*51.3*	**54.3**	*52.5*	*51.3*
Total Commercial Inventory	**1154.2**	**1180.4**	**1215.6**	**1222.6**	**1230.8**	**1264.4**	**1273.3**	*1230.0*	*1235.3*	*1263.5*	*1262.4*	*1228.7*	**1222.6**	*1230.0*	*1228.7*
Crude Oil in SPR	**566.1**	**493.3**	**416.4**	**372.0**	**371.2**	**347.2**	**351.3**	*351.5*	*351.5*	*351.5*	*351.5*	*351.5*	**372.0**	*351.5*	*351.5*

(a) Includes lease condensate.

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

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

(d) Crude oil adjustment equals the sum of disposition items (e.g. refinery inputs) minus the sum of supply items (e.g. production).

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

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

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

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
HGL Production															
Natural Gas Processing Plants															
Ethane	**2.35**	**2.45**	**2.42**	**2.39**	**2.49**	**2.65**	**2.59**	*2.67*	*2.68*	*2.69*	*2.70*	*2.72*	**2.41**	*2.60*	*2.70*
Propane	**1.79**	**1.86**	**1.94**	**1.90**	**1.89**	**2.00**	**2.04**	*2.05*	*2.04*	*2.03*	*2.03*	*2.05*	**1.87**	*1.99*	*2.04*
Butanes	**0.93**	**0.99**	**1.03**	**1.00**	**0.99**	**1.06**	**1.08**	*1.08*	*1.10*	*1.09*	*1.10*	*1.10*	**0.99**	*1.05*	*1.10*
Natural Gasoline (Pentanes Plus)	**0.59**	**0.67**	**0.74**	**0.67**	**0.64**	**0.73**	**0.80**	*0.70*	*0.66*	*0.69*	*0.71*	*0.68*	**0.67**	*0.72*	*0.69*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.01**	*0.01*	*0.01*
Propane	**0.27**	**0.29**	**0.29**	**0.27**	**0.27**	**0.29**	**0.29**	*0.27*	*0.26*	*0.27*	*0.28*	*0.26*	**0.28**	*0.28*	*0.27*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.26**	**0.23**	**0.24**	**0.26**	**0.26**	*0.28*	*0.28*	*0.28*	*0.28*	*0.28*	**0.26**	*0.26*	*0.28*
Butanes/Butylenes	**-0.07**	**0.26**	**0.19**	**-0.15**	**-0.05**	**0.28**	**0.20**	*-0.19*	*-0.08*	*0.27*	*0.20*	*-0.19*	**0.06**	*0.06*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.40**	**-0.40**	**-0.42**	**-0.45**	**-0.50**	**-0.49**	**-0.48**	*-0.47*	*-0.49*	*-0.50*	*-0.49*	*-0.52*	**-0.42**	*-0.49*	*-0.50*
Propane/Propylene	**-1.20**	**-1.34**	**-1.27**	**-1.27**	**-1.40**	**-1.40**	**-1.46**	*-1.55*	*-1.53*	*-1.46*	*-1.45*	*-1.41*	**-1.27**	*-1.45*	*-1.46*
Butanes/Butylenes	**-0.29**	**-0.45**	**-0.37**	**-0.38**	**-0.42**	**-0.41**	**-0.42**	*-0.48*	*-0.47*	*-0.51*	*-0.50*	*-0.48*	**-0.37**	*-0.43*	*-0.49*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.17**	**-0.19**	**-0.15**	**-0.15**	**-0.09**	**-0.06**	*-0.16*	*-0.21*	*-0.17*	*-0.17*	*-0.18*	**-0.17**	*-0.11*	*-0.18*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.43**	**0.29**	**0.33**	**0.54**	**0.48**	**0.29**	**0.33**	*0.50*	*0.42*	*0.29*	*0.33*	*0.52*	**0.40**	*0.40*	*0.39*
Natural Gasoline (Pentanes Plus)	**0.17**	**0.17**	**0.19**	**0.17**	**0.18**	**0.20**	**0.20**	*0.18*	*0.17*	*0.17*	*0.19*	*0.18*	**0.17**	*0.19*	*0.18*
HGL Consumption															
Ethane/Ethylene	**2.10**	**2.06**	**1.99**	**1.94**	**1.99**	**2.19**	**2.11**	*2.17*	*2.19*	*2.19*	*2.20*	*2.22*	**2.02**	*2.12*	*2.20*
Propane	**1.16**	**0.59**	**0.64**	**0.95**	**0.98**	**0.62**	**0.63**	*0.94*	*1.06*	*0.64*	*0.64*	*1.04*	**0.83**	*0.79*	*0.84*
Propylene (refinery-grade)	**0.30**	**0.29**	**0.28**	**0.24**	**0.25**	**0.27**	**0.27**	*0.29*	*0.30*	*0.30*	*0.29*	*0.29*	**0.28**	*0.27*	*0.29*
Butanes/Butylenes	**0.21**	**0.23**	**0.26**	**0.20**	**0.18**	**0.28**	**0.28**	*0.21*	*0.21*	*0.24*	*0.26*	*0.21*	**0.23**	*0.24*	*0.23*
Natural Gasoline (Pentanes Plus)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
HGL Inventories (million barrels)															
Ethane	**51.2**	**51.7**	**49.9**	**54.3**	**53.0**	**54.2**	**50.3**	*53.8*	*54.1*	*54.9*	*56.9*	*56.9*	**51.8**	*52.8*	*55.7*
Propane	**36.3**	**54.1**	**82.0**	**76.7**	**55.8**	**79.2**	**99.1**	*81.0*	*54.0*	*71.0*	*89.5*	*75.6*	**76.7**	*81.0*	*75.6*
Propylene (at refineries only)	**1.1**	**1.2**	**1.1**	**1.3**	**1.1**	**1.1**	**1.1**	*1.2*	*1.2*	*1.6*	*1.8*	*1.6*	**1.3**	*1.2*	*1.6*
Butanes/Butylenes	**35.7**	**58.8**	**81.3**	**54.5**	**40.2**	**70.1**	**92.0**	*63.5*	*54.5*	*82.0*	*100.0*	*71.1*	**54.5**	*63.5*	*71.1*
Natural Gasoline (Pentanes Plus)	**19.4**	**22.7**	**27.2**	**25.1**	**22.9**	**23.4**	**30.9**	*29.3*	*26.1*	*26.7*	*26.9*	*25.4*	**25.1**	*29.3*	*25.4*
Refinery and Blender Net Inputs															
Crude Oil	**15.58**	**16.15**	**16.31**	**15.86**	**15.25**	**16.15**	**16.48**	*15.90*	*15.53*	*16.31*	*16.49*	*15.70*	**15.98**	*15.94*	*16.01*
Hydrocarbon Gas Liquids	**0.59**	**0.45**	**0.52**	**0.70**	**0.66**	**0.49**	**0.53**	*0.68*	*0.59*	*0.46*	*0.51*	*0.70*	**0.57**	*0.59*	*0.57*
Other Hydrocarbons/Oxygenates	**1.13**	**1.20**	**1.19**	**1.17**	**1.13**	**1.20**	**1.22**	*1.21*	*1.16*	*1.21*	*1.23*	*1.17*	**1.17**	*1.19*	*1.19*
Unfinished Oils	**-0.06**	**0.21**	**0.24**	**0.15**	**0.19**	**0.21**	**0.07**	*0.27*	*0.09*	*0.31*	*0.32*	*0.29*	**0.14**	*0.19*	*0.25*
Motor Gasoline Blend Components	**0.30**	**0.81**	**0.64**	**0.29**	**0.34**	**0.85**	**0.68**	*0.32*	*0.56*	*0.80*	*0.75*	*0.37*	**0.51**	*0.55*	*0.62*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**17.53**	**18.83**	**18.91**	**18.17**	**17.58**	**18.90**	**18.97**	*18.37*	*17.93*	*19.09*	*19.30*	*18.24*	**18.36**	*18.46*	*18.64*
Refinery Processing Gain	**0.97**	**1.08**	**1.06**	**1.01**	**0.97**	**1.01**	**1.05**	*1.03*	*0.98*	*1.01*	*1.02*	*1.00*	**1.03**	*1.02*	*1.00*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.49**	**0.84**	**0.75**	**0.36**	**0.47**	**0.83**	**0.75**	*0.36*	*0.46*	*0.83*	*0.76*	*0.36*	**0.61**	*0.60*	*0.60*
Finished Motor Gasoline	**9.21**	**9.74**	**9.74**	**9.58**	**9.28**	**9.83**	**9.80**	*9.71*	*9.40*	*9.75*	*9.85*	*9.53*	**9.57**	*9.65*	*9.63*
Jet Fuel	**1.48**	**1.71**	**1.67**	**1.60**	**1.62**	**1.72**	**1.79**	*1.65*	*1.68*	*1.75*	*1.83*	*1.72*	**1.62**	*1.70*	*1.74*
Distillate Fuel	**4.79**	**5.01**	**5.15**	**5.09**	**4.69**	**4.91**	**4.98**	*5.03*	*4.81*	*5.08*	*5.09*	*5.01*	**5.01**	*4.91*	*5.00*
Residual Fuel	**0.27**	**0.23**	**0.26**	**0.25**	**0.27**	**0.27**	**0.27**	*0.26*	*0.24*	*0.21*	*0.25*	*0.21*	**0.25**	*0.27*	*0.23*
Other Oils (a)	**2.26**	**2.40**	**2.40**	**2.30**	**2.21**	**2.35**	**2.43**	*2.40*	*2.31*	*2.48*	*2.54*	*2.43*	**2.34**	*2.35*	*2.44*
Total Refinery and Blender Net Production	**18.50**	**19.92**	**19.97**	**19.18**	**18.54**	**19.91**	**20.02**	*19.41*	*18.91*	*20.10*	*20.32*	*19.24*	**19.40**	*19.47*	*19.64*
Refinery Distillation Inputs	**16.12**	**16.66**	**16.82**	**16.34**	**15.78**	**16.75**	**16.95**	*16.28*	*15.93*	*16.69*	*16.91*	*16.10*	**16.48**	*16.44*	*16.41*
Refinery Operable Distillation Capacity	**17.93**	**17.93**	**17.98**	**18.01**	**18.12**	**18.27**	**18.28**	*18.31*	*18.31*	*18.31*	*18.32*	*18.33*	**17.96**	*18.25*	*18.32*
Refinery Distillation Utilization Factor	**0.90**	**0.93**	**0.94**	**0.91**	**0.87**	**0.92**	**0.93**	*0.89*	*0.87*	*0.91*	*0.92*	*0.88*	**0.92**	*0.90*	*0.90*

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Prices (cents per gallon)															
Refiner Wholesale Price	**278**	**376**	**311**	**267**	**262**	**265**	**296**	*244*	*254*	*289*	*292*	*261*	**309**	*267*	*274*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**364**	**438**	**393**	**341**	**330**	**344**	**361**	*332*	*329*	*358*	*363*	*340*	**384**	*342*	*348*
PADD 2	**352**	**436**	**397**	**345**	**324**	**348**	**360**	*328*	*330*	*363*	*365*	*333*	**383**	*340*	*348*
PADD 3	**341**	**413**	**358**	**300**	**302**	**315**	**334**	*299*	*300*	*333*	*338*	*308*	**353**	*313*	*320*
PADD 4	**360**	**446**	**434**	**358**	**357**	**359**	**392**	*356*	*334*	*370*	*384*	*355*	**401**	*367*	*362*
PADD 5	**452**	**543**	**511**	**478**	**418**	**452**	**480**	*471*	*430*	*459*	*465*	*427*	**497**	*456*	*445*
U.S. Average	**371**	**450**	**408**	**357**	**338**	**358**	**376**	*349*	*342*	*373*	*378*	*348*	**397**	*355*	*361*
Gasoline All Grades Including Taxes	**380**	**460**	**419**	**369**	**349**	**369**	**387**	*362*	*354*	*385*	*390*	*361*	**408**	*367*	*373*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**57.0**	**53.6**	**54.3**	**56.4**	**52.7**	**57.1**	**58.9**	*62.6*	*60.2*	*63.6*	*57.7*	*59.5*	**56.4**	*62.6*	*59.5*
PADD 2	**56.5**	**46.7**	**44.1**	**46.6**	**49.5**	**45.2**	**45.9**	*48.5*	*47.9*	*44.5*	*44.5*	*51.8*	**46.6**	*48.5*	*51.8*
PADD 3	**87.0**	**83.9**	**80.2**	**81.4**	**84.1**	**85.0**	**85.6**	*87.1*	*87.9*	*85.9*	*80.1*	*80.6*	**81.4**	*87.1*	*80.6*
PADD 4	**8.1**	**6.4**	**6.4**	**7.4**	**7.8**	**6.8**	**6.9**	*8.4*	*8.5*	*7.2*	*7.2*	*7.8*	**7.4**	*8.4*	*7.8*
PADD 5	**29.9**	**30.3**	**24.5**	**32.6**	**31.2**	**29.0**	**29.4**	*30.4*	*29.8*	*29.9*	*29.5*	*30.6*	**32.6**	*30.4*	*30.6*
U.S. Total	**238.5**	**221.0**	**209.5**	**224.4**	**225.3**	**223.2**	**226.6**	*237.0*	*234.3*	*231.1*	*219.0*	*230.3*	**224.4**	*237.0*	*230.3*
Finished Gasoline Inventories															
U.S. Total	**17.3**	**17.1**	**17.6**	**17.2**	**14.7**	**17.6**	**17.4**	*18.3*	*15.8*	*16.6*	*18.2*	*19.3*	**17.2**	*18.3*	*19.3*
Gasoline Blending Components Inventories															
U.S. Total	**221.2**	**203.9**	**191.9**	**207.2**	**210.6**	**205.6**	**209.2**	*218.7*	*218.6*	*214.5*	*200.8*	*211.0*	**207.2**	*218.7*	*211.0*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Prices are not adjusted for inflation.

PADD = Petroleum Administration for Defense District (PADD).

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (billion cubic feet per day)															
Total Marketed Production	**104.80**	**107.29**	**109.76**	**110.16**	**111.18**	**112.50**	**113.54**	*114.53*	*114.59*	*114.25*	*114.16*	*115.40*	**108.02**	*112.95*	*114.60*
Alaska	**1.06**	**1.00**	**0.96**	**1.07**	**1.08**	**1.01**	**0.90**	*1.00*	*1.02*	*0.95*	*0.87*	*0.99*	**1.02**	*1.00*	*0.96*
Federal GOM (a)	**2.06**	**2.10**	**2.16**	**2.12**	**2.13**	**1.89**	**2.01**	*2.09*	*2.05*	*1.99*	*1.90*	*1.91*	**2.11**	*2.03*	*1.96*
Lower 48 States (excl GOM)	**101.69**	**104.19**	**106.64**	**106.97**	**107.97**	**109.60**	**110.63**	*111.44*	*111.52*	*111.31*	*111.39*	*112.49*	**104.89**	*109.92*	*111.68*
Total Dry Gas Production	**96.63**	**98.92**	**101.20**	**101.57**	**102.28**	**103.19**	**104.14**	*105.05*	*105.11*	*104.80*	*104.71*	*105.85*	**99.60**	*103.68*	*105.12*
LNG Gross Imports	**0.15**	**0.01**	**0.07**	**0.05**	**0.09**	**0.02**	**0.03**	*0.06*	*0.10*	*0.04*	*0.04*	*0.06*	**0.07**	*0.05*	*0.06*
LNG Gross Exports	**11.50**	**10.80**	**9.74**	**10.35**	**11.45**	**11.76**	**11.42**	*12.58*	*12.22*	*11.64*	*11.82*	*13.47*	**10.59**	*11.80*	*12.29*
Pipeline Gross Imports	**8.89**	**7.73**	**7.84**	**8.41**	**8.45**	**7.32**	**7.87**	*7.68*	*8.39*	*7.03*	*7.26*	*7.50*	**8.22**	*7.83*	*7.55*
Pipeline Gross Exports	**8.46**	**8.52**	**8.13**	**8.19**	**8.91**	**8.73**	**9.12**	*9.29*	*9.51*	*8.89*	*9.21*	*9.64*	**8.32**	*9.02*	*9.32*
Supplemental Gaseous Fuels	**0.19**	**0.20**	**0.20**	**0.20**	**0.22**	**0.17**	**0.19**	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	**0.20**	*0.19*	*0.20*
Net Inventory Withdrawals	**20.14**	**-10.25**	**-8.94**	**2.33**	**11.97**	**-11.69**	**-6.46**	*2.53*	*13.92*	*-12.20*	*-6.51*	*2.76*	**0.74**	*-0.95*	*-0.51*
Total Supply	**106.04**	**77.30**	**82.49**	**94.03**	**102.64**	**78.51**	**85.23**	*93.66*	*105.98*	*79.33*	*84.67*	*93.27*	**89.91**	*89.97*	*90.80*
Balancing Item (b)	**-1.52**	**-1.39**	**-1.59**	**-1.63**	**0.27**	**-0.52**	**-1.34**	*-0.61*	*-2.00*	*-2.12*	*-2.07*	*-1.04*	**-1.53**	*-0.55*	*-1.81*
Total Primary Supply	**104.53**	**75.92**	**80.90**	**92.40**	**102.91**	**77.99**	**83.89**	*93.05*	*103.98*	*77.21*	*82.59*	*92.23*	**88.38**	*89.42*	*89.00*
Consumption (billion cubic feet per day)															
Residential	**25.97**	**7.80**	**3.56**	**17.28**	**23.50**	**7.29**	**3.62**	*16.15*	*24.60*	*7.49*	*3.85*	*16.20*	**13.60**	*12.60*	*13.02*
Commercial	**15.55**	**6.65**	**4.74**	**11.61**	**14.51**	**6.43**	**4.83**	*11.27*	*14.72*	*6.55*	*5.14*	*11.37*	**9.61**	*9.24*	*9.44*
Industrial	**25.73**	**22.46**	**21.68**	**23.72**	**24.83**	**22.40**	**21.95**	*24.22*	*24.80*	*21.63*	*21.28*	*23.55*	**23.39**	*23.35*	*22.81*
Electric Power (c)	**28.11**	**30.88**	**42.50**	**30.88**	**30.71**	**33.39**	**44.75**	*32.25*	*30.25*	*33.00*	*43.58*	*31.91*	**33.13**	*35.30*	*34.70*
Lease and Plant Fuel	**5.00**	**5.12**	**5.24**	**5.26**	**5.31**	**5.37**	**5.42**	*5.47*	*5.47*	*5.46*	*5.45*	*5.51*	**5.16**	*5.39*	*5.47*
Pipeline and Distribution Use	**3.98**	**2.83**	**3.01**	**3.48**	**3.86**	**2.93**	**3.14**	*3.51*	*3.94*	*2.88*	*3.10*	*3.48*	**3.32**	*3.36*	*3.35*
Vehicle Use	**0.17**	**0.17**	**0.17**	**0.17**	**0.18**	**0.18**	**0.18**	*0.18*	*0.20*	*0.20*	*0.20*	*0.20*	**0.17**	*0.18*	*0.20*
Total Consumption	**104.53**	**75.92**	**80.90**	**92.40**	**102.91**	**77.99**	**83.89**	*93.05*	*103.98*	*77.21*	*82.59*	*92.23*	**88.38**	*89.42*	*89.00*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,401**	**2,325**	**3,146**	**2,925**	**1,850**	**2,900**	**3,493**	*3,260*	*1,994*	*3,104*	*3,703*	*3,449*	**2,925**	*3,260*	*3,449*
East Region (d)	**242**	**482**	**759**	**698**	**334**	**646**	**851**	*786*	*387*	*687*	*873*	*799*	**698**	*786*	*799*
Midwest Region (d)	**296**	**557**	**917**	**831**	**417**	**701**	**995**	*900*	*439*	*735*	*1,017*	*921*	**831**	*900*	*921*
South Central Region (d)	**587**	**885**	**1,006**	**1,042**	**919**	**1,136**	**1,093**	*1,109*	*840*	*1,203*	*1,237*	*1,211*	**1,042**	*1,109*	*1,211*
Mountain Region (d)	**90**	**137**	**184**	**158**	**79**	**171**	**240**	*203*	*125*	*166*	*227*	*197*	**158**	*203*	*197*
Pacific Region (d)	**165**	**240**	**247**	**167**	**74**	**216**	**278**	*231*	*177*	*285*	*316*	*291*	**167**	*231*	*291*
Alaska	**21**	**25**	**32**	**30**	**27**	**30**	**36**	*31*	*25*	*28*	*33*	*29*	**30**	*31*	*29*

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

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

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

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

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Wholesale/Spot															
Henry Hub Spot Price	**4.84**	**7.77**	**8.30**	**5.76**	**2.76**	**2.25**	**2.69**	*3.38*	*3.56*	*3.05*	*3.36*	*3.56*	**6.67**	*2.77*	*3.38*
Residential Retail															
New England	**17.69**	**20.92**	**26.28**	**21.48**	**21.04**	**20.48**	**22.21**	*17.09*	*16.78*	*17.75*	*21.05*	*16.57*	**19.77**	*19.73*	*17.17*
Middle Atlantic	**12.78**	**15.58**	**23.79**	**16.88**	**15.60**	**16.03**	**20.85**	*13.55*	*12.27*	*13.81*	*19.13*	*12.84*	**15.15**	*15.39*	*13.16*
E. N. Central	**9.85**	**14.88**	**25.94**	**13.23**	**11.06**	**13.28**	**22.46**	*10.28*	*9.00*	*12.33*	*20.81*	*9.79*	**12.51**	*11.77*	*10.43*
W. N. Central	**11.30**	**15.08**	**24.74**	**13.24**	**13.24**	**15.44**	**22.10**	*11.14*	*9.77*	*12.69*	*20.30*	*10.57*	**13.09**	*13.30*	*11.01*
S. Atlantic	**13.85**	**21.38**	**31.73**	**17.21**	**17.33**	**20.92**	**29.82**	*15.17*	*13.94*	*18.75*	*26.43*	*14.79*	**17.11**	*18.00*	*15.80*
E. S. Central	**11.69**	**17.04**	**26.25**	**15.32**	**13.63**	**16.66**	**22.88**	*11.90*	*10.79*	*14.77*	*21.85*	*11.96*	**14.20**	*13.99*	*12.31*
W. S. Central	**12.55**	**20.70**	**30.82**	**17.46**	**14.58**	**19.81**	**28.30**	*14.05*	*10.83*	*16.06*	*23.05*	*13.10*	**16.25**	*16.24*	*13.17*
Mountain	**10.31**	**12.82**	**19.22**	**13.40**	**12.61**	**13.86**	**18.51**	*12.20*	*11.45*	*13.69*	*18.46*	*11.99*	**12.36**	*13.09*	*12.51*
Pacific	**17.02**	**17.75**	**20.46**	**18.89**	**20.13**	**17.11**	**18.07**	*16.07*	*16.53*	*15.83*	*16.60*	*15.39*	**18.14**	*18.20*	*16.06*
U.S. Average	**12.30**	**16.51**	**24.78**	**15.56**	**14.72**	**16.19**	**22.10**	*12.92*	*11.76*	*14.45*	*20.20*	*12.38*	**14.77**	*14.88*	*12.97*
Commercial Retail															
New England	**12.68**	**14.64**	**16.13**	**15.77**	**15.19**	**13.66**	**12.40**	*11.10*	*11.37*	*11.78*	*11.93*	*11.11*	**14.24**	*13.37*	*11.41*
Middle Atlantic	**10.34**	**10.75**	**11.98**	**11.97**	**11.94**	**9.25**	**8.21**	*8.35*	*8.96*	*8.20*	*7.72*	*8.22*	**11.09**	*9.92*	*8.47*
E. N. Central	**8.19**	**10.61**	**14.94**	**10.42**	**9.20**	**8.63**	**10.42**	*7.13*	*6.99*	*8.08*	*9.84*	*7.01*	**9.61**	*8.54*	*7.35*
W. N. Central	**9.97**	**11.43**	**14.68**	**10.99**	**11.58**	**11.33**	**11.59**	*8.63*	*8.50*	*8.94*	*10.07*	*7.86*	**10.82**	*10.65*	*8.49*
S. Atlantic	**10.75**	**12.25**	**14.25**	**13.13**	**12.97**	**11.26**	**11.32**	*10.12*	*9.85*	*10.37*	*10.58*	*9.75*	**12.17**	*11.54*	*10.01*
E. S. Central	**10.32**	**12.73**	**15.50**	**13.38**	**11.89**	**10.94**	**11.82**	*9.83*	*9.17*	*10.14*	*11.09*	*9.68*	**12.17**	*11.04*	*9.70*
W. S. Central	**9.97**	**12.69**	**14.80**	**12.67**	**11.01**	**9.68**	**10.30**	*8.51*	*7.82*	*8.60*	*9.31*	*8.32*	**11.89**	*9.93*	*8.31*
Mountain	**8.77**	**9.96**	**12.52**	**11.29**	**10.76**	**10.77**	**11.99**	*10.76*	*10.64*	*11.08*	*11.79*	*10.39*	**10.17**	*10.88*	*10.76*
Pacific	**13.08**	**13.56**	**15.52**	**14.41**	**16.85**	**12.61**	**13.36**	*12.39*	*12.80*	*11.84*	*11.96*	*11.48*	**13.95**	*14.19*	*12.08*
U.S. Average	**9.99**	**11.65**	**14.05**	**12.11**	**11.81**	**10.48**	**10.90**	*9.16*	*9.05*	*9.51*	*10.11*	*8.84*	**11.32**	*10.67*	*9.18*
Industrial Retail															
New England	**11.27**	**12.14**	**12.21**	**13.60**	**13.55**	**10.07**	**7.79**	*8.67*	*9.65*	*8.79*	*7.50*	*8.52*	**12.22**	*10.34*	*8.80*
Middle Atlantic	**10.73**	**10.85**	**12.16**	**12.54**	**7.52**	**8.97**	**7.70**	*8.30*	*8.68*	*7.67*	*7.79*	*8.48*	**11.35**	*7.93*	*8.38*
E. N. Central	**7.67**	**8.90**	**10.71**	**10.33**	**9.18**	**6.67**	**6.53**	*6.09*	*6.36*	*6.32*	*6.30*	*6.24*	**8.92**	*7.43*	*6.31*
W. N. Central	**7.57**	**8.15**	**9.10**	**8.16**	**8.23**	**4.55**	**4.24**	*4.81*	*5.70*	*4.66*	*4.54*	*5.11*	**8.20**	*5.60*	*5.05*
S. Atlantic	**7.26**	**8.61**	**10.84**	**8.89**	**6.92**	**4.78**	**5.01**	*5.12*	*5.78*	*5.01*	*5.15*	*5.46*	**8.82**	*5.51*	*5.37*
E. S. Central	**6.23**	**8.29**	**10.13**	**7.65**	**5.46**	**3.75**	**4.09**	*4.64*	*5.25*	*4.47*	*4.60*	*4.99*	**7.95**	*4.52*	*4.85*
W. S. Central	**5.33**	**7.33**	**8.05**	**5.60**	**3.39**	**2.21**	**2.79**	*3.53*	*3.82*	*3.14*	*3.42*	*3.75*	**6.60**	*3.01*	*3.53*
Mountain	**7.10**	**8.39**	**10.47**	**9.87**	**8.86**	**7.73**	**7.75**	*6.96*	*6.74*	*6.44*	*6.54*	*6.21*	**8.85**	*7.92*	*6.49*
Pacific	**8.83**	**9.03**	**9.60**	**9.44**	**10.84**	**8.16**	**7.96**	*7.83*	*8.43*	*7.26*	*7.16*	*7.35*	**9.20**	*8.74*	*7.61*
U.S. Average	**6.64**	**7.97**	**8.93**	**7.33**	**6.06**	**3.76**	**3.89**	*4.72*	*5.34*	*4.25*	*4.27*	*4.88*	**7.66**	*4.67*	*4.72*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

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

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

Natural gas Henry Hub spot price is from Refinitiv,an LSEG company, via EIA (https://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm).

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (million short tons)															
Production	**149.3**	**144.6**	**154.5**	**145.8**	**148.7**	**142.3**	**151.7**	*142.6*	*128.6*	*112.9*	*122.9*	*116.0*	**594.2**	*585.4*	*480.4*
Appalachia	**40.3**	**40.2**	**40.2**	**40.3**	**42.9**	**42.5**	**42.3**	*40.8*	*39.1*	*35.4*	*31.4*	*30.4*	**161.0**	*168.5*	*136.3*
Interior	**23.9**	**25.2**	**24.7**	**24.6**	**25.4**	**23.5**	**26.1**	*24.2*	*23.7*	*20.8*	*21.6*	*20.1*	**98.4**	*99.2*	*86.2*
Western	**85.1**	**79.3**	**89.5**	**80.9**	**80.4**	**76.4**	**83.3**	*77.7*	*65.9*	*56.7*	*69.9*	*65.5*	**334.8**	*317.7*	*258.0*
Primary Inventory Withdrawals	**-0.7**	**-0.9**	**0.2**	**-0.4**	**-1.6**	**0.3**	**3.6**	*0.0*	*-1.7*	*0.2*	*3.6*	*0.1*	**-1.8**	*2.3*	*2.3*
Imports	**1.3**	**1.6**	**2.0**	**1.4**	**1.0**	**1.0**	**1.1**	*1.1*	*0.8*	*0.8*	*1.1*	*0.8*	**6.3**	*4.2*	*3.5*
Exports	**20.4**	**23.4**	**21.1**	**21.0**	**24.6**	**24.1**	**24.5**	*24.3*	*23.1*	*23.2*	*22.7*	*24.7*	**86.0**	*97.4*	*93.7*
Metallurgical Coal	**10.5**	**13.1**	**11.5**	**11.4**	**12.4**	**12.6**	**13.9**	*13.1*	*12.8*	*13.5*	*12.6*	*13.2*	**46.5**	*52.0*	*52.0*
Steam Coal	**9.9**	**10.3**	**9.6**	**9.6**	**12.2**	**11.5**	**10.6**	*11.1*	*10.4*	*9.7*	*10.1*	*11.5*	**39.5**	*45.4*	*41.7*
Total Primary Supply	**129.6**	**121.9**	**135.5**	**125.8**	**123.5**	**119.5**	**131.9**	*119.4*	*104.6*	*90.8*	*105.0*	*92.2*	**512.7**	*494.4*	*392.5*
Secondary Inventory Withdrawals	**6.0**	**-0.7**	**7.3**	**-9.4**	**-20.1**	**-19.0**	**5.8**	*-22.6*	*-7.5*	*-9.9*	*18.7*	*-4.8*	**3.2**	*-55.9*	*-3.5*
Waste Coal (a)	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	*1.8*	*1.2*	*1.2*	*1.2*	*1.2*	**7.0**	*7.0*	*4.8*
Total Supply	**137.4**	**122.9**	**144.6**	**118.1**	**105.2**	**102.3**	**139.5**	*98.6*	*98.3*	*82.1*	*124.9*	*88.6*	**522.9**	*445.6*	*393.9*
Consumption (million short tons)															
Coke Plants	**4.2**	**3.9**	**3.9**	**4.0**	**4.0**	**3.9**	**4.1**	*4.2*	*4.2*	*4.2*	*4.3*	*4.4*	**16.0**	*16.1*	*17.1*
Electric Power Sector (b)	**123.4**	**108.1**	**135.4**	**105.9**	**91.2**	**82.0**	**122.5**	*88.5*	*88.3*	*73.0*	*115.7*	*78.5*	**472.8**	*384.2*	*355.5*
Retail and Other Industry	**6.9**	**6.7**	**6.5**	**6.6**	**6.5**	**5.6**	**5.8**	*6.0*	*5.9*	*4.8*	*4.9*	*5.7*	**26.7**	*23.9*	*21.2*
Residential and Commercial	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	*0.2*	*0.3*	*0.1*	*0.1*	*0.2*	**0.8**	*0.7*	*0.8*
Other Industrial	**6.7**	**6.6**	**6.3**	**6.3**	**6.3**	**5.5**	**5.7**	*5.8*	*5.6*	*4.7*	*4.8*	*5.5*	**25.9**	*23.2*	*20.5*
Total Consumption	**134.4**	**118.7**	**145.9**	**116.5**	**101.7**	**91.5**	**132.4**	*98.6*	*98.3*	*82.1*	*124.9*	*88.6*	**515.5**	*424.2*	*393.9*
Discrepancy (c)	**2.9**	**4.2**	**-1.3**	**1.6**	**3.5**	**10.8**	**7.1**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**7.4**	*21.4*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**19.7**	**20.6**	**20.4**	**20.8**	**22.4**	**22.1**	**18.5**	*18.6*	*20.2*	*20.0*	*16.4*	*16.2*	**20.8**	*18.6*	*16.2*
Secondary Inventories	**90.3**	**91.0**	**83.7**	**93.2**	**113.3**	**132.3**	**126.5**	*149.0*	*156.5*	*166.4*	*147.7*	*152.5*	**93.2**	*149.0*	*152.5*
Electric Power Sector	**86.1**	**86.9**	**79.4**	**88.9**	**109.0**	**127.7**	**121.6**	*144.2*	*152.3*	*162.0*	*143.0*	*147.8*	**88.9**	*144.2*	*147.8*
Retail and General Industry	**2.4**	**2.4**	**2.5**	**2.5**	**2.5**	**2.8**	**2.9**	*3.0*	*2.5*	*2.6*	*2.9*	*2.9*	**2.5**	*3.0*	*2.9*
Coke Plants	**1.6**	**1.6**	**1.6**	**1.6**	**1.7**	**1.7**	**1.7**	*1.7*	*1.5*	*1.6*	*1.6*	*1.6*	**1.6**	*1.7*	*1.6*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.2**	*0.2*	*0.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.05**	**6.05**	**6.05**	**6.05**	**5.98**	**5.98**	**5.98**	*5.98*	*5.80*	*5.80*	*5.80*	*5.80*	**6.05**	*5.98*	*5.80*
Total Raw Steel Production (Million short tons per day)	**0.253**	**0.253**	**0.247**	**0.235**	**0.236**	**0.244**	**0.245**	*0.250*	*0.249*	*0.249*	*0.253*	*0.261*	**0.247**	*0.244*	*0.253*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.18**	**2.25**	**2.49**	**2.54**	**2.57**	**2.49**	**2.49**	*2.44*	*2.44*	*2.42*	*2.42*	*2.38*	**2.37**	*2.50*	*2.41*

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

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

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

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electricity Supply (billion kilowatthours)															
Electricity generation (a)	**1,023**	**1,025**	**1,187**	**996**	**987**	**984**	**1,210**	*1,008*	*1,024*	*1,023*	*1,227*	*1,012*	**4,231**	*4,188*	*4,285*
Electric power sector	**984**	**987**	**1,146**	**957**	**948**	**947**	**1,169**	*968*	*984*	*985*	*1,185*	*972*	**4,074**	*4,033*	*4,126*
Industrial sector	**35**	**34**	**36**	**35**	**35**	**33**	**36**	*35*	*35*	*34*	*36*	*35*	**140**	*139*	*141*
Commercial sector	**4**	**4**	**5**	**4**	**4**	**4**	**5**	*4*	*4*	*4*	*5*	*5*	**17**	*17*	*18*
Net imports	**7**	**10**	**15**	**10**	**10**	**10**	**11**	*9*	*11*	*12*	*14*	*11*	**41**	*41*	*48*
Total utility-scale power supply	**1,029**	**1,035**	**1,202**	**1,006**	**997**	**994**	**1,221**	*1,017*	*1,034*	*1,035*	*1,241*	*1,023*	**4,272**	*4,230*	*4,333*
Losses and Unaccounted for (b)	**45**	**58**	**45**	**53**	**43**	**55**	**59**	*50*	*44*	*68*	*56*	*49*	**202**	*208*	*217*
Small-scale solar generation (c)	**12**	**17**	**17**	**12**	**14**	**22**	**22**	*15*	*17*	*25*	*25*	*17*	**59**	*73*	*85*
Residential sector	**7**	**11**	**11**	**8**	**10**	**15**	**15**	*10*	*11*	*17*	*17*	*12*	**37**	*49*	*58*
Commercial sector	**4**	**5**	**5**	**3**	**4**	**6**	**6**	*4*	*5*	*7*	*7*	*5*	**17**	*20*	*23*
Industrial sector	**1**	**1**	**1**	**1**	**1**	**1**	**1**	*1*	*1*	*1*	*1*	*1*	**4**	*4*	*5*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**949**	**942**	**1,119**	**917**	**918**	**906**	**1,125**	*931*	*955*	*932*	*1,147*	*938*	**3,927**	*3,880*	*3,971*
Residential Sector	**377**	**344**	**454**	**334**	**355**	**319**	**457**	*338*	*378*	*335*	*473*	*342*	**1,509**	*1,468*	*1,528*
Commercial Sector	**325**	**339**	**394**	**333**	**322**	**330**	**395**	*338*	*330*	*335*	*396*	*336*	**1,391**	*1,385*	*1,397*
Industrial Sector	**245**	**257**	**270**	**249**	**239**	**256**	**272**	*253*	*244*	*260*	*277*	*257*	**1,020**	*1,021*	*1,039*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	**7**	*7*	*7*
Direct Use (d)	**36**	**35**	**37**	**35**	**35**	**33**	**37**	*36*	*36*	*35*	*38*	*36*	**143**	*142*	*145*
Total Consumption	**984**	**976**	**1,157**	**952**	**954**	**939**	**1,162**	*967*	*990*	*966*	*1,185*	*974*	**4,070**	*4,022*	*4,116*
Average residential electricity usage per customer (kWh)	**2,698**	**2,459**	**3,246**	**2,391**	**2,530**	**2,268**	**3,250**	*2,404*	*2,667*	*2,361*	*3,332*	*2,414*	**10,794**	*10,452*	*10,775*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**86.1**	**86.9**	**79.4**	**88.9**	**109.0**	**127.7**	**121.6**	*144.2*	*152.3*	*162.0*	*143.0*	*147.8*	**88.9**	*144.2*	*147.8*
Residual Fuel (mmb)	**5.8**	**6.1**	**5.8**	**5.8**	**6.1**	**6.3**	**5.9**	*5.7*	*3.9*	*3.7*	*1.8*	*2.6*	**5.8**	*5.7*	*2.6*
Distillate Fuel (mmb)	**17.3**	**17.3**	**16.2**	**16.5**	**17.0**	**16.9**	**16.1**	*16.4*	*16.2*	*16.0*	*15.9*	*16.1*	**16.5**	*16.4*	*16.1*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.18**	**2.25**	**2.49**	**2.54**	**2.57**	**2.49**	**2.49**	*2.44*	*2.44*	*2.42*	*2.42*	*2.38*	**2.37**	*2.50*	*2.41*
Natural Gas	**5.93**	**7.39**	**8.23**	**6.86**	**4.98**	**2.60**	**2.89**	*3.54*	*3.95*	*3.07*	*3.29*	*3.71*	**7.23**	*3.42*	*3.48*
Residual Fuel Oil	**16.59**	**25.86**	**26.65**	**21.22**	**19.23**	**17.88**	**17.66**	*17.29*	*17.41*	*18.20*	*17.26*	*17.19*	**21.58**	*18.06*	*17.46*
Distillate Fuel Oil	**21.32**	**30.71**	**26.71**	**24.73**	**22.84**	**19.91**	**22.52**	*23.13*	*23.51*	*22.57*	*22.17*	*23.12*	**25.00**	*22.24*	*22.97*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**13.91**	**14.96**	**15.74**	**15.44**	**15.77**	**16.12**	**15.91**	*15.18*	*15.36*	*15.98*	*16.01*	*15.31*	**15.04**	*15.75*	*15.69*
Commercial Sector	**11.52**	**12.21**	**13.24**	**12.50**	**12.64**	**12.45**	**13.11**	*11.91*	*12.02*	*12.22*	*13.33*	*12.24*	**12.41**	*12.55*	*12.50*
Industrial Sector	**7.28**	**8.28**	**9.25**	**8.36**	**8.06**	**7.74**	**8.54**	*8.04*	*8.19*	*7.81*	*8.51*	*8.14*	**8.32**	*8.10*	*8.17*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**42.73**	**83.19**	**130.71**	**53.01**	**28.05**	**57.27**	**188.81**	*41.82*	*38.96*	*35.33*	*46.57*	*41.87*	**77.41**	*78.99*	*40.68*
CAISO SP15 zone	**45.20**	**60.34**	**110.03**	**135.13**	**92.54**	**30.00**	**67.59**	*54.86*	*51.11*	*36.99*	*66.20*	*52.69*	**87.67**	*61.25*	*51.75*
ISO-NE Internal hub	**116.48**	**73.28**	**99.14**	**80.77**	**52.63**	**32.55**	**40.41**	*44.68*	*77.16*	*44.98*	*76.01*	*56.70*	**92.42**	*42.57*	*63.71*
NYISO Hudson Valley zone	**100.10**	**79.72**	**104.71**	**77.17**	**44.65**	**31.38**	**39.45**	*39.49*	*52.57*	*38.35*	*66.76*	*43.26*	**90.42**	*38.74*	*50.24*
PJM Western hub	**58.33**	**93.00**	**110.99**	**71.60**	**36.49**	**35.41**	**43.27**	*41.19*	*40.92*	*38.15*	*44.90*	*39.14*	**83.48**	*39.09*	*40.78*
Midcontinent ISO Illinois hub	**47.88**	**89.21**	**101.80**	**57.87**	**31.39**	**32.13**	**40.60**	*39.17*	*39.36*	*36.72*	*42.05*	*37.64*	**74.19**	*35.82*	*38.94*
SPP ISO South hub	**37.25**	**72.85**	**109.97**	**55.87**	**28.96**	**34.56**	**46.96**	*34.94*	*37.85*	*37.95*	*46.58*	*37.52*	**68.98**	*36.36*	*39.97*
SERC index, Into Southern	**42.45**	**84.96**	**94.82**	**59.33**	**30.53**	**31.66**	**36.45**	*32.89*	*33.71*	*31.56*	*34.63*	*32.25*	**70.39**	*32.88*	*33.04*
FRCC index, Florida Reliability	**41.11**	**78.70**	**92.71**	**58.54**	**30.31**	**33.06**	**36.79**	*33.81*	*34.16*	*33.67*	*36.48*	*34.83*	**67.77**	*33.49*	*34.78*
Northwest index, Mid-Columbia	**39.85**	**59.39**	**137.82**	**151.39**	**105.99**	**58.61**	**82.36**	*87.75*	*82.08*	*66.39*	*84.74*	*85.60*	**97.11**	*83.68*	*79.70*
Southwest index, Palo Verde	**39.02**	**60.50**	**128.25**	**130.12**	**84.19**	**31.60**	**71.95**	*56.90*	*59.89*	*51.01*	*51.22*	*55.26*	**89.47**	*61.16*	*54.34*

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by utility-scale power plants with capacity of at least one megawatt.

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

(c) Solar photovoltaic systems smaller than one megawatt such as those installed on rooftops.

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

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly and Electric Power Annual (electricity supply and consumption, fuel inventories and costs, and retail electricity prices); S&P Global Market Intelligence (wholesale electricity prices).

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Forecast data: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Residential Sector															
New England	**13.1**	**10.5**	**13.9**	**10.9**	**12.2**	**9.8**	**13.4**	*11.0*	*13.1*	*10.2*	*14.2*	*11.3*	**48.5**	*46.4*	*48.9*
Middle Atlantic	**35.9**	**29.9**	**42.5**	**30.3**	**33.3**	**27.5**	**39.9**	*30.2*	*35.4*	*28.9*	*42.8*	*30.5*	**138.7**	*130.8*	*137.5*
E. N. Central	**50.6**	**43.6**	**54.6**	**42.9**	**46.5**	**39.8**	**52.9**	*44.4*	*51.0*	*42.6*	*57.4*	*44.7*	**191.8**	*183.6*	*195.7*
W. N. Central	**30.5**	**24.6**	**31.2**	**25.6**	**29.4**	**24.1**	**30.9**	*26.0*	*30.6*	*24.3*	*32.6*	*26.2*	**111.9**	*110.4*	*113.7*
S. Atlantic	**94.5**	**89.6**	**113.7**	**85.9**	**87.2**	**83.8**	**117.1**	*86.1*	*96.2*	*90.9*	*123.8*	*88.9*	**383.8**	*374.1*	*399.9*
E. S. Central	**32.2**	**27.3**	**36.6**	**26.2**	**29.3**	**25.4**	**37.3**	*26.6*	*33.0*	*26.5*	*38.9*	*26.8*	**122.3**	*118.6*	*125.2*
W. S. Central	**56.6**	**58.5**	**80.7**	**51.0**	**51.6**	**52.4**	**87.8**	*54.5*	*55.9*	*53.6*	*81.9*	*53.4*	**246.8**	*246.2*	*244.9*
Mountain	**24.1**	**26.2**	**36.1**	**24.3**	**25.3**	**24.5**	**36.8**	*23.7*	*24.5*	*26.2*	*37.8*	*24.2*	**110.8**	*110.3*	*112.7*
Pacific contiguous	**38.4**	**32.4**	**43.1**	**36.1**	**39.5**	**30.2**	**39.3**	*34.1*	*37.3*	*30.6*	*41.9*	*35.1*	**150.0**	*143.1*	*144.9*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.2**	**1.1**	**1.1**	*1.3*	*1.3*	*1.1*	*1.1*	*1.3*	**4.8**	*4.8*	*4.8*
Total	**377.3**	**343.8**	**453.8**	**334.3**	**355.4**	**318.6**	**456.6**	*337.7*	*378.3*	*334.9*	*472.5*	*342.4*	**1,509.2**	*1,468.2*	*1,528.1*
Commercial Sector															
New England	**12.2**	**11.9**	**14.0**	**11.8**	**11.9**	**11.5**	**13.7**	*11.9*	*12.1*	*11.6*	*13.8*	*11.8*	**49.9**	*49.0*	*49.2*
Middle Atlantic	**36.5**	**34.6**	**40.9**	**34.9**	**35.0**	**33.1**	**40.0**	*34.9*	*35.4*	*33.5*	*40.8*	*34.8*	**146.8**	*143.0*	*144.4*
E. N. Central	**43.3**	**42.9**	**48.8**	**42.2**	**42.4**	**41.9**	**48.3**	*42.5*	*43.2*	*42.4*	*49.1*	*42.1*	**177.2**	*175.0*	*176.7*
W. N. Central	**25.2**	**24.8**	**28.6**	**24.9**	**25.3**	**25.1**	**29.1**	*25.3*	*25.9*	*25.1*	*29.3*	*25.1*	**103.5**	*104.8*	*105.4*
S. Atlantic	**76.4**	**83.6**	**94.7**	**80.1**	**75.4**	**81.7**	**96.6**	*81.3*	*78.0*	*84.3*	*97.6*	*81.6*	**334.8**	*334.9*	*341.4*
E. S. Central	**21.2**	**22.6**	**27.0**	**21.2**	**20.6**	**21.8**	**27.1**	*21.7*	*21.3*	*22.0*	*27.1*	*21.4*	**91.9**	*91.2*	*91.8*
W. S. Central	**48.2**	**54.0**	**63.5**	**52.6**	**47.4**	**51.2**	**64.4**	*55.7*	*50.2*	*52.1*	*62.5*	*54.8*	**218.3**	*218.7*	*219.6*
Mountain	**23.2**	**25.4**	**29.6**	**24.3**	**23.8**	**25.0**	**30.0**	*24.4*	*23.8*	*25.5*	*30.0*	*24.3*	**102.4**	*103.1*	*103.7*
Pacific contiguous	**37.8**	**38.0**	**45.5**	**39.2**	**38.8**	**37.0**	**44.6**	*39.1*	*39.0*	*37.0*	*44.8*	*38.9*	**160.6**	*159.6*	*159.6*
AK and HI	**1.3**	**1.3**	**1.4**	**1.4**	**1.3**	**1.3**	**1.4**	*1.4*	*1.4*	*1.3*	*1.4*	*1.4*	**5.4**	*5.4*	*5.5*
Total	**325.3**	**339.1**	**393.8**	**332.6**	**321.9**	**329.6**	**395.1**	*338.2*	*330.2*	*334.8*	*396.3*	*336.2*	**1,390.9**	*1,384.7*	*1,397.5*
Industrial Sector															
New England	**3.9**	**3.9**	**4.1**	**3.8**	**3.7**	**3.7**	**4.0**	*3.8*	*3.7*	*3.6*	*3.9*	*3.8*	**15.6**	*15.1*	*14.9*
Middle Atlantic	**17.6**	**18.4**	**19.5**	**18.3**	**17.3**	**17.7**	**19.3**	*18.5*	*17.6*	*17.8*	*19.5*	*18.8*	**73.8**	*72.9*	*73.8*
E. N. Central	**45.8**	**46.8**	**48.6**	**45.2**	**44.8**	**45.8**	**48.1**	*45.5*	*45.1*	*45.8*	*48.3*	*45.8*	**186.4**	*184.2*	*185.0*
W. N. Central	**24.1**	**24.7**	**26.7**	**24.8**	**24.1**	**25.5**	**27.0**	*24.8*	*24.4*	*26.0*	*27.6*	*25.4*	**100.3**	*101.3*	*103.5*
S. Atlantic	**35.2**	**35.8**	**37.1**	**34.9**	**33.6**	**35.2**	**36.5**	*35.3*	*33.9*	*35.5*	*36.9*	*35.7*	**143.0**	*140.5*	*142.0*
E. S. Central	**24.7**	**25.8**	**25.5**	**23.3**	**23.2**	**23.9**	**24.7**	*23.2*	*23.3*	*23.8*	*24.6*	*23.2*	**99.3**	*95.1*	*94.8*
W. S. Central	**52.4**	**57.0**	**59.0**	**55.4**	**53.6**	**62.4**	**64.7**	*58.5*	*56.5*	*65.7*	*68.3*	*60.8*	**223.8**	*239.3*	*251.4*
Mountain	**19.7**	**21.5**	**23.8**	**20.7**	**19.8**	**21.5**	**24.0**	*21.2*	*20.4*	*21.9*	*24.4*	*21.5*	**85.8**	*86.6*	*88.1*
Pacific contiguous	**20.1**	**22.1**	**24.5**	**20.9**	**18.3**	**19.2**	**22.2**	*21.1*	*18.3*	*19.0*	*22.1*	*21.0*	**87.7**	*80.8*	*80.4*
AK and HI	**1.1**	**1.2**	**1.3**	**1.2**	**1.1**	**1.2**	**1.3**	*1.2*	*1.2*	*1.2*	*1.3*	*1.2*	**4.8**	*4.8*	*4.8*
Total	**244.6**	**257.2**	**270.1**	**248.6**	**239.5**	**256.2**	**271.8**	*253.0*	*244.4*	*260.3*	*276.7*	*257.3*	**1,020.5**	*1,020.5*	*1,038.7*
Total All Sectors (a)															
New England	**29.3**	**26.5**	**32.1**	**26.6**	**27.9**	**25.1**	**31.2**	*26.8*	*29.0*	*25.5*	*32.0*	*26.9*	**114.5**	*111.0*	*113.5*
Middle Atlantic	**90.9**	**83.7**	**103.8**	**84.3**	**86.4**	**79.2**	**100.0**	*84.4*	*89.3*	*80.9*	*103.9*	*84.9*	**362.7**	*350.1*	*359.1*
E. N. Central	**139.9**	**133.5**	**152.2**	**130.4**	**133.8**	**127.6**	**149.5**	*132.4*	*139.4*	*130.8*	*154.9*	*132.7*	**555.9**	*543.3*	*557.9*
W. N. Central	**79.9**	**74.1**	**86.5**	**75.3**	**78.7**	**74.8**	**87.1**	*76.0*	*80.9*	*75.5*	*89.6*	*76.7*	**315.8**	*316.6*	*322.7*
S. Atlantic	**206.4**	**209.3**	**245.8**	**201.1**	**196.4**	**200.9**	**250.4**	*202.9*	*208.3*	*210.9*	*258.5*	*206.5*	**862.5**	*850.6*	*884.3*
E. S. Central	**78.0**	**75.7**	**89.1**	**70.6**	**73.1**	**71.1**	**89.0**	*71.6*	*77.6*	*72.3*	*90.6*	*71.4*	**313.5**	*304.8*	*311.9*
W. S. Central	**157.2**	**169.5**	**203.2**	**159.1**	**152.6**	**166.0**	**217.0**	*168.8*	*162.7*	*171.4*	*212.8*	*169.1*	**689.0**	*704.4*	*716.1*
Mountain	**67.1**	**73.2**	**89.5**	**69.3**	**68.9**	**71.1**	**90.9**	*69.2*	*68.8*	*73.7*	*92.2*	*70.1*	**299.1**	*300.1*	*304.7*
Pacific contiguous	**96.5**	**92.7**	**113.4**	**96.5**	**96.8**	**86.6**	**106.4**	*94.5*	*94.8*	*86.8*	*108.9*	*95.2*	**399.1**	*384.3*	*385.7*
AK and HI	**3.7**	**3.6**	**3.8**	**3.9**	**3.7**	**3.6**	**3.8**	*3.9*	*3.8*	*3.6*	*3.8*	*3.9*	**15.0**	*14.9*	*15.1*
Total	**948.8**	**941.7**	**1,119.4**	**917.2**	**918.4**	**905.9**	**1,125.2**	*930.6*	*954.6*	*931.6*	*1,147.3*	*937.5*	**3,927.2**	*3,880.1*	*3,970.9*

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Electricity sales to ultimate customers are sold by electric utilities and power marketers for direct consumption by the customer and not available for resale. Includes electric sales to end users by third-party owners of behind-the-meter solar photovoltaic systems.

Regions refer to U.S. Census divisions (https://www.eia.gov/tools/glossary/index.php?id=C#census_division).

(a) Total includes sales of electricity to ultimate customers in transportation sector (not shown), as well as residential, commercial, and industrial sectors.

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly and Electric Power Annual.

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Forecast data: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Residential Sector															
New England	**23.90**	**24.21**	**24.66**	**26.31**	**30.65**	**29.58**	**27.58**	*27.10*	*30.36*	*28.61*	*26.69*	*26.99*	**24.73**	*28.70*	*28.15*
Middle Atlantic	**17.19**	**18.23**	**18.89**	**19.44**	**19.70**	**19.13**	**19.98**	*19.62*	*19.80*	*19.56*	*20.64*	*20.45*	**18.43**	*19.64*	*20.16*
E. N. Central	**14.11**	**15.38**	**16.01**	**16.00**	**16.14**	**16.58**	**15.89**	*15.37*	*15.32*	*16.00*	*15.61*	*15.52*	**15.36**	*15.98*	*15.60*
W. N. Central	**11.12**	**13.09**	**14.13**	**12.18**	**11.85**	**13.52**	**14.10**	*11.87*	*11.66*	*13.59*	*14.05*	*11.82*	**12.63**	*12.85*	*12.79*
S. Atlantic	**12.52**	**13.41**	**14.05**	**13.68**	**14.31**	**14.74**	**14.35**	*13.25*	*13.45*	*14.08*	*13.94*	*13.03*	**13.44**	*14.17*	*13.65*
E. S. Central	**11.88**	**12.96**	**13.66**	**13.30**	**13.17**	**13.20**	**12.80**	*12.62*	*12.91*	*13.44*	*12.93*	*12.85*	**12.96**	*12.94*	*13.02*
W. S. Central	**12.02**	**13.14**	**14.03**	**14.16**	**13.57**	**13.57**	**13.50**	*13.98*	*13.63*	*13.85*	*13.86*	*13.98*	**13.39**	*13.63*	*13.83*
Mountain	**12.09**	**12.78**	**13.17**	**12.92**	**12.96**	**13.89**	**14.00**	*13.41*	*13.10*	*13.76*	*13.76*	*13.36*	**12.79**	*13.61*	*13.53*
Pacific	**17.89**	**20.12**	**21.59**	**19.06**	**19.60**	**22.32**	**23.44**	*19.11*	*19.59*	*23.03*	*24.42*	*19.79*	**19.72**	*21.11*	*21.76*
U.S. Average	**13.91**	**14.96**	**15.74**	**15.44**	**15.77**	**16.12**	**15.91**	*15.18*	*15.36*	*15.98*	*16.01*	*15.31*	**15.04**	*15.75*	*15.69*
Commercial Sector															
New England	**18.41**	**17.38**	**18.26**	**18.47**	**20.56**	**18.40**	**18.72**	*17.90*	*19.57*	*17.63*	*18.46*	*18.39*	**18.13**	*18.89*	*18.52*
Middle Atlantic	**13.95**	**14.88**	**16.50**	**15.17**	**14.86**	**14.89**	**16.18**	*13.96*	*13.82*	*14.68*	*16.59*	*14.43*	**15.17**	*15.02*	*14.95*
E. N. Central	**10.95**	**11.71**	**11.97**	**11.76**	**12.01**	**12.06**	**11.76**	*10.97*	*11.28*	*11.83*	*11.93*	*11.29*	**11.61**	*11.70*	*11.60*
W. N. Central	**9.57**	**10.59**	**11.43**	**10.06**	**9.95**	**10.67**	**11.15**	*9.53*	*9.67*	*10.86*	*11.43*	*9.63*	**10.44**	*10.35*	*10.43*
S. Atlantic	**10.14**	**10.69**	**11.32**	**11.04**	**11.31**	**10.95**	**10.82**	*10.10*	*10.28*	*10.34*	*10.53*	*9.95*	**10.83**	*10.79*	*10.29*
E. S. Central	**11.49**	**12.00**	**12.81**	**12.38**	**12.57**	**12.10**	**12.28**	*12.01*	*12.49*	*12.40*	*12.70*	*12.34*	**12.21**	*12.24*	*12.49*
W. S. Central	**8.54**	**9.47**	**10.36**	**9.60**	**9.36**	**8.84**	**9.54**	*8.61*	*8.73*	*9.01*	*10.37*	*9.42*	**9.56**	*9.10*	*9.43*
Mountain	**9.55**	**10.31**	**11.07**	**10.42**	**10.35**	**11.09**	**11.67**	*10.71*	*10.36*	*10.90*	*11.58*	*10.78*	**10.38**	*11.00*	*10.95*
Pacific	**16.12**	**17.80**	**20.35**	**18.24**	**18.06**	**18.85**	**22.53**	*19.36*	*18.38*	*18.71*	*22.88*	*20.21*	**18.24**	*19.81*	*20.16*
U.S. Average	**11.52**	**12.21**	**13.24**	**12.50**	**12.64**	**12.45**	**13.11**	*11.91*	*12.02*	*12.22*	*13.33*	*12.24*	**12.41**	*12.55*	*12.50*
Industrial Sector															
New England	**14.85**	**14.74**	**15.48**	**15.01**	**16.24**	**15.24**	**15.65**	*14.51*	*15.39*	*14.50*	*15.32*	*14.78*	**15.02**	*15.41*	*15.01*
Middle Atlantic	**7.80**	**8.25**	**9.21**	**8.36**	**8.20**	**7.72**	**7.88**	*7.60*	*8.06*	*7.68*	*7.99*	*7.57*	**8.42**	*7.85*	*7.82*
E. N. Central	**7.52**	**8.35**	**8.77**	**8.28**	**8.31**	**7.89**	**8.05**	*7.97*	*8.49*	*8.05*	*8.18*	*8.06*	**8.24**	*8.05*	*8.19*
W. N. Central	**7.10**	**7.94**	**8.66**	**7.47**	**7.44**	**7.79**	**8.44**	*7.44*	*7.69*	*7.96*	*8.57*	*7.54*	**7.82**	*7.79*	*7.95*
S. Atlantic	**6.57**	**7.90**	**8.83**	**7.80**	**7.72**	**7.37**	**7.93**	*7.30*	*7.92*	*7.46*	*7.98*	*7.37*	**7.79**	*7.58*	*7.68*
E. S. Central	**6.16**	**7.14**	**8.16**	**7.31**	**6.98**	**6.67**	**6.83**	*6.55*	*6.93*	*6.65*	*6.83*	*6.61*	**7.20**	*6.76*	*6.75*
W. S. Central	**6.09**	**7.23**	**8.13**	**7.26**	**6.56**	**5.95**	**7.19**	*6.89*	*6.81*	*5.86*	*6.73*	*6.96*	**7.21**	*6.65*	*6.58*
Mountain	**6.55**	**7.24**	**8.44**	**7.84**	**7.65**	**7.65**	**8.49**	*7.85*	*7.75*	*8.00*	*8.61*	*8.04*	**7.56**	*7.93*	*8.12*
Pacific	**10.28**	**11.84**	**13.94**	**12.50**	**11.81**	**12.47**	**14.89**	*13.14*	*12.27*	*13.19*	*15.57*	*13.71*	**12.23**	*13.16*	*13.77*
U.S. Average	**7.28**	**8.28**	**9.25**	**8.36**	**8.06**	**7.74**	**8.54**	*8.04*	*8.19*	*7.81*	*8.51*	*8.14*	**8.32**	*8.10*	*8.17*
All Sectors (a)															
New England	**20.37**	**19.68**	**20.66**	**21.14**	**24.39**	**22.26**	**22.11**	*21.16*	*23.89*	*21.56*	*21.71*	*21.46*	**20.47**	*22.49*	*22.17*
Middle Atlantic	**14.03**	**14.60**	**16.08**	**15.20**	**15.38**	**14.75**	**16.08**	*14.58*	*15.04*	*14.87*	*16.63*	*15.06*	**15.02**	*15.24*	*15.47*
E. N. Central	**10.97**	**11.73**	**12.39**	**11.95**	**12.20**	**11.97**	**12.03**	*11.41*	*11.85*	*11.86*	*12.13*	*11.59*	**11.77**	*11.90*	*11.87*
W. N. Central	**9.41**	**10.53**	**11.55**	**9.93**	**9.89**	**10.60**	**11.36**	*9.65*	*9.83*	*10.74*	*11.50*	*9.68*	**10.38**	*10.40*	*10.47*
S. Atlantic	**10.62**	**11.38**	**12.21**	**11.60**	**12.03**	**11.90**	**12.05**	*10.95*	*11.36*	*11.46*	*11.80*	*10.83*	**11.48**	*11.75*	*11.39*
E. S. Central	**9.97**	**10.70**	**11.82**	**11.05**	**11.04**	**10.66**	**10.99**	*10.47*	*11.00*	*10.89*	*11.21*	*10.67*	**10.91**	*10.80*	*10.96*
W. S. Central	**8.97**	**9.99**	**11.17**	**10.25**	**9.80**	**9.24**	**10.44**	*9.75*	*9.75*	*9.31*	*10.54*	*9.97*	**10.16**	*9.85*	*9.93*
Mountain	**9.58**	**10.29**	**11.22**	**10.52**	**10.53**	**11.01**	**11.77**	*10.76*	*10.56*	*11.05*	*11.69*	*10.83*	**10.46**	*11.07*	*11.08*
Pacific	**15.60**	**17.18**	**19.43**	**17.29**	**17.49**	**18.63**	**21.25**	*17.86*	*17.66*	*19.00*	*21.97*	*18.60*	**17.46**	*18.88*	*19.41*
U.S. Average	**11.37**	**12.14**	**13.29**	**12.45**	**12.66**	**12.41**	**13.14**	*12.04*	*12.36*	*12.34*	*13.27*	*12.23*	**12.35**	*12.59*	*12.59*

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Historical data for average price of electricity to ultimate consumers represents the cost per unit of electricity sold and is calculated by dividing electric revenue from ultimate consumers by the corresponding sales of electricity.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions (https://www.eia.gov/tools/glossary/index.php?id=C#census_division).

(a) Average price to all sectors is weighted by sales of electricity to ultimate customers in the residential, commercial, industrial and transportation (not shown) sectors.

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly and Electric Power Annual.

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Forecast data: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
United States															
Natural Gas	**336.5**	**363.2**	**507.3**	**375.8**	**367.4**	**395.2**	**538.4**	*395.6*	*368.9*	*394.6*	*529.4*	*395.7*	**1,582.7**	*1,696.7*	*1,688.7*
Coal	**218.2**	**190.0**	**235.2**	**182.7**	**156.7**	**140.5**	**214.1**	*151.7*	*152.3*	*126.0*	*203.7*	*133.7*	**826.1**	*663.1*	*615.7*
Nuclear	**195.6**	**184.4**	**201.5**	**190.1**	**194.5**	**183.1**	**205.5**	*192.4*	*199.8*	*193.1*	*208.7*	*192.7*	**771.5**	*775.5*	*794.3*
Renewable Energy Sources:	**226.0**	**244.9**	**197.5**	**201.8**	**225.5**	**224.7**	**206.8**	*223.0*	*258.1*	*267.3*	*239.5*	*245.0*	**870.3**	*879.9*	*1,009.8*
Conventional Hydropower	**69.6**	**69.1**	**62.5**	**52.4**	**60.9**	**64.1**	**58.9**	*55.4*	*71.3*	*79.2*	*64.9*	*60.2*	**253.6**	*239.3*	*275.6*
Wind	**118.0**	**122.0**	**81.5**	**112.5**	**125.7**	**102.5**	**86.1**	*123.1*	*135.9*	*110.0*	*91.4*	*127.8*	**434.0**	*437.3*	*465.1*
Solar (a)	**28.4**	**44.3**	**43.3**	**26.9**	**29.1**	**48.9**	**52.0**	*34.8*	*40.6*	*69.2*	*73.2*	*47.3*	**142.9**	*164.9*	*230.3*
Biomass	**6.0**	**5.7**	**6.3**	**5.7**	**5.6**	**5.1**	**5.8**	*5.6*	*5.9*	*5.4*	*6.1*	*5.6*	**23.7**	*22.1*	*23.0*
Geothermal	**4.0**	**3.9**	**4.0**	**4.2**	**4.2**	**4.0**	**3.9**	*4.1*	*4.4*	*3.5*	*3.9*	*4.1*	**16.1**	*16.3*	*15.9*
Pumped Storage Hydropower	**-1.2**	**-1.3**	**-2.0**	**-1.5**	**-1.6**	**-1.3**	**-1.9**	*-1.4*	*-1.6*	*-1.3*	*-1.9*	*-1.5*	**-6.0**	*-6.1*	*-6.3*
Petroleum (b)	**6.6**	**4.0**	**4.5**	**6.7**	**3.9**	**3.5**	**4.7**	*5.1*	*5.1*	*3.5*	*4.5*	*5.4*	**21.8**	*17.2*	*18.5*
Other Gases	**0.8**	**0.9**	**0.9**	**0.8**	**0.8**	**0.7**	**0.9**	*0.8*	*0.8*	*0.8*	*0.9*	*0.8*	**3.5**	*3.2*	*3.3*
Other Nonrenewable Fuels (c)	**1.1**	**1.0**	**1.0**	**0.9**	**0.9**	**0.9**	**0.9**	*0.8*	*0.8*	*0.5*	*0.4*	*0.3*	**4.0**	*3.4*	*2.1*
Total Generation	**983.7**	**987.3**	**1,146.0**	**957.4**	**948.1**	**947.3**	**1,169.3**	*968.1*	*984.1*	*984.6*	*1,185.2*	*972.1*	**4,074.3**	*4,032.8*	*4,126.1*
New England (ISO-NE)															
Natural Gas	**11.4**	**12.5**	**18.2**	**11.3**	**11.5**	**12.4**	**15.5**	*12.1*	*11.9*	*11.1*	*17.7*	*12.7*	**53.3**	*51.4*	*53.5*
Coal	**0.3**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	*0.0*	*0.4*	*0.0*	*0.3*	*0.1*	**0.3**	*0.2*	*0.8*
Nuclear	**7.1**	**5.6**	**7.3**	**7.4**	**7.1**	**3.4**	**6.9**	*6.3*	*7.2*	*7.2*	*7.2*	*5.6*	**27.4**	*23.7*	*27.1*
Conventional hydropower	**2.0**	**2.2**	**0.7**	**1.6**	**1.9**	**1.4**	**1.6**	*1.8*	*2.0*	*2.2*	*1.2*	*1.7*	**6.5**	*6.7*	*7.1*
Nonhydro renewables (d)	**2.9**	**2.8**	**2.7**	**2.5**	**2.6**	**2.8**	**2.6**	*2.4*	*2.6*	*3.1*	*3.0*	*3.3*	**10.9**	*10.3*	*12.0*
Other energy sources (e)	**1.4**	**0.2**	**0.2**	**0.6**	**0.3**	**0.2**	**0.2**	*0.4*	*0.6*	*0.2*	*0.2*	*0.4*	**2.5**	*1.1*	*1.5*
Total generation	**25.1**	**23.3**	**29.1**	**23.5**	**23.6**	**20.1**	**26.7**	*23.0*	*24.7*	*23.8*	*29.6*	*24.0*	**101.0**	*93.4*	*102.0*
Net energy for load (f)	**30.6**	**26.8**	**33.5**	**28.0**	**29.0**	**25.6**	**32.0**	*28.5*	*30.4*	*27.8*	*34.3*	*29.5*	**118.9**	*115.0*	*122.0*
New York (NYISO)															
Natural Gas	**14.3**	**15.6**	**21.1**	**14.3**	**13.5**	**14.2**	**20.9**	*14.7*	*14.3*	*13.9*	*21.2*	*14.7*	**65.3**	*63.4*	*64.1*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**6.4**	**7.0**	**6.4**	**7.0**	**6.8**	**6.6**	**7.0**	*7.2*	*6.4*	*7.1*	*7.0*	*6.4*	**26.8**	*27.5*	*27.0*
Conventional hydropower	**7.1**	**6.8**	**6.8**	**6.6**	**7.1**	**6.6**	**6.9**	*7.1*	*7.0*	*6.9*	*6.9*	*7.1*	**27.4**	*27.7*	*27.9*
Nonhydro renewables (d)	**1.9**	**1.8**	**1.5**	**2.0**	**2.1**	**2.0**	**1.8**	*2.6*	*2.6*	*2.6*	*2.2*	*2.9*	**7.2**	*8.6*	*10.3*
Other energy sources (e)	**1.1**	**0.0**	**0.0**	**0.5**	**0.2**	**0.0**	**0.0**	*0.2*	*0.6*	*0.0*	*0.1*	*0.2*	**1.6**	*0.4*	*0.9*
Total generation	**30.8**	**31.3**	**35.9**	**30.4**	**29.7**	**29.4**	**36.7**	*31.8*	*30.9*	*30.4*	*37.5*	*31.4*	**128.3**	*127.6*	*130.2*
Net energy for load (f)	**38.1**	**35.0**	**44.0**	**35.6**	**36.1**	**33.3**	**42.1**	*36.2*	*38.0*	*36.5*	*45.8*	*37.2*	**152.7**	*147.8*	*157.4*
Mid-Atlantic (PJM)															
Natural Gas	**76.0**	**73.1**	**102.3**	**79.3**	**85.1**	**81.6**	**111.3**	*85.0*	*82.3*	*78.9*	*107.0*	*83.8*	**330.8**	*363.0*	*352.1*
Coal	**48.9**	**35.7**	**42.5**	**31.1**	**28.3**	**22.9**	**36.0**	*24.5*	*33.8*	*25.5*	*33.5*	*22.5*	**158.2**	*111.6*	*115.4*
Nuclear	**69.0**	**65.1**	**69.7**	**66.8**	**67.6**	**65.7**	**70.6**	*68.5*	*69.0*	*64.8*	*71.9*	*68.6*	**270.6**	*272.4*	*274.3*
Conventional hydropower	**2.5**	**2.3**	**1.6**	**1.9**	**2.6**	**1.8**	**2.0**	*2.2*	*2.7*	*2.6*	*1.7*	*2.1*	**8.4**	*8.5*	*9.0*
Nonhydro renewables (d)	**13.4**	**13.1**	**9.3**	**12.6**	**12.9**	**11.9**	**10.0**	*13.6*	*15.0*	*14.6*	*12.5*	*15.5*	**48.4**	*48.3*	*57.6*
Other energy sources (e)	**0.6**	**0.3**	**0.2**	**1.1**	**0.3**	**0.1**	**0.1**	*0.6*	*0.5*	*0.2*	*0.2*	*0.7*	**2.1**	*1.2*	*1.6*
Total generation	**210.5**	**189.5**	**225.6**	**192.9**	**196.9**	**183.9**	**230.0**	*194.3*	*203.3*	*186.6*	*226.7*	*193.3*	**818.5**	*805.1*	*809.9*
Net energy for load (f)	**203.4**	**185.4**	**216.7**	**189.7**	**192.5**	**176.2**	**214.4**	*188.3*	*199.6*	*182.1*	*219.9*	*187.3*	**795.1**	*771.5*	*788.8*
Southeast (SERC)															
Natural Gas	**63.5**	**66.7**	**86.0**	**64.6**	**64.1**	**65.7**	**82.4**	*65.1*	*71.3*	*75.8*	*92.4*	*76.7*	**280.8**	*277.3*	*316.2*
Coal	**32.3**	**32.8**	**32.0**	**28.1**	**23.6**	**26.5**	**38.8**	*24.2*	*23.0*	*18.9*	*34.9*	*15.3*	**125.1**	*113.1*	*92.2*
Nuclear	**51.4**	**51.1**	**55.4**	**51.1**	**51.7**	**52.9**	**57.4**	*55.6*	*55.8*	*57.6*	*59.5*	*54.6*	**209.0**	*217.6*	*227.6*
Conventional hydropower	**9.6**	**7.8**	**7.7**	**6.9**	**9.9**	**6.2**	**8.0**	*9.2*	*11.6*	*9.0*	*8.1*	*9.1*	**32.0**	*33.3*	*37.8*
Nonhydro renewables (d)	**5.0**	**7.2**	**6.4**	**4.7**	**4.9**	**7.2**	**7.6**	*5.8*	*5.8*	*8.2*	*8.2*	*6.5*	**23.3**	*25.5*	*28.7*
Other energy sources (e)	**-0.2**	**-0.2**	**-0.6**	**0.0**	**-0.3**	**-0.2**	**-0.5**	*-0.3*	*-0.2*	*-0.3*	*-0.5*	*-0.4*	**-1.1**	*-1.2*	*-1.3*
Total generation	**161.5**	**165.3**	**187.0**	**155.3**	**154.0**	**158.2**	**193.8**	*159.6*	*167.3*	*169.2*	*202.7*	*161.9*	**669.2**	*665.5*	*701.0*
Net energy for load (f)	**157.0**	**158.2**	**170.6**	**151.0**	**149.1**	**149.2**	**171.6**	*150.6*	*158.2*	*157.8*	*188.9*	*153.6*	**636.7**	*620.5*	*658.4*
Florida (FRCC)															
Natural Gas	**38.8**	**47.8**	**56.7**	**41.1**	**37.7**	**48.8**	**59.1**	*40.7*	*37.4*	*46.3*	*55.8*	*43.0*	**184.3**	*186.2*	*182.5*
Coal	**3.5**	**4.2**	**3.7**	**4.1**	**2.7**	**2.6**	**3.9**	*2.4*	*2.6*	*2.3*	*3.3*	*1.4*	**15.5**	*11.6*	*9.5*
Nuclear	**7.3**	**7.9**	**7.5**	**8.1**	**7.4**	**7.5**	**8.0**	*7.2*	*7.3*	*7.9*	*8.0*	*6.7*	**30.8**	*30.1*	*29.9*
Conventional hydropower	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.8**	**3.7**	**3.4**	**2.6**	**3.5**	**4.2**	**3.9**	*2.9*	*4.7*	*5.6*	*5.1*	*3.9*	**12.5**	*14.5*	*19.4*
Other energy sources (e)	**0.6**	**0.5**	**0.6**	**0.5**	**0.6**	**0.5**	**0.6**	*0.5*	*0.6*	*0.5*	*0.5*	*0.5*	**2.2**	*2.2*	*2.1*
Total generation	**53.1**	**64.1**	**71.9**	**56.4**	**51.9**	**63.6**	**75.6**	*53.7*	*52.7*	*62.7*	*72.7*	*55.6*	**245.5**	*244.8*	*243.7*
Net energy for load (f)	**52.2**	**63.6**	**73.9**	**57.8**	**54.4**	**65.5**	**77.2**	*56.7*	*52.6*	*63.6*	*74.2*	*55.8*	**247.5**	*253.9*	*246.2*

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

The electric power sector includes utility-scale generating power plants (total capacity is larger than 1 megawatt) operated by electric utilities and independent power producers whose primary business is to sell electricity over the transmission grid for consumption by the public.

(a) Generation from utility-scale (larger than 1 megawatt) solar photovoltaic and solar thermal power plants. Excludes generation from small-scale solar photovoltaic systems (see Table 7a).

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

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

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

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

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

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly and Electric Power Annual.

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Midwest (MISO)															
Natural Gas	**39.3**	**46.4**	**56.1**	**40.5**	**45.4**	**54.7**	**65.9**	*50.4*	*51.6*	*60.5*	*70.6*	*50.8*	**182.3**	*216.4*	*233.5*
Coal	**60.5**	**51.2**	**65.0**	**49.3**	**43.0**	**38.0**	**55.9**	*42.8*	*43.7*	*33.8*	*56.0*	*39.9*	**226.1**	*179.7*	*173.4*
Nuclear	**23.8**	**19.6**	**24.3**	**23.7**	**23.4**	**21.1**	**24.3**	*19.6*	*23.2*	*22.4*	*24.3*	*23.1*	**91.4**	*88.3*	*93.0*
Conventional hydropower	**2.1**	**2.8**	**2.1**	**2.1**	**2.2**	**2.0**	**2.0**	*2.1*	*2.5*	*2.9*	*2.4*	*2.2*	**9.1**	*8.3*	*9.9*
Nonhydro renewables (d)	**30.9**	**28.0**	**20.0**	**30.5**	**30.3**	**26.5**	**21.0**	*34.6*	*34.9*	*30.2*	*24.3*	*36.8*	**109.4**	*112.4*	*126.2*
Other energy sources (e)	**1.4**	**1.6**	**1.2**	**1.7**	**0.8**	**0.7**	**1.3**	*1.6*	*1.3*	*1.1*	*1.4*	*1.6*	**5.9**	*4.4*	*5.4*
Total generation	**158.0**	**149.7**	**168.8**	**147.8**	**145.1**	**143.0**	**170.4**	*151.1*	*157.2*	*151.0*	*178.9*	*154.4*	**624.2**	*609.6*	*641.5*
Net energy for load (f)	**167.1**	**163.4**	**182.5**	**158.8**	**158.6**	**157.9**	**184.3**	*161.7*	*165.6*	*162.3*	*191.2*	*163.4*	**671.8**	*662.5*	*682.6*
Central (Southwest Power Pool)															
Natural Gas	**12.8**	**13.7**	**25.1**	**17.2**	**15.8**	**21.5**	**29.9**	*16.3*	*15.7*	*20.5*	*27.3*	*16.2*	**68.8**	*83.4*	*79.7*
Coal	**24.0**	**21.4**	**31.2**	**20.5**	**20.4**	**17.2**	**27.1**	*16.9*	*17.2*	*17.9*	*26.6*	*14.5*	**97.1**	*81.7*	*76.2*
Nuclear	**4.3**	**4.3**	**3.9**	**2.1**	**4.3**	**4.3**	**4.3**	*4.2*	*4.3*	*2.9*	*4.3*	*3.5*	**14.6**	*17.1*	*15.0*
Conventional hydropower	**3.0**	**3.8**	**2.9**	**2.6**	**2.9**	**2.8**	**2.8**	*2.8*	*3.5*	*4.2*	*3.7*	*3.1*	**12.3**	*11.3*	*14.4*
Nonhydro renewables (d)	**30.7**	**31.1**	**22.6**	**29.5**	**31.3**	**25.6**	**22.6**	*32.1*	*32.8*	*26.8*	*24.5*	*32.3*	**113.9**	*111.6*	*116.5*
Other energy sources (e)	**0.3**	**0.4**	**0.2**	**0.2**	**0.2**	**0.1**	**0.2**	*0.3*	*0.2*	*0.1*	*0.2*	*0.3*	**1.1**	*0.8*	*0.8*
Total generation	**75.1**	**74.7**	**85.8**	**72.2**	**74.9**	**71.6**	**86.9**	*72.6*	*73.7*	*72.4*	*86.6*	*69.8*	**307.9**	*306.0*	*302.5*
Net energy for load (f)	**67.4**	**67.7**	**81.7**	**66.0**	**66.6**	**66.6**	**81.8**	*64.1*	*65.4*	*66.1*	*80.5*	*63.5*	**282.8**	*279.1*	*275.4*
Texas (ERCOT)															
Natural Gas	**33.7**	**42.9**	**65.3**	**40.9**	**36.4**	**49.6**	**71.1**	*45.9*	*35.1*	*44.2*	*60.9*	*41.8*	**182.8**	*203.0*	*182.0*
Coal	**17.2**	**16.2**	**19.5**	**15.9**	**11.4**	**15.2**	**19.7**	*12.8*	*10.0*	*12.2*	*15.8*	*11.7*	**68.8**	*59.1*	*49.7*
Nuclear	**11.0**	**9.9**	**10.7**	**10.0**	**10.5**	**9.0**	**10.9**	*10.2*	*11.0*	*9.8*	*10.6*	*9.4*	**41.6**	*40.7*	*40.8*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.1**	**0.1**	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.4**	*0.5*	*0.6*
Nonhydro renewables (d)	**30.8**	**39.1**	**27.7**	**28.9**	**36.6**	**33.8**	**33.9**	*33.8*	*41.9*	*44.3*	*44.2*	*40.3*	**126.6**	*138.1*	*170.8*
Other energy sources (e)	**0.4**	**0.4**	**0.3**	**0.3**	**0.2**	**0.4**	**0.4**	*0.4*	*0.3*	*0.3*	*0.2*	*0.2*	**1.5**	*1.4*	*1.0*
Total generation	**93.2**	**108.6**	**123.7**	**96.2**	**95.4**	**108.1**	**136.0**	*103.2*	*98.4*	*111.1*	*131.8*	*103.6*	**421.6**	*442.7*	*444.9*
Net energy for load (f)	**95.1**	**111.3**	**126.4**	**97.1**	**94.1**	**109.8**	**140.2**	*103.2*	*98.4*	*111.1*	*131.8*	*103.6*	**429.9**	*447.3*	*444.9*
Northwest															
Natural Gas	**20.2**	**15.4**	**27.7**	**26.3**	**25.3**	**18.8**	**30.1**	*24.4*	*20.4*	*13.8*	*26.3*	*20.2*	**89.6**	*98.6*	*80.7*
Coal	**24.1**	**20.5**	**29.7**	**24.7**	**20.2**	**14.3**	**24.0**	*20.5*	*16.5*	*11.5*	*23.6*	*19.7*	**99.0**	*79.1*	*71.3*
Nuclear	**2.5**	**2.3**	**2.5**	**2.6**	**2.4**	**1.0**	**2.5**	*2.5*	*2.4*	*2.4*	*2.4*	*2.4*	**9.9**	*8.4*	*9.7*
Conventional hydropower	**37.1**	**35.5**	**33.0**	**25.9**	**25.8**	**29.9**	**24.0**	*23.4*	*33.2*	*39.7*	*30.3*	*28.4*	**131.5**	*103.0*	*131.6*
Nonhydro renewables (d)	**17.9**	**20.0**	**16.0**	**16.6**	**18.9**	**19.1**	**18.8**	*18.7*	*21.3*	*21.3*	*20.6*	*19.8*	**70.5**	*75.5*	*82.9*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.8**	*0.6*	*0.6*
Total generation	**102.0**	**93.9**	**109.2**	**96.1**	**92.8**	**83.4**	**99.5**	*89.5*	*94.0*	*88.8*	*103.4*	*90.7*	**401.2**	*365.3*	*376.9*
Net energy for load (f)	**85.2**	**76.8**	**87.4**	**86.8**	**88.7**	**76.7**	**86.5**	*82.3*	*84.3*	*75.8*	*86.9*	*82.1*	**336.1**	*334.1*	*329.1*
Southwest															
Natural Gas	**9.7**	**13.0**	**18.8**	**13.9**	**11.5**	**15.7**	**22.4**	*16.3*	*11.9*	*15.5*	*23.4*	*14.2*	**55.5**	*66.0*	*65.0*
Coal	**6.6**	**6.9**	**8.8**	**6.9**	**5.5**	**3.1**	**6.8**	*5.2*	*3.1*	*3.4*	*6.7*	*6.1*	**29.2**	*20.6*	*19.3*
Nuclear	**8.2**	**7.5**	**8.7**	**7.6**	**8.6**	**6.8**	**8.6**	*7.5*	*8.5*	*7.4*	*8.6*	*7.5*	**31.9**	*31.5*	*32.0*
Conventional hydropower	**1.9**	**2.1**	**1.8**	**1.4**	**1.4**	**2.5**	**2.1**	*1.5*	*1.9*	*2.3*	*2.0*	*1.7*	**7.1**	*7.4*	*7.9*
Nonhydro renewables (d)	**5.8**	**7.0**	**5.1**	**5.6**	**6.4**	**6.5**	**6.0**	*6.4*	*8.9*	*8.5*	*7.5*	*7.6*	**23.5**	*25.3*	*32.5*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.1**	*0.1*	*0.1*
Total generation	**32.1**	**36.6**	**43.3**	**35.4**	**33.5**	**34.6**	**45.9**	*37.0*	*34.3*	*37.1*	*48.2*	*37.1*	**147.4**	*150.9*	*156.8*
Net energy for load (f)	**27.4**	**34.8**	**42.0**	**28.8**	**28.3**	**32.9**	**45.8**	*29.4*	*28.0*	*34.2*	*45.4*	*29.3*	**133.0**	*136.4*	*137.0*
California															
Natural Gas	**15.9**	**15.2**	**29.2**	**25.5**	**20.2**	**11.5**	**28.9**	*23.9*	*16.1*	*13.5*	*26.1*	*20.9*	**85.9**	*84.5*	*76.6*
Coal	**0.5**	**0.7**	**2.4**	**1.9**	**1.1**	**0.6**	**1.7**	*1.9*	*1.6*	*0.2*	*2.6*	*1.9*	**5.5**	*5.3*	*6.3*
Nuclear	**4.6**	**4.2**	**5.0**	**3.8**	**4.7**	**4.9**	**4.9**	*3.6*	*4.7*	*3.6*	*4.8*	*4.8*	**17.6**	*18.2*	*17.8*
Conventional hydropower	**3.7**	**5.2**	**5.3**	**3.0**	**6.5**	**10.5**	**9.2**	*4.8*	*6.4*	*8.8*	*8.2*	*4.3*	**17.2**	*31.0*	*27.6*
Nonhydro renewables (d)	**13.9**	**21.6**	**19.9**	**13.4**	**14.8**	**20.3**	**19.2**	*14.3*	*15.8*	*22.3*	*21.8*	*15.2*	**68.8**	*68.5*	*75.1*
Other energy sources (e)	**-0.1**	**-0.2**	**0.1**	**-0.2**	**-0.6**	**-0.2**	**0.1**	*-0.2*	*-0.6*	*-0.4*	*-0.2*	*-0.4*	**-0.4**	*-0.9*	*-1.6*
Total generation	**38.5**	**46.7**	**61.8**	**47.5**	**46.7**	**47.7**	**63.9**	*48.4*	*44.1*	*48.0*	*63.3*	*46.6*	**194.6**	*206.7*	*202.0*
Net energy for load (f)	**59.2**	**64.4**	**81.3**	**63.6**	**60.5**	**59.9**	**76.7**	*63.2*	*60.0*	*63.9*	*82.6*	*63.0*	**268.4**	*260.3*	*269.6*

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

The electric power sector includes utility-scale generating power plants (total capacity is larger than 1 megawatt) operated by electric utilities and independent power producers whose primary business is to sell electricity over the transmission grid for consumption by the public.

(a) Generation from utility-scale (larger than 1 megawatt) solar photovoltaic and solar thermal power plants. Excludes generation from small-scale solar photovoltaic systems (see Table 7a).

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

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

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

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

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

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly and Electric Power Annual.

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Table 7e. U.S. Electric Generating Capacity (gigawatts at end of period)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electric power sector (power plants larger than one megawatt)															
Fossil fuel energy sources															
Natural gas	**479.4**	**482.7**	**483.7**	**483.6**	**486.2**	**488.2**	**488.0**	*488.2*	*488.9*	*487.3*	*487.8*	*488.1*	**483.6**	*488.2*	*488.1*
Coal	**199.4**	**194.4**	**191.0**	**187.9**	**186.3**	**182.6**	**181.4**	*178.6*	*177.9*	*177.4*	*177.4*	*177.0*	**187.9**	*178.6*	*177.0*
Petroleum	**29.7**	**29.4**	**29.4**	**29.2**	**28.4**	**28.2**	**28.2**	*27.8*	*27.8*	*27.8*	*27.8*	*27.8*	**29.2**	*27.8*	*27.8*
Other gases	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	**0.4**	*0.4*	*0.4*
Renewable energy sources															
Wind	**135.0**	**137.9**	**137.9**	**141.3**	**143.1**	**144.5**	**145.3**	*149.6*	*150.1*	*153.1*	*153.2*	*156.1*	**141.3**	*149.6*	*156.1*
Solar photovoltaic	**62.1**	**64.5**	**66.6**	**70.8**	**73.1**	**76.7**	**82.5**	*95.1*	*102.1*	*110.5*	*114.0*	*130.7*	**70.8**	*95.1*	*130.7*
Solar thermal	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	**1.5**	*1.5*	*1.5*
Geothermal	**2.6**	**2.6**	**2.7**	**2.6**	**2.6**	**2.7**	**2.7**	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*	**2.6**	*2.7*	*2.7*
Waste biomass	**3.0**	**3.0**	**3.0**	**2.9**	**2.9**	**2.9**	**2.9**	*2.9*	*2.9*	*2.9*	*2.9*	*2.9*	**2.9**	*2.9*	*2.9*
Wood biomass	**2.4**	**2.4**	**2.4**	**2.4**	**2.4**	**2.4**	**2.4**	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**2.4**	*2.4*	*2.4*
Conventional hydroelectric	**79.8**	**79.8**	**79.8**	**79.8**	**79.8**	**79.8**	**79.8**	*79.8*	*79.8*	*79.8*	*79.8*	*79.8*	**79.8**	*79.8*	*79.8*
Pumped storage hydroelectric	**23.0**	**23.0**	**23.0**	**23.0**	**23.2**	**23.2**	**23.2**	*23.2*	*23.3*	*23.3*	*23.3*	*23.3*	**23.0**	*23.2*	*23.3*
Nuclear	**95.4**	**94.7**	**94.7**	**94.7**	**94.7**	**94.7**	**95.8**	*95.8*	*96.9*	*96.9*	*96.9*	*96.9*	**94.7**	*95.8*	*96.9*
Battery storage	**5.3**	**6.6**	**8.0**	**9.0**	**9.4**	**10.8**	**14.4**	*18.0*	*20.4*	*25.0*	*25.9*	*32.1*	**9.0**	*18.0*	*32.1*
Other nonrenewable sources (a)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.2**	*0.2*	*0.2*
Industrial and commercial sectors (combined heat and power plants larger than one megawatt)															
Fossil fuel energy sources															
Natural gas	**18.8**	**18.8**	**18.8**	**18.8**	**18.8**	**18.8**	**18.8**	*18.8*	*18.8*	*18.9*	*18.9*	*18.9*	**18.8**	*18.8*	*18.9*
Coal	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	**1.4**	*1.4*	*1.4*
Petroleum	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	**1.5**	*1.5*	*1.5*
Other gases	**1.4**	**1.4**	**1.4**	**1.4**	**1.3**	**1.4**	**1.4**	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	**1.4**	*1.4*	*1.4*
Renewable energy sources															
Wood biomass	**5.4**	**5.4**	**5.4**	**5.4**	**5.4**	**5.4**	**5.4**	*5.3*	*5.3*	*5.3*	*5.3*	*5.3*	**5.4**	*5.3*	*5.3*
Waste biomass	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	**1.4**	*1.4*	*1.4*
Solar	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.7**	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	**0.6**	*0.8*	*0.8*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.1**	*0.1*	*0.1*
Geothermal	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.1**	*0.1*	*0.1*
Conventional hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**0.3**	*0.3*	*0.3*
Battery storage	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.1**	*0.1*	*0.1*
Other nonrenewable sources (a)	**1.3**	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**	*1.2*	*1.2*	*1.2*	*1.2*	*1.3*	**1.2**	*1.2*	*1.3*
Small-scale solar photovoltaic capacity (systems smaller than one megawatt)															
Residential sector	**22.3**	**23.5**	**24.9**	**26.3**	**27.8**	**29.6**	**31.4**	*32.6*	*33.9*	*35.2*	*36.5*	*37.9*	**26.3**	*32.6*	*37.9*
Commercial sector	**10.2**	**10.4**	**10.7**	**10.9**	**11.5**	**11.8**	**12.2**	*12.6*	*13.0*	*13.5*	*13.9*	*14.4*	**10.9**	*12.6*	*14.4*
Industrial sector	**2.2**	**2.3**	**2.3**	**2.3**	**2.4**	**2.5**	**2.5**	*2.6*	*2.6*	*2.7*	*2.7*	*2.8*	**2.3**	*2.6*	*2.8*
All sectors total	**34.7**	**36.2**	**37.9**	**39.5**	**41.7**	**43.9**	**46.0**	*47.8*	*49.5*	*51.3*	*53.2*	*55.0*	**39.5**	*47.8*	*55.0*

Notes:

EIA completed modeling and analysis for this report on November 2, 2023.

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

Capacity values represent the amount of generating capacity that is operating (or expected to be operating) at the end of each period.

Changes in capacity reflect various factors including new generators coming online, retiring generators, capacity uprates and derates, delayed planned capacity projects, cancelled projects, and other factors.

(a) Other sources include hydrogen, pitch, chemicals, sulfur, purchased steam, nonrenewable waste, and miscellaneous technologies.

Data sources:

- Utility-scale capacity (power plants larger than one megawatt): EIA-860M Preliminary Monthly Electric Generator Inventory, August 2023.
- Small-scale solar capacity (systems smaller than one megawatt): Form EIA-861M Monthly Electric Power Industry Report.

Historical capacity data may differ from other EIA publications due to frequent updates to the Preliminary Monthly Electric Generator Inventory.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electric Power Sector															
Geothermal	**0.014**	**0.013**	**0.014**	**0.014**	**0.014**	**0.014**	**0.013**	*0.014*	*0.015*	*0.012*	*0.013*	*0.014*	**0.055**	*0.056*	*0.054*
Hydroelectric Power (a)	**0.253**	**0.236**	**0.213**	**0.188**	**0.214**	**0.223**	**0.200**	*0.189*	*0.243*	*0.270*	*0.222*	*0.205*	**0.890**	*0.825*	*0.940*
Solar (b)	**0.097**	**0.151**	**0.148**	**0.092**	**0.099**	**0.167**	**0.177**	*0.119*	*0.139*	*0.236*	*0.250*	*0.161*	**0.487**	*0.563*	*0.786*
Waste Biomass (c)	**0.047**	**0.043**	**0.044**	**0.043**	**0.043**	**0.041**	**0.042**	*0.042*	*0.043*	*0.041*	*0.042*	*0.041*	**0.176**	*0.168*	*0.168*
Wood Biomass	**0.051**	**0.046**	**0.053**	**0.047**	**0.044**	**0.040**	**0.047**	*0.045*	*0.048*	*0.043*	*0.052*	*0.046*	**0.198**	*0.175*	*0.189*
Wind	**0.403**	**0.416**	**0.278**	**0.384**	**0.429**	**0.350**	**0.294**	*0.420*	*0.464*	*0.375*	*0.312*	*0.436*	**1.481**	*1.492*	*1.587*
Subtotal	**0.864**	**0.906**	**0.749**	**0.768**	**0.843**	**0.833**	**0.773**	*0.828*	*0.952*	*0.978*	*0.891*	*0.904*	**3.287**	*3.278*	*3.724*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.203**	**0.202**	**0.197**	**0.206**	**0.199**	**0.202**	**0.205**	*0.210*	*0.201*	*0.200*	*0.204*	*0.201*	**0.808**	*0.816*	*0.806*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.003**	*0.003*	*0.003*
Solar (b)	**0.003**	**0.004**	**0.004**	**0.003**	**0.003**	**0.005**	**0.005**	*0.003*	*0.004*	*0.005*	*0.005*	*0.004*	**0.015**	*0.016*	*0.017*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.042**	**0.040**	**0.038**	*0.041*	*0.041*	*0.039*	*0.038*	*0.041*	**0.161**	*0.161*	*0.159*
Wood Biomass	**0.319**	**0.324**	**0.322**	**0.314**	**0.309**	**0.292**	**0.299**	*0.324*	*0.318*	*0.318*	*0.329*	*0.333*	**1.278**	*1.225*	*1.298*
Subtotal (e)	**0.573**	**0.577**	**0.567**	**0.571**	**0.559**	**0.545**	**0.554**	*0.585*	*0.570*	*0.569*	*0.583*	*0.584*	**2.288**	*2.244*	*2.307*
Commercial Sector															
Geothermal	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	*0.005*	*0.005*	*0.005*	*0.005*	*0.005*	**0.022**	*0.021*	*0.021*
Solar (b)	**0.012**	**0.018**	**0.018**	**0.012**	**0.014**	**0.021**	**0.021**	*0.015*	*0.017*	*0.024*	*0.024*	*0.017*	**0.061**	*0.070*	*0.081*
Waste Biomass (c)	**0.009**	**0.009**	**0.009**	**0.009**	**0.010**	**0.011**	**0.014**	*0.011*	*0.010*	*0.010*	*0.011*	*0.011*	**0.037**	*0.047*	*0.043*
Wood Biomass	**0.020**	**0.021**	**0.021**	**0.021**	**0.020**	**0.020**	**0.021**	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.082*	*0.082*
Subtotal (e)	**0.054**	**0.060**	**0.061**	**0.054**	**0.056**	**0.065**	**0.068**	*0.059*	*0.059*	*0.067*	*0.068*	*0.061*	**0.230**	*0.248*	*0.255*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.039*	*0.040*
Solar (f)	**0.038**	**0.057**	**0.057**	**0.041**	**0.046**	**0.069**	**0.070**	*0.049*	*0.052*	*0.078*	*0.078*	*0.054*	**0.192**	*0.234*	*0.262*
Wood Biomass	**0.104**	**0.105**	**0.106**	**0.106**	**0.111**	**0.112**	**0.109**	*0.106*	*0.111*	*0.112*	*0.109*	*0.106*	**0.422**	*0.439*	*0.439*
Subtotal	**0.152**	**0.172**	**0.173**	**0.157**	**0.167**	**0.192**	**0.189**	*0.165*	*0.173*	*0.200*	*0.197*	*0.170*	**0.654**	*0.712*	*0.740*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.099**	**0.118**	**0.118**	**0.126**	**0.140**	**0.173**	**0.168**	*0.175*	*0.178*	*0.193*	*0.194*	*0.200*	**0.462**	*0.655*	*0.765*
Ethanol (g)	**0.262**	**0.281**	**0.281**	**0.283**	**0.268**	**0.284**	**0.283**	*0.285*	*0.268*	*0.283*	*0.289*	*0.277*	**1.108**	*1.120*	*1.117*
Subtotal	**0.361**	**0.399**	**0.400**	**0.410**	**0.408**	**0.457**	**0.451**	*0.460*	*0.447*	*0.475*	*0.483*	*0.477*	**1.569**	*1.776*	*1.882*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.099**	**0.118**	**0.118**	**0.126**	**0.140**	**0.173**	**0.168**	*0.175*	*0.178*	*0.193*	*0.194*	*0.200*	**0.462**	*0.655*	*0.765*
Biofuel Losses and Co-products (d)	**0.203**	**0.202**	**0.197**	**0.206**	**0.199**	**0.202**	**0.205**	*0.210*	*0.201*	*0.200*	*0.204*	*0.201*	**0.808**	*0.816*	*0.806*
Ethanol (f)	**0.273**	**0.293**	**0.293**	**0.295**	**0.279**	**0.296**	**0.295**	*0.297*	*0.279*	*0.294*	*0.301*	*0.289*	**1.153**	*1.166*	*1.163*
Geothermal	**0.030**	**0.030**	**0.031**	**0.031**	**0.030**	**0.030**	**0.030**	*0.030*	*0.031*	*0.028*	*0.030*	*0.030*	**0.122**	*0.119*	*0.119*
Hydroelectric Power (a)	**0.254**	**0.237**	**0.214**	**0.189**	**0.215**	**0.224**	**0.201**	*0.190*	*0.244*	*0.271*	*0.222*	*0.206*	**0.894**	*0.829*	*0.944*
Solar (b)(f)	**0.150**	**0.230**	**0.227**	**0.147**	**0.163**	**0.262**	**0.273**	*0.186*	*0.211*	*0.343*	*0.357*	*0.235*	**0.755**	*0.883*	*1.146*
Waste Biomass (c)	**0.098**	**0.092**	**0.090**	**0.094**	**0.095**	**0.092**	**0.094**	*0.094*	*0.094*	*0.091*	*0.092*	*0.093*	**0.374**	*0.376*	*0.370*
Wood Biomass	**0.494**	**0.496**	**0.503**	**0.489**	**0.484**	**0.464**	**0.476**	*0.496*	*0.497*	*0.493*	*0.511*	*0.506*	**1.982**	*1.920*	*2.007*
Wind	**0.403**	**0.416**	**0.278**	**0.384**	**0.429**	**0.350**	**0.294**	*0.420*	*0.464*	*0.375*	*0.312*	*0.436*	**1.481**	*1.492*	*1.587*
Total Consumption	**2.004**	**2.114**	**1.950**	**1.960**	**2.034**	**2.092**	**2.035**	*2.098*	*2.201*	*2.290*	*2.222*	*2.196*	**8.028**	*8.258*	*8.908*

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

(a) Energy consumption for conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

and energy consumption by small-scale solar photovoltaic systems (less than 1 megawatts in size).

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

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

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale solar photovoltaic systems (<1 megawatt), and it includes solar heating consumption in all sectors.

Some biomass-based diesel may be consumed in the residential sector in heating oil.

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly, Electric Power Annual,

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Forecast data: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2017 dollars - SAAR)	**21,739**	**21,708**	**21,851**	**21,990**	**22,112**	**22,225**	**22,493**	*22,586*	*22,597*	*22,640*	*22,699*	*22,779*	**21,822**	*22,354*	*22,679*
Real Personal Consumption Expend.															
(billion chained 2017 dollars - SAAR)	**14,995**	**15,069**	**15,127**	**15,171**	**15,313**	**15,344**	**15,493**	*15,564*	*15,596*	*15,633*	*15,679*	*15,738*	**15,091**	*15,428*	*15,662*
Real Private Fixed Investment															
(billion chained 2017 dollars - SAAR)	**3,976**	**3,974**	**3,931**	**3,876**	**3,906**	**3,956**	**3,977**	*3,990*	*3,990*	*3,998*	*4,005*	*4,020*	**3,939**	*3,957*	*4,003*
Business Inventory Change															
(billion chained 2017 dollars - SAAR)	**249**	**120**	**82**	**178**	**24**	**19**	**47**	*33*	*30*	*24*	*33*	*49*	**157**	*31*	*34*
Real Government Expenditures															
(billion chained 2017 dollars - SAAR)	**3,659**	**3,641**	**3,667**	**3,715**	**3,759**	**3,790**	**3,818**	*3,833*	*3,842*	*3,851*	*3,857*	*3,861*	**3,670**	*3,800*	*3,853*
Real Exports of Goods & Services															
(billion chained 2017 dollars - SAAR)	**2,354**	**2,414**	**2,506**	**2,484**	**2,525**	**2,465**	**2,518**	*2,559*	*2,567*	*2,595*	*2,623*	*2,653*	**2,440**	*2,517*	*2,609*
Real Imports of Goods & Services															
(billion chained 2017 dollars - SAAR)	**3,495**	**3,530**	**3,487**	**3,450**	**3,460**	**3,393**	**3,378**	*3,424*	*3,470*	*3,510*	*3,549*	*3,593*	**3,491**	*3,414*	*3,530*
Real Disposable Personal Income															
(billion chained 2017 dollars - SAAR)	**16,067**	**16,010**	**16,152**	**16,239**	**16,663**	**16,808**	**16,780**	*16,859*	*17,009*	*17,137*	*17,260*	*17,366*	**16,117**	*16,777*	*17,193*
Non-Farm Employment															
(millions)	**150.8**	**152.0**	**153.3**	**154.3**	**155.2**	**155.9**	**156.6**	*157.2*	*157.4*	*157.3*	*157.2*	*157.1*	**152.6**	*156.2*	*157.3*
Civilian Unemployment Rate															
(percent)	**3.8**	**3.6**	**3.6**	**3.6**	**3.5**	**3.6**	**3.7**	*3.7*	*3.7*	*3.8*	*3.9*	*4.1*	**3.6**	*3.6*	*3.9*
Housing Starts															
(millions - SAAR)	**1.72**	**1.64**	**1.45**	**1.41**	**1.39**	**1.45**	**1.36**	*1.36*	*1.35*	*1.35*	*1.36*	*1.36*	**1.55**	*1.39*	*1.35*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**101.7**	**102.8**	**103.3**	**102.7**	**102.6**	**102.8**	**103.4**	*102.6*	*102.0*	*101.7*	*101.7*	*101.9*	**102.6**	*102.8*	*101.8*
Manufacturing	**100.1**	**100.8**	**100.9**	**100.0**	**99.9**	**100.1**	**100.1**	*99.4*	*98.8*	*98.5*	*98.6*	*99.1*	**100.5**	*99.9*	*98.7*
Food	**105.1**	**105.1**	**104.8**	**104.5**	**105.1**	**103.7**	**101.9**	*102.4*	*102.7*	*103.1*	*103.4*	*103.9*	**104.9**	*103.3*	*103.3*
Paper	**95.9**	**96.2**	**92.7**	**89.1**	**87.8**	**86.7**	**83.3**	*83.1*	*82.9*	*82.7*	*82.8*	*83.1*	**93.5**	*85.2*	*82.9*
Petroleum and Coal Products	**89.8**	**89.6**	**90.1**	**89.8**	**88.5**	**89.9**	**90.0**	*90.3*	*90.2*	*89.9*	*89.8*	*89.7*	**89.8**	*89.7*	*89.9*
Chemicals	**102.1**	**102.3**	**102.4**	**100.9**	**103.2**	**103.0**	**103.4**	*103.8*	*103.9*	*104.0*	*104.4*	*105.0*	**101.9**	*103.3*	*104.3*
Nonmetallic Mineral Products	**107.1**	**108.0**	**109.7**	**110.6**	**111.4**	**108.9**	**108.3**	*108.6*	*109.1*	*109.9*	*110.8*	*111.8*	**108.9**	*109.3*	*110.4*
Primary Metals	**94.9**	**96.4**	**95.7**	**92.5**	**92.7**	**95.9**	**95.5**	*96.0*	*94.8*	*94.4*	*95.7*	*97.3*	**94.9**	*95.0*	*95.6*
Coal-weighted Manufacturing (a)	**97.4**	**97.7**	**97.2**	**95.2**	**95.7**	**95.9**	**95.6**	*95.9*	*95.5*	*95.4*	*96.1*	*96.9*	**96.9**	*95.8*	*96.0*
Distillate-weighted Manufacturing (a)	**100.0**	**100.5**	**100.4**	**99.2**	**99.3**	**98.9**	**98.6**	*98.6*	*98.7*	*99.0*	*99.6*	*100.3*	**100.0**	*98.9*	*99.4*
Electricity-weighted Manufacturing (a)	**98.5**	**98.8**	**98.2**	**96.0**	**96.4**	**96.5**	**96.5**	*96.6*	*96.5*	*96.7*	*97.3*	*98.0*	**97.9**	*96.5*	*97.1*
Natural Gas-weighted Manufacturing (a)	**97.0**	**96.7**	**95.6**	**92.7**	**94.0**	**93.3**	**93.6**	*93.8*	*93.5*	*93.3*	*93.7*	*94.3*	**95.5**	*93.7*	*93.7*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.85**	**2.92**	**2.95**	**2.99**	**3.01**	**3.03**	**3.06**	*3.09*	*3.10*	*3.12*	*3.13*	*3.15*	**2.93**	*3.05*	*3.13*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.53**	**2.72**	**2.70**	**2.63**	**2.59**	**2.54**	**2.52**	*2.51*	*2.51*	*2.48*	*2.48*	*2.49*	**2.64**	*2.54*	*2.49*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**3.16**	**4.21**	**3.74**	**3.44**	**3.09**	**2.91**	**3.08**	*2.72*	*2.77*	*2.89*	*2.91*	*2.80*	**3.64**	*2.95*	*2.84*
GDP Implicit Price Deflator															
(index, 2017=100)	**115.2**	**117.7**	**119.0**	**120.1**	**121.3**	**121.8**	**122.4**	*123.2*	*124.2*	*125.0*	*125.8*	*126.6*	**118.0**	*122.2*	*125.4*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,142**	**8,910**	**9,066**	**8,604**	**8,363**	**9,080**	**9,129**	*8,743*	*8,330*	*9,113*	*9,294*	*8,755*	**8,683**	*8,831*	*8,874*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**656**	**686**	**692**	**700**	**683**	**734**	**727**	*720*	*685*	*716*	*737*	*707*	**684**	*716*	*711*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**356**	**419**	**422**	**407**	**390**	**440**	**449**	*435*	*406*	*445*	*458*	*443*	**401**	*429*	*438*
Airline Ticket Price Index															
(index, 1982-1984=100)	**225.6**	**328.7**	**293.1**	**285.2**	**277.6**	**290.8**	**248.6**	*258.8*	*263.1*	*316.6*	*290.6*	*289.9*	**283.1**	*268.9*	*290.1*
Raw Steel Production															
(million short tons per day)	**0.253**	**0.253**	**0.247**	**0.235**	**0.236**	**0.244**	**0.245**	*0.250*	*0.249*	*0.249*	*0.253*	*0.261*	**0.247**	*0.244*	*0.253*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**557**	**559**	**569**	**564**	**548**	**563**	**565**	*568*	*559*	*561*	*568*	*565*	**2,250**	*2,243*	*2,254*
Natural Gas	**510**	**373**	**401**	**460**	**501**	**382**	**422**	*463*	*512*	*379*	*409*	*459*	**1,744**	*1,768*	*1,759*
Coal	**244**	**215**	**264**	**212**	**184**	**167**	**229**	*183*	*181*	*153*	*229*	*165*	**935**	*764*	*728*
Total Energy (c)	**1,314**	**1,149**	**1,237**	**1,238**	**1,236**	**1,115**	**1,219**	*1,216*	*1,255*	*1,096*	*1,209*	*1,192*	**4,939**	*4,786*	*4,751*

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

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

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

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Real Gross State Product (Billion $2017)															
New England	**1,031**	**1,024**	**1,029**	**1,034**	**1,039**	**1,042**	**1,055**	*1,059*	*1,058*	*1,059*	*1,062*	*1,065*	**1,029**	*1,049*	*1,061*
Middle Atlantic	**2,855**	**2,856**	**2,872**	**2,880**	**2,891**	**2,900**	**2,936**	*2,947*	*2,947*	*2,952*	*2,959*	*2,969*	**2,866**	*2,919*	*2,957*
E. N. Central	**2,594**	**2,581**	**2,586**	**2,590**	**2,598**	**2,611**	**2,641**	*2,651*	*2,649*	*2,652*	*2,657*	*2,661*	**2,588**	*2,625*	*2,655*
W. N. Central	**1,219**	**1,214**	**1,217**	**1,218**	**1,234**	**1,240**	**1,250**	*1,255*	*1,255*	*1,258*	*1,261*	*1,266*	**1,217**	*1,245*	*1,260*
S. Atlantic	**3,575**	**3,575**	**3,593**	**3,619**	**3,638**	**3,657**	**3,707**	*3,725*	*3,728*	*3,736*	*3,747*	*3,761*	**3,590**	*3,681*	*3,743*
E. S. Central	**883**	**882**	**885**	**892**	**898**	**902**	**913**	*916*	*916*	*917*	*918*	*920*	**886**	*907*	*918*
W. S. Central	**2,375**	**2,381**	**2,419**	**2,455**	**2,472**	**2,491**	**2,526**	*2,538*	*2,541*	*2,548*	*2,557*	*2,568*	**2,407**	*2,507*	*2,553*
Mountain	**1,358**	**1,353**	**1,363**	**1,375**	**1,385**	**1,391**	**1,407**	*1,413*	*1,415*	*1,418*	*1,423*	*1,429*	**1,362**	*1,399*	*1,421*
Pacific	**3,802**	**3,799**	**3,829**	**3,856**	**3,874**	**3,898**	**3,940**	*3,956*	*3,960*	*3,969*	*3,979*	*3,995*	**3,822**	*3,917*	*3,976*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**97.6**	**97.9**	**97.5**	**96.2**	**96.1**	**96.2**	**95.8**	*95.0*	*94.4*	*94.1*	*94.3*	*94.7*	**97.3**	*95.8*	*94.4*
Middle Atlantic	**95.9**	**96.6**	**96.4**	**95.4**	**95.1**	**95.2**	**95.0**	*94.2*	*93.4*	*93.0*	*93.0*	*93.5*	**96.1**	*94.9*	*93.2*
E. N. Central	**97.4**	**97.8**	**97.8**	**96.6**	**96.2**	**96.4**	**96.3**	*95.8*	*95.2*	*94.9*	*95.1*	*95.5*	**97.4**	*96.2*	*95.2*
W. N. Central	**100.9**	**101.7**	**101.8**	**101.3**	**101.4**	**101.8**	**101.6**	*100.9*	*100.3*	*100.0*	*100.1*	*100.5*	**101.5**	*101.4*	*100.2*
S. Atlantic	**102.5**	**103.2**	**103.2**	**102.3**	**102.1**	**102.4**	**102.5**	*101.9*	*101.3*	*101.1*	*101.2*	*101.8*	**102.8**	*102.2*	*101.3*
E. S. Central	**100.2**	**101.2**	**101.5**	**100.5**	**100.3**	**100.9**	**101.3**	*100.8*	*100.0*	*99.6*	*99.6*	*99.9*	**100.9**	*100.8*	*99.8*
W. S. Central	**102.4**	**103.6**	**104.3**	**104.1**	**104.1**	**104.6**	**105.3**	*104.6*	*104.1*	*103.9*	*104.1*	*104.7*	**103.6**	*104.7*	*104.2*
Mountain	**111.6**	**112.5**	**112.7**	**111.3**	**111.6**	**111.7**	**111.5**	*110.6*	*109.9*	*109.6*	*109.8*	*110.3*	**112.0**	*111.4*	*109.9*
Pacific	**97.7**	**98.3**	**98.4**	**97.5**	**97.3**	**97.2**	**96.9**	*96.1*	*95.4*	*95.1*	*95.2*	*95.6*	**98.0**	*96.9*	*95.3*
Real Personal Income (Billion $2017)															
New England	**948**	**938**	**937**	**949**	**949**	**952**	**954**	*957*	*963*	*970*	*975*	*981*	**943**	*953*	*972*
Middle Atlantic	**2,409**	**2,387**	**2,386**	**2,379**	**2,390**	**2,398**	**2,403**	*2,411*	*2,428*	*2,445*	*2,460*	*2,474*	**2,390**	*2,401*	*2,452*
E. N. Central	**2,444**	**2,424**	**2,426**	**2,422**	**2,439**	**2,446**	**2,449**	*2,458*	*2,477*	*2,493*	*2,508*	*2,521*	**2,429**	*2,448*	*2,500*
W. N. Central	**1,162**	**1,158**	**1,169**	**1,164**	**1,179**	**1,176**	**1,177**	*1,181*	*1,190*	*1,198*	*1,205*	*1,212*	**1,163**	*1,178*	*1,201*
S. Atlantic	**3,389**	**3,378**	**3,407**	**3,426**	**3,457**	**3,478**	**3,488**	*3,506*	*3,536*	*3,566*	*3,594*	*3,619*	**3,400**	*3,482*	*3,579*
E. S. Central	**941**	**935**	**939**	**938**	**947**	**950**	**950**	*953*	*958*	*963*	*968*	*972*	**939**	*950*	*965*
W. S. Central	**2,080**	**2,080**	**2,103**	**2,105**	**2,124**	**2,138**	**2,144**	*2,154*	*2,172*	*2,189*	*2,206*	*2,221*	**2,092**	*2,140*	*2,197*
Mountain	**1,305**	**1,304**	**1,320**	**1,320**	**1,330**	**1,335**	**1,335**	*1,340*	*1,350*	*1,361*	*1,370*	*1,379*	**1,312**	*1,335*	*1,365*
Pacific	**2,950**	**2,923**	**2,931**	**2,938**	**2,937**	**2,956**	**2,965**	*2,980*	*3,006*	*3,031*	*3,055*	*3,076*	**2,936**	*2,960*	*3,042*
Households (Thousands)															
New England	**6,101**	**6,090**	**6,081**	**6,076**	**6,073**	**6,082**	**6,094**	*6,104*	*6,112*	*6,118*	*6,125*	*6,130*	**6,076**	*6,104*	*6,130*
Middle Atlantic	**16,124**	**16,093**	**16,063**	**16,047**	**16,033**	**16,057**	**16,084**	*16,114*	*16,136*	*16,155*	*16,174*	*16,192*	**16,047**	*16,114*	*16,192*
E. N. Central	**19,058**	**19,033**	**19,008**	**18,992**	**18,971**	**18,997**	**19,031**	*19,067*	*19,092*	*19,111*	*19,132*	*19,149*	**18,992**	*19,067*	*19,149*
W. N. Central	**8,655**	**8,654**	**8,654**	**8,654**	**8,657**	**8,680**	**8,705**	*8,731*	*8,753*	*8,770*	*8,787*	*8,803*	**8,654**	*8,731*	*8,803*
S. Atlantic	**27,104**	**27,175**	**27,241**	**27,289**	**27,331**	**27,433**	**27,536**	*27,636*	*27,718*	*27,786*	*27,855*	*27,915*	**27,289**	*27,636*	*27,915*
E. S. Central	**7,825**	**7,834**	**7,842**	**7,854**	**7,865**	**7,896**	**7,927**	*7,958*	*7,984*	*8,006*	*8,028*	*8,048*	**7,854**	*7,958*	*8,048*
W. S. Central	**15,856**	**15,897**	**15,935**	**15,966**	**15,991**	**16,053**	**16,119**	*16,184*	*16,238*	*16,286*	*16,339*	*16,389*	**15,966**	*16,184*	*16,389*
Mountain	**9,792**	**9,811**	**9,831**	**9,843**	**9,861**	**9,899**	**9,941**	*9,984*	*10,021*	*10,056*	*10,090*	*10,125*	**9,843**	*9,984*	*10,125*
Pacific	**19,052**	**19,033**	**19,015**	**18,999**	**18,987**	**19,016**	**19,048**	*19,080*	*19,105*	*19,124*	*19,148*	*19,173*	**18,999**	*19,080*	*19,173*
Total Non-farm Employment (Millions)															
New England	**7.4**	**7.5**	**7.5**	**7.5**	**7.6**	**7.6**	**7.6**	*7.7*	*7.7*	*7.7*	*7.7*	*7.7*	**7.5**	*7.6*	*7.7*
Middle Atlantic	**19.6**	**19.7**	**19.9**	**20.0**	**20.1**	**20.2**	**20.2**	*20.3*	*20.3*	*20.3*	*20.3*	*20.3*	**19.8**	*20.2*	*20.3*
E. N. Central	**21.9**	**22.0**	**22.2**	**22.3**	**22.4**	**22.5**	**22.6**	*22.7*	*22.7*	*22.6*	*22.6*	*22.6*	**22.1**	*22.5*	*22.6*
W. N. Central	**10.7**	**10.7**	**10.8**	**10.9**	**10.9**	**11.0**	**11.0**	*11.0*	*11.0*	*11.0*	*11.0*	*11.0*	**10.8**	*11.0*	*11.0*
S. Atlantic	**29.6**	**29.9**	**30.2**	**30.4**	**30.6**	**30.7**	**30.9**	*31.0*	*31.1*	*31.1*	*31.1*	*31.1*	**30.0**	*30.8*	*31.1*
E. S. Central	**8.4**	**8.5**	**8.5**	**8.6**	**8.6**	**8.7**	**8.7**	*8.7*	*8.7*	*8.7*	*8.7*	*8.7*	**8.5**	*8.7*	*8.7*
W. S. Central	**18.1**	**18.3**	**18.6**	**18.7**	**18.9**	**19.0**	**19.1**	*19.2*	*19.2*	*19.2*	*19.2*	*19.2*	**18.4**	*19.0*	*19.2*
Mountain	**11.5**	**11.6**	**11.7**	**11.7**	**11.8**	**11.9**	**11.9**	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	**11.6**	*11.9*	*12.0*
Pacific	**23.8**	**24.1**	**24.2**	**24.4**	**24.5**	**24.7**	**24.8**	*24.9*	*24.9*	*24.9*	*24.8*	*24.8*	**24.1**	*24.7*	*24.8*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Regions refer to U.S. Census divisions.

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

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

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

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Heating Degree Days															
New England	**3,136**	**785**	**113**	**1,982**	**2,713**	**816**	**89**	*1,958*	*2,980*	*828*	*132*	*2,054*	**6,016**	*5,576*	*5,994*
Middle Atlantic	**2,933**	**669**	**73**	**1,960**	**2,451**	**654**	**71**	*1,835*	*2,755*	*662*	*87*	*1,881*	**5,635**	*5,011*	*5,385*
E. N. Central	**3,267**	**754**	**101**	**2,225**	**2,725**	**700**	**94**	*2,139*	*3,038*	*710*	*122*	*2,155*	**6,347**	*5,658*	*6,025*
W. N. Central	**3,486**	**792**	**111**	**2,517**	**3,168**	**656**	**92**	*2,359*	*3,183*	*708*	*154*	*2,360*	**6,907**	*6,275*	*6,406*
South Atlantic	**1,343**	**189**	**13**	**981**	**1,059**	**191**	**10**	*908*	*1,295*	*181*	*13*	*891*	**2,526**	*2,167*	*2,380*
E. S. Central	**1,828**	**250**	**22**	**1,339**	**1,392**	**259**	**14**	*1,258*	*1,712*	*236*	*19*	*1,243*	**3,439**	*2,923*	*3,210*
W. S. Central	**1,336**	**56**	**2**	**802**	**926**	**92**	**1**	*817*	*1,106*	*86*	*5*	*772*	**2,195**	*1,837*	*1,968*
Mountain	**2,298**	**732**	**84**	**2,012**	**2,558**	**727**	**128**	*1,794*	*2,138*	*701*	*152*	*1,815*	**5,126**	*5,207*	*4,806*
Pacific	**1,399**	**604**	**49**	**1,296**	**1,835**	**661**	**100**	*1,103*	*1,423*	*576*	*94*	*1,144*	**3,348**	*3,698*	*3,237*
U.S. Average	**2,146**	**490**	**54**	**1,552**	**1,921**	**486**	**61**	*1,445*	*2,004*	*472*	*75*	*1,454*	**4,243**	*3,913*	*4,005*
Heating Degree Days, Prior 10-year Average															
New England	**3,100**	**853**	**107**	**2,103**	**3,150**	**859**	**106**	*2,093*	*3,110*	*856*	*98*	*2,060*	**6,163**	*6,208*	*6,123*
Middle Atlantic	**2,881**	**681**	**70**	**1,904**	**2,939**	**689**	**69**	*1,907*	*2,889*	*685*	*63*	*1,884*	**5,536**	*5,604*	*5,522*
E. N. Central	**3,133**	**727**	**97**	**2,162**	**3,215**	**741**	**93**	*2,169*	*3,158*	*735*	*91*	*2,137*	**6,119**	*6,218*	*6,121*
W. N. Central	**3,221**	**726**	**125**	**2,358**	**3,319**	**754**	**121**	*2,374*	*3,295*	*729*	*120*	*2,338*	**6,430**	*6,569*	*6,482*
South Atlantic	**1,381**	**187**	**11**	**907**	**1,403**	**190**	**10**	*905*	*1,357*	*188*	*9*	*897*	**2,486**	*2,508*	*2,451*
E. S. Central	**1,764**	**244**	**15**	**1,229**	**1,811**	**251**	**14**	*1,231*	*1,757*	*248*	*14*	*1,215*	**3,251**	*3,307*	*3,234*
W. S. Central	**1,144**	**93**	**3**	**753**	**1,188**	**95**	**3**	*762*	*1,163*	*90*	*3*	*743*	**1,993**	*2,048*	*1,999*
Mountain	**2,173**	**681**	**131**	**1,810**	**2,193**	**696**	**128**	*1,834*	*2,207*	*696*	*128*	*1,814*	**4,794**	*4,851*	*4,845*
Pacific	**1,457**	**523**	**79**	**1,138**	**1,441**	**523**	**75**	*1,150*	*1,469*	*539*	*77*	*1,137*	**3,196**	*3,189*	*3,222*
U.S. Average	**2,095**	**478**	**62**	**1,472**	**2,132**	**485**	**60**	*1,477*	*2,102*	*483*	*59*	*1,456*	**4,107**	*4,155*	*4,099*
Cooling Degree Days															
New England	**0**	**81**	**567**	**0**	**0**	**53**	**474**	*3*	*0*	*99*	*510*	*1*	**647**	*530*	*610*
Middle Atlantic	**0**	**153**	**688**	**1**	**0**	**90**	**582**	*6*	*0*	*185*	*664*	*5*	**842**	*679*	*854*
E. N. Central	**1**	**256**	**554**	**2**	**0**	**178**	**524**	*18*	*1*	*249*	*608*	*7*	**812**	*721*	*864*
W. N. Central	**3**	**306**	**735**	**8**	**1**	**319**	**710**	*31*	*5*	*298*	*736*	*11*	**1,051**	*1,061*	*1,049*
South Atlantic	**157**	**712**	**1,200**	**233**	**204**	**589**	**1,241**	*221*	*138*	*712*	*1,286*	*257*	**2,302**	*2,254*	*2,393*
E. S. Central	**28**	**597**	**1,062**	**36**	**63**	**438**	**1,094**	*60*	*34*	*545*	*1,129*	*68*	**1,723**	*1,655*	*1,775*
W. S. Central	**57**	**1,099**	**1,668**	**170**	**151**	**900**	**1,872**	*225*	*104*	*923*	*1,626*	*210*	**2,994**	*3,147*	*2,863*
Mountain	**17**	**474**	**1,024**	**67**	**3**	**350**	**1,030**	*79*	*21*	*457*	*1,032*	*84*	**1,581**	*1,462*	*1,593*
Pacific	**31**	**223**	**762**	**82**	**26**	**106**	**605**	*81*	*28*	*205*	*720*	*79*	**1,097**	*818*	*1,032*
U.S. Average	**47**	**467**	**953**	**90**	**68**	**362**	**943**	*101*	*50*	*444*	*968*	*105*	**1,557**	*1,476*	*1,568*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**87**	**472**	**2**	**0**	**87**	**480**	*2*	*0*	*83*	*483*	*2*	**561**	*569*	*568*
Middle Atlantic	**0**	**163**	**612**	**8**	**0**	**160**	**617**	*8*	*0*	*154*	*623*	*8*	**783**	*785*	*785*
E. N. Central	**3**	**238**	**571**	**9**	**1**	**234**	**561**	*10*	*1*	*230*	*566*	*11*	**821**	*805*	*808*
W. N. Central	**7**	**299**	**682**	**11**	**4**	**292**	**674**	*12*	*4*	*301*	*680*	*14*	**999**	*982*	*999*
South Atlantic	**146**	**667**	**1,188**	**268**	**144**	**674**	**1,192**	*272*	*153*	*674*	*1,212*	*269*	**2,269**	*2,283*	*2,308*
E. S. Central	**44**	**517**	**1,056**	**83**	**36**	**520**	**1,058**	*83*	*41*	*518*	*1,076*	*83*	**1,701**	*1,697*	*1,719*
W. S. Central	**113**	**852**	**1,537**	**224**	**101**	**861**	**1,549**	*223*	*109*	*873*	*1,585*	*229*	**2,726**	*2,734*	*2,795*
Mountain	**24**	**463**	**954**	**85**	**24**	**461**	**959**	*83*	*22*	*447*	*970*	*86*	**1,526**	*1,526*	*1,525*
Pacific	**31**	**208**	**664**	**85**	**32**	**214**	**675**	*86*	*32*	*203*	*676*	*89*	**988**	*1,007*	*999*
U.S. Average	**53**	**413**	**890**	**109**	**50**	**416**	**895**	*110*	*53*	*414*	*909*	*111*	**1,464**	*1,470*	*1,488*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 2, 2023.

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

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

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

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

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

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

Forecasts: Current month based on forecasts by the NOAA Climate Prediction Center (http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml). Remaining months based on the 30-year trend.