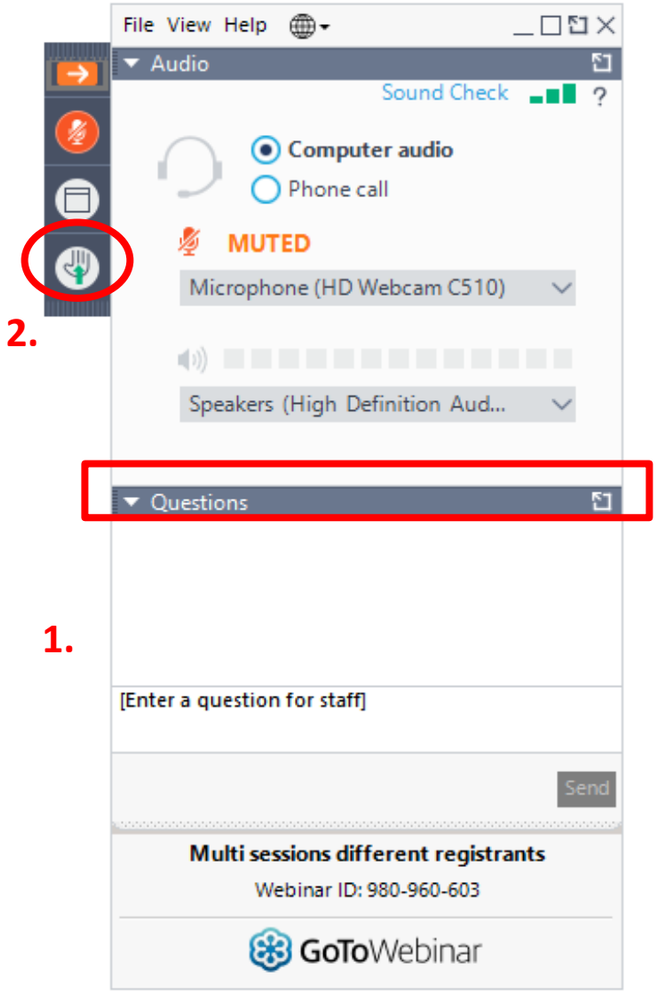
EVA'S SHORT-TERM COAL MARKET OUTLOOK – 2022 Q2 UPDATE

June 7, 2022

ENERGY VENTURES ANALYSIS
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2022 Q2 MARKET HIGHLIGHTS

- **Inability to increase coal deliveries to supply power generation is roiling power markets – driving increased burn of natural gas, higher gas prices, and higher power prices.**
- **There are several factors behind the coal supply shortage – primarily the huge cuts in coal purchases in 2020-21**
  - Utilities slashed coal purchases by 118 mm tons from 2019 to 2020, due to the recession and cheap gas prices
  - Coal producers and railroads idled capacity and reduced staff in response to low demand
  - As burn recovered in 2021, utilities only increased purchases by 20 mm tons and burned off 45 mm tons of stocks
- **Compounding the swing in domestic demand, world thermal coal demand and prices are at new highs**
  - World prices jumped in 2021 Q3, but spiked again after the start of the War On Ukraine to new highs
  - Export demand and high prices have consumed any available Eastern coal not already contracted
- **Coal producers and railroads restored shipments to pre-COVID levels of 2020 Q1 but will take time to grow further**
  - Appalachian production growth is directed to higher-margin metallurgical coal with limited labor and equipment
  - ILB exports are surging with available capacity (barge and port) through New Orleans
  - Western coal production is available, but shipments are limited by rail capacity
- **With low coal inventories, power companies are limiting coal burn to match contracted purchases**
  - Coal burn will drop in 2022 and natural gas generation will fill the gap, burning down gas inventory

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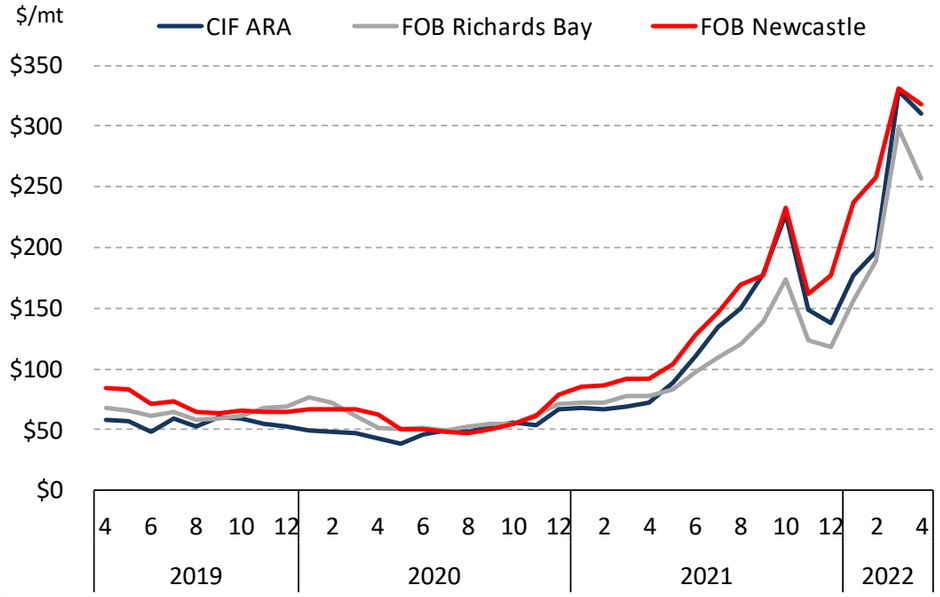
WORLD MARKETS

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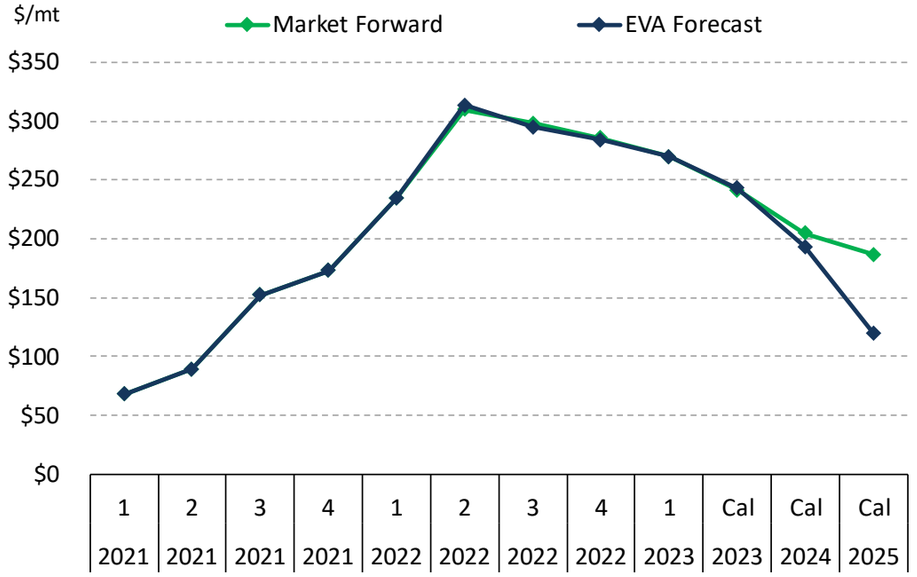
GLOBAL THERMAL COAL PRICES SMASH PREVIOUS RECORDS AMID SHORTAGE FEARS

- **Global thermal prices broke previous highs (CIF ARA $120 in 2011) in 2021 Q3, but sanctions on Russia have created fears of world supply shortages with prices above $300 per mt**
  - Russia ships 17% of world thermal coal but 70% of thermal imports to Europe; imports banned after August 10th
  - Russia will redirect shipments to China, India, Turkey and other countries but logistics will delay the shift
  - China and India are working furiously to increase domestic production and reduce imports
- **Markets will rebalance and prices should drop back to $100 - $150 range – timing is highly uncertain**

World thermal coal prices - 6,000 kcal



CIF ARA price forecast - 6,000 kcal

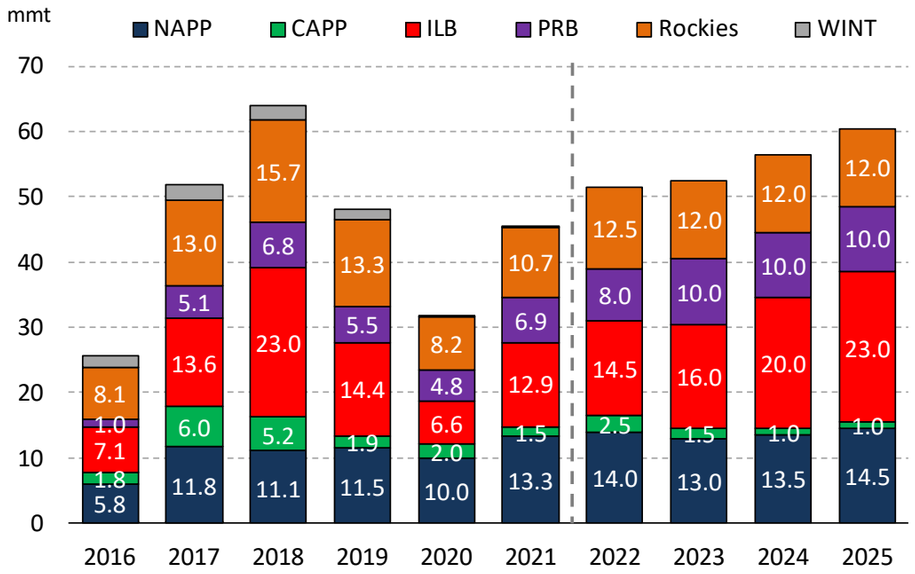


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US THERMAL COAL EXPORTS LIMITED BY CAPACITY AND LOGISTICS

- **While export netback prices are sky high, coal export logistics limit shipments**
  - NAPP – Baltimore port capacity was tight before Curtis Bay silo explosion and new met coal supply (Leer South)
  - CAPP – thermal coal production base is too small for a significant increase; rail to Hampton Roads is limited
  - PRB – some growth exports through Vancouver but rail and port capacity is limited
  - Rockies – West Coast exports are maxed out, some rail-to-barge increase through New Orleans
  - ILB – barge and port access to NOLA can handle more coal; major source of thermal export growth

Steam coal export forecast - by basin



U.S. Total Steam Exports

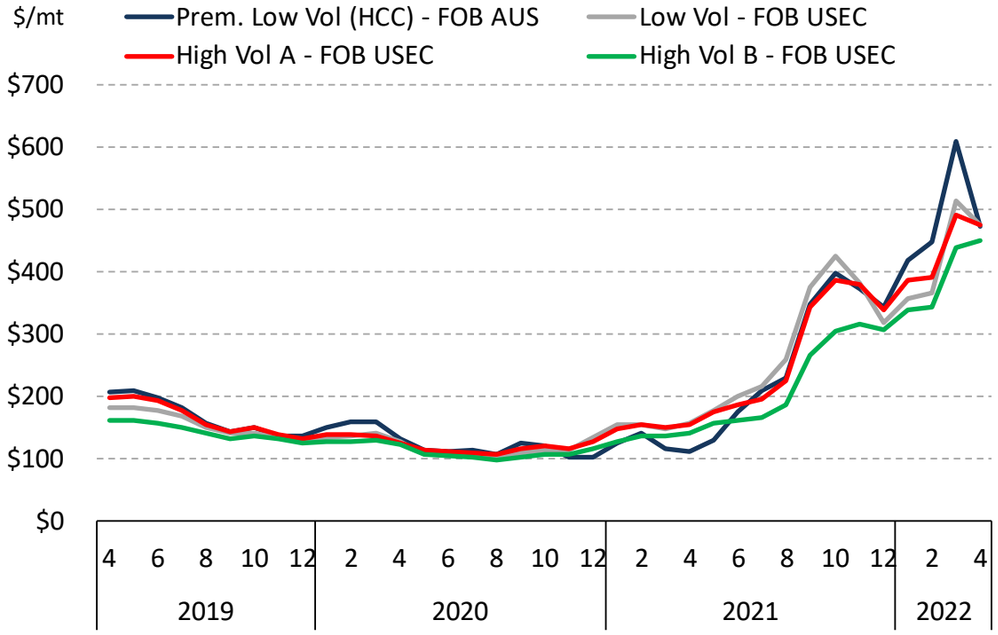
		YTD Ending		Prior YTD Delta	
		Mar-22	Mar-21	k Tons	%
	Total U.S.	**11,607**	**11,334**	**273**	**2.4%**
1	Japan	2,670	1,840	830	45.1%
2	India	2,074	4,198	(2,124)	-50.6%
3	South Korea	1,372	1,851	(480)	-25.9%
4	Netherlands	1,231	812	419	51.6%
5	Egypt	750	421	329	78.1%

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GLOBAL METALLURGICAL COAL PRICES LIKELY TO EASE AS MARKET BALANCE

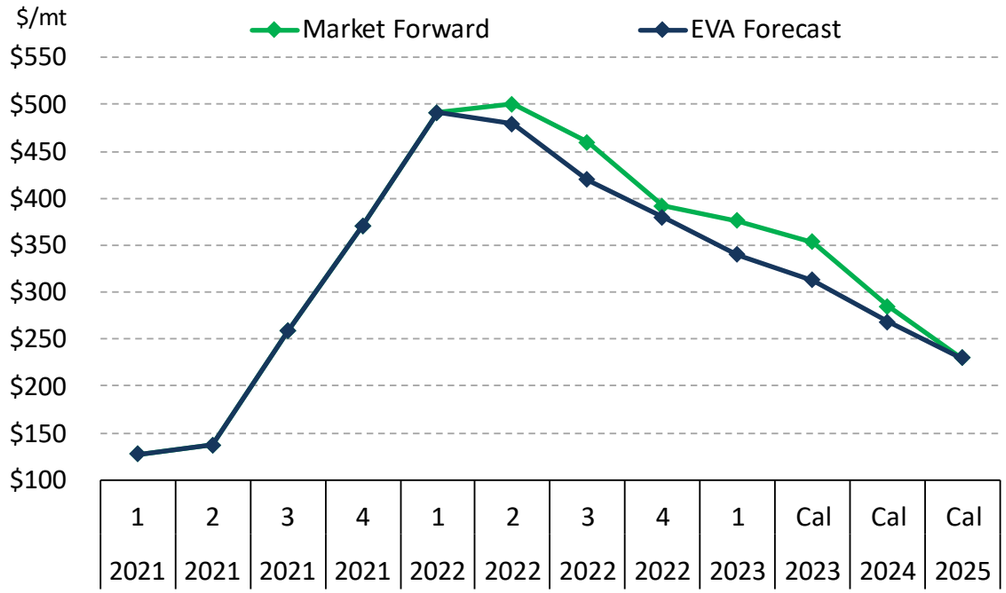
- **World met coal prices shot up in 2021 Q3 on the back of the economic recovery and limited supply**
  - The War On Ukraine added extra fuel to the fire
- **World blast furnace demand growth is modest and focused on Asia – India, Vietnam, Indonesia**
- **World met coal supply is even more limited, keeping market prices higher in the long term**
  - As always, the uncertainty comes from China's ability to increase domestic met coal supply

World met coal prices



World met price forecast

Premium Low-Vol Benchmark FOBT

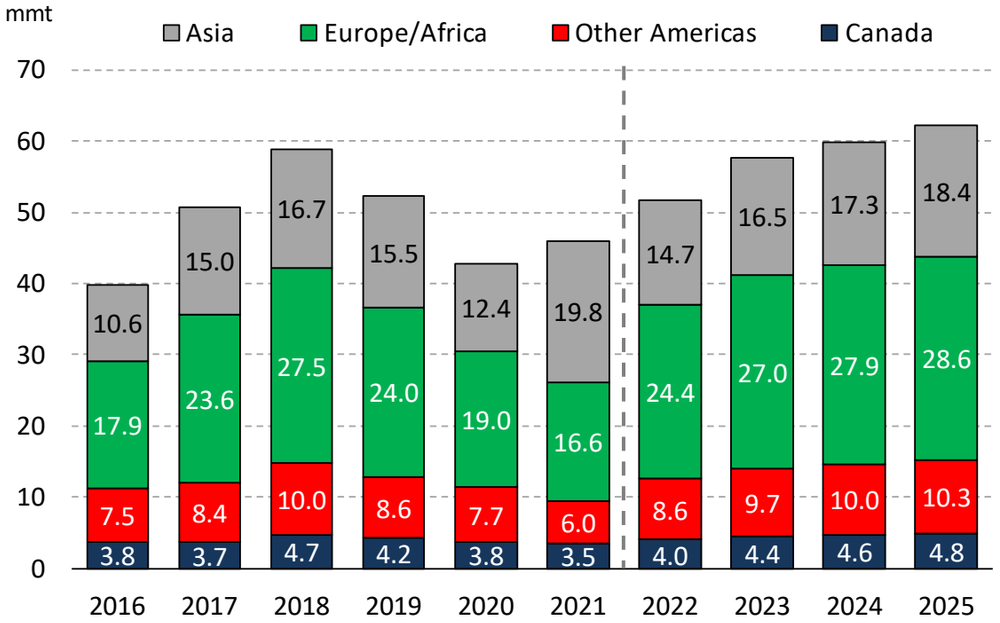


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USA STEPS UP AS THE SWING SUPPLIER TO THE WORLD MET COAL MARKET

- **US met coal production is responding to increased demand and prices**
  - Restored output at mines cut back during the 2020 recession, including Shoal Creek longwall
  - Completion of large new projects started in 2018-19 – Leer South, Itmann, Berwind
  - Many new operators working to bring small projects online – limited by labor and equipment
  - Development of major new projects for the long term – NCR and Blue Creek Energy longwall mines

Met coal export forecast - by destination



U.S. Total Met Exports

		YTD Ending		Prior YTD Delta	
		Mar-22	Mar-21	k Tons	%
	Total U.S.	**10,372**	**10,744**	**(372)**	**-3.5%**
1	India	1,911	788	1,123	142.6%
2	Netherlands	1,278	992	287	28.9%
3	Brazil	1,201	1,600	(399)	-24.9%
4	Japan	1,025	708	317	44.7%
5	China	582	2,517	(1,934)	-76.9%

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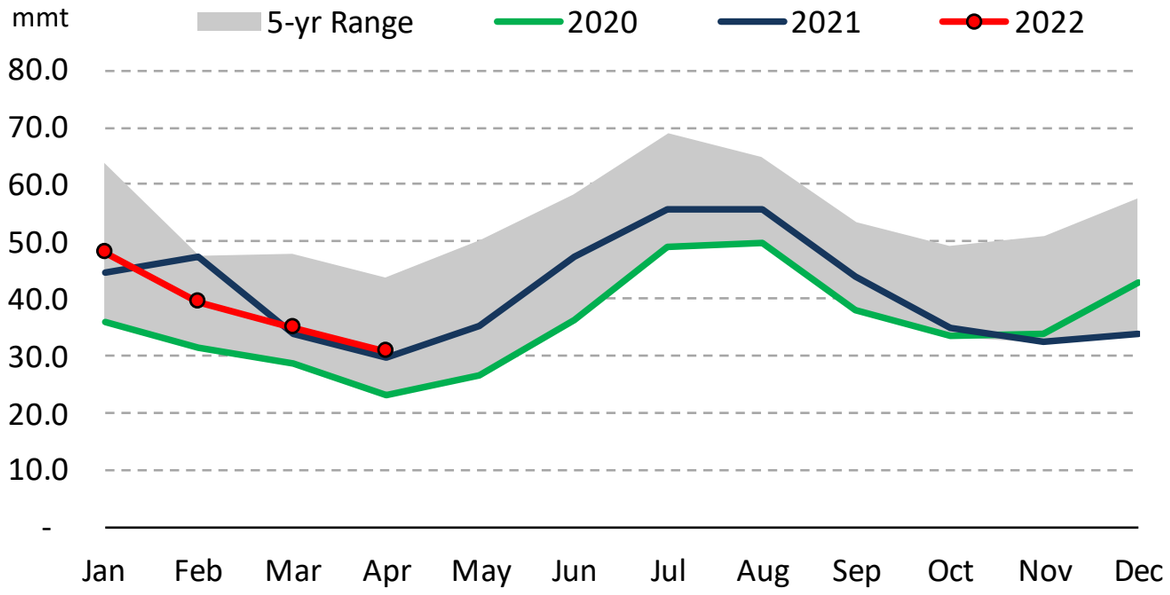
DOMESTIC MARKETS

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STOCKPILE DROP IN 2021 SET THE STAGE FOR COAL SUPPLY SHORTAGE

- **The single most reliable indicator of changes in future coal prices is the *change* in utility coal stockpiles**
  - This is the reason EVA has been conducting its own survey of coal inventories since 2003
- **The huge draw of customer stocks in the summer of 2021 meant that power companies were burning more than they were buying and would have to increase purchases in 2022 just to maintain low inventories**

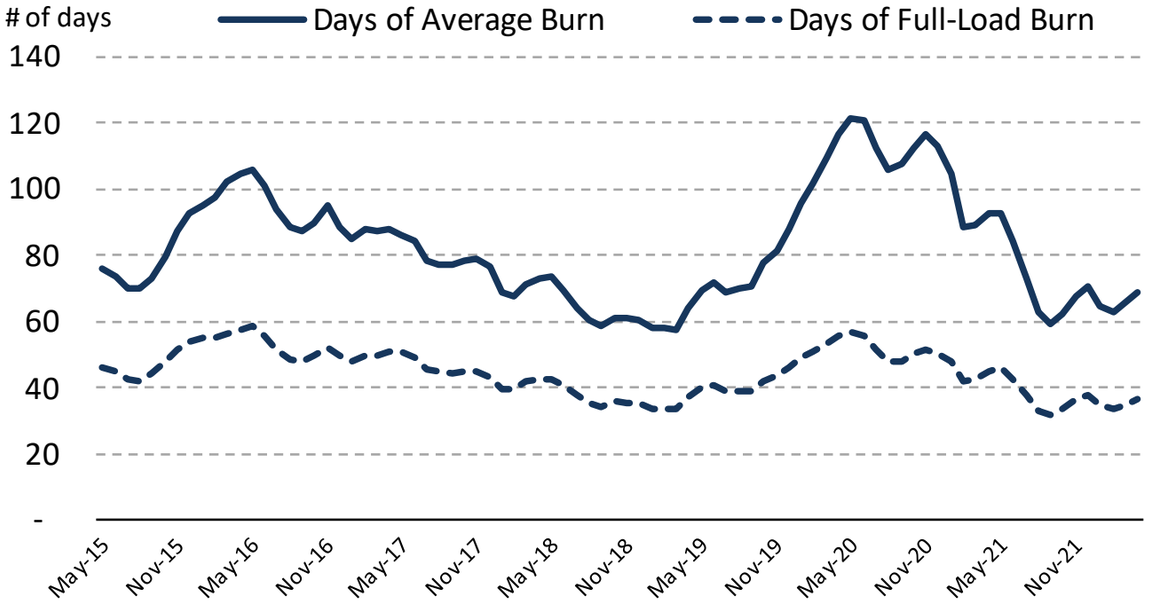
Coal consumption - U.S. electric power sector



* Excludes waste coal

Source: EVA 2022 Q2 Coal Forecast

Coal stockpiles - U.S. electric power sector



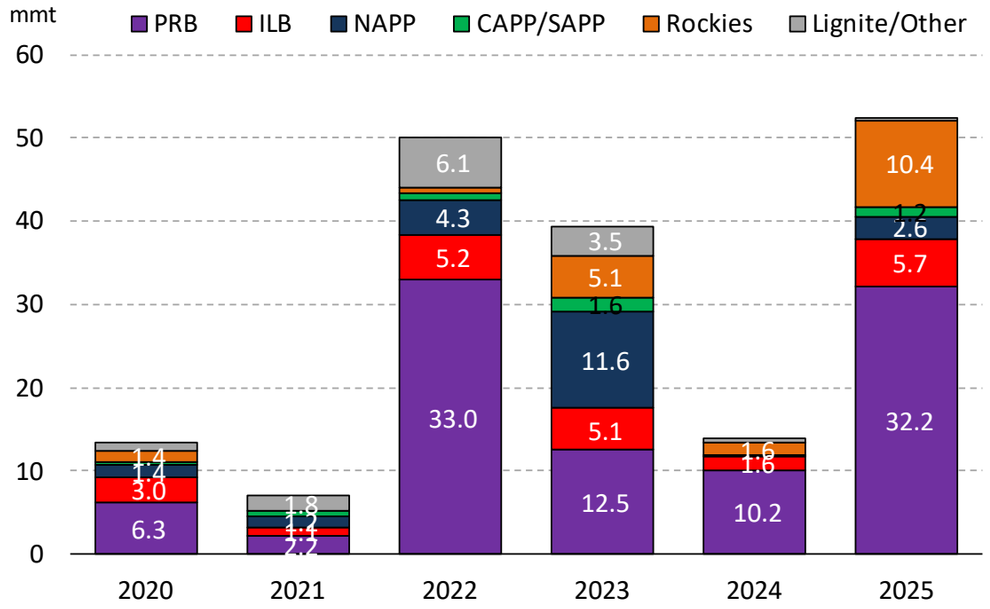
Source: EVA 2022 Q2 Coal Forecast

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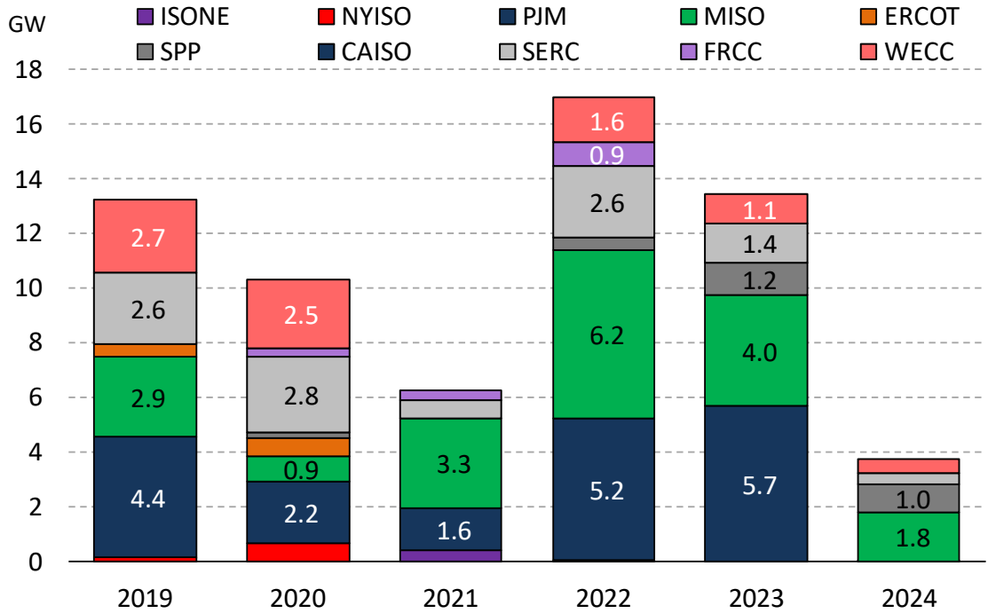
RETIREMENTS OF COAL POWER PLANTS WILL CONTINUE AT A RAPID PACE

- **Despite high power prices and looming power shortages, few announced coal plant closures will be reversed**
- **The primary causes of coal plant closures is the cost to comply with environmental regulations**
  - New Source Review, Coal Combustion Residuals, Effluent Limitation Guidelines, Regional Haze, Cross-State
- **Announced retirements in 2022 and 2023 total 29 GW – burned 48 mm tons in 2021, 10% of total burn**
- **Impact of proposed EPA "good neighbor" ozone rule in 2026 could be very large**

Latest 12-M coal burn by announced retirement year



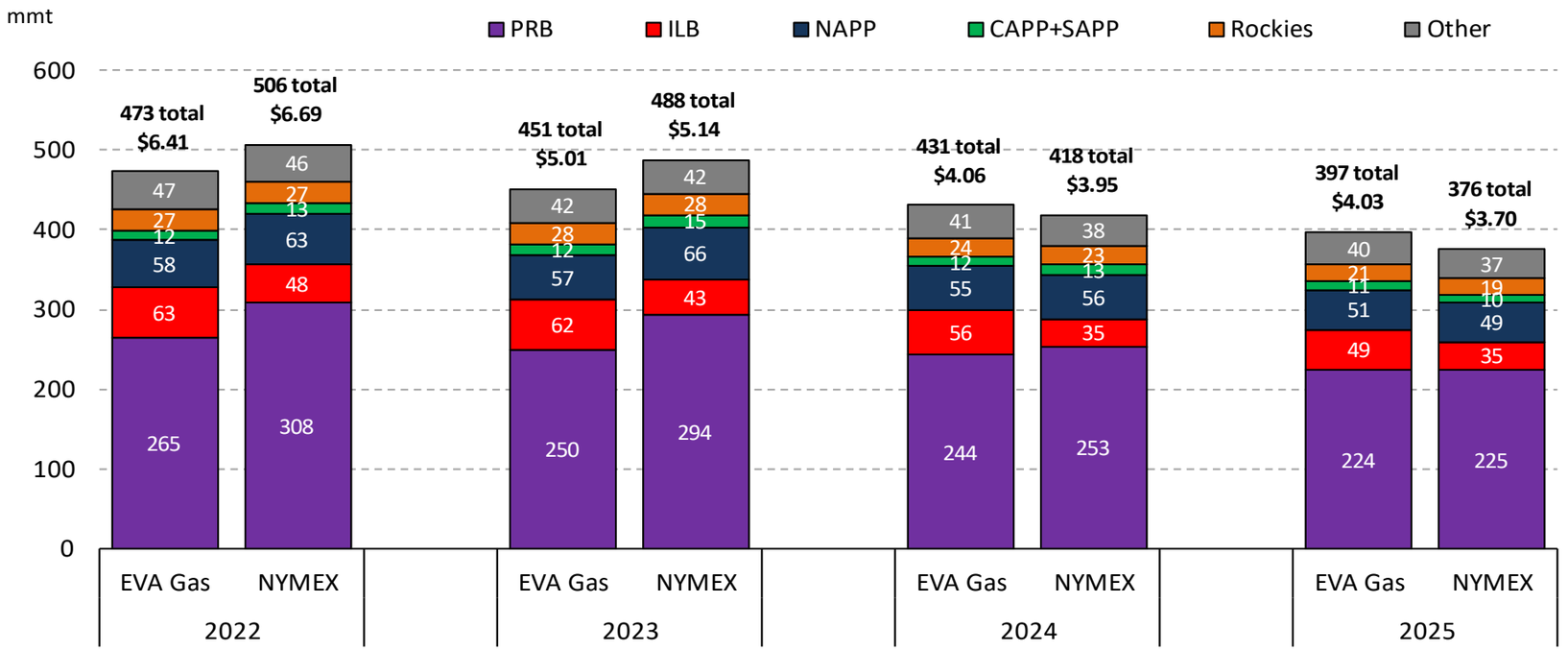
Coal retirements by power market



COAL GENERATION AND BURN WILL FALL DESPITE HIGH POWER AND NATURAL GAS PRICES

- **Coal purchases will increase only 18 mm tons in 2022, not enough to make up for the drop in stocks in 2021**
  - Coal purchases are limited by production growth, rail constraints, and increased exports
- **Coal burn will be forced down by availability as generators limit burn to coal already purchased**
- **Coal burn forecast continues to drop due to coal plant retirements, despite elevated natural gas prices**

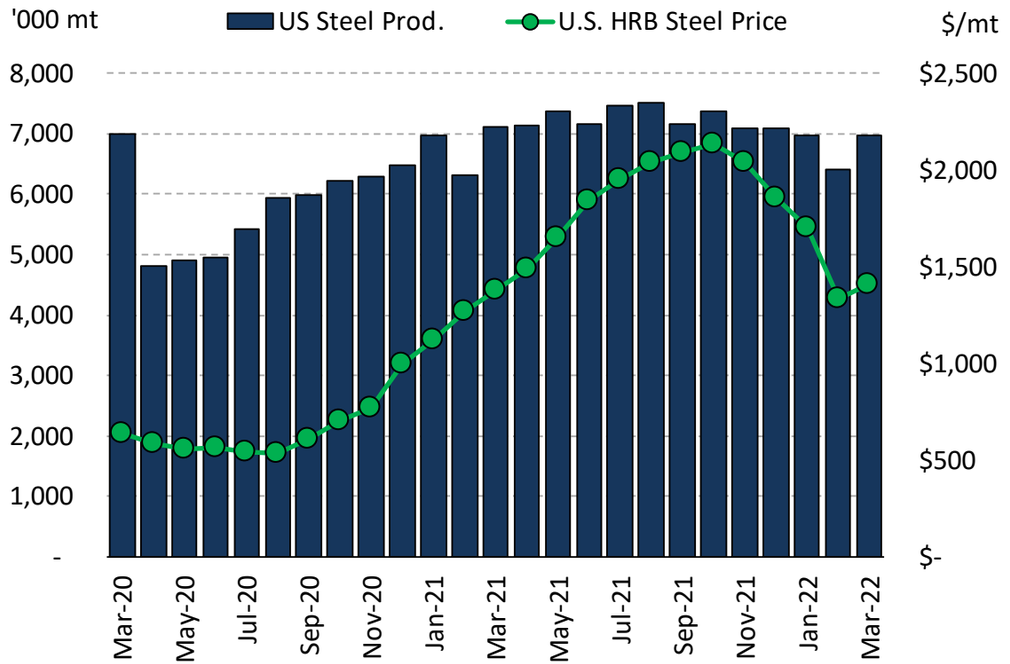
ST coal burn forecast: EVA gas price vs. NYMEX



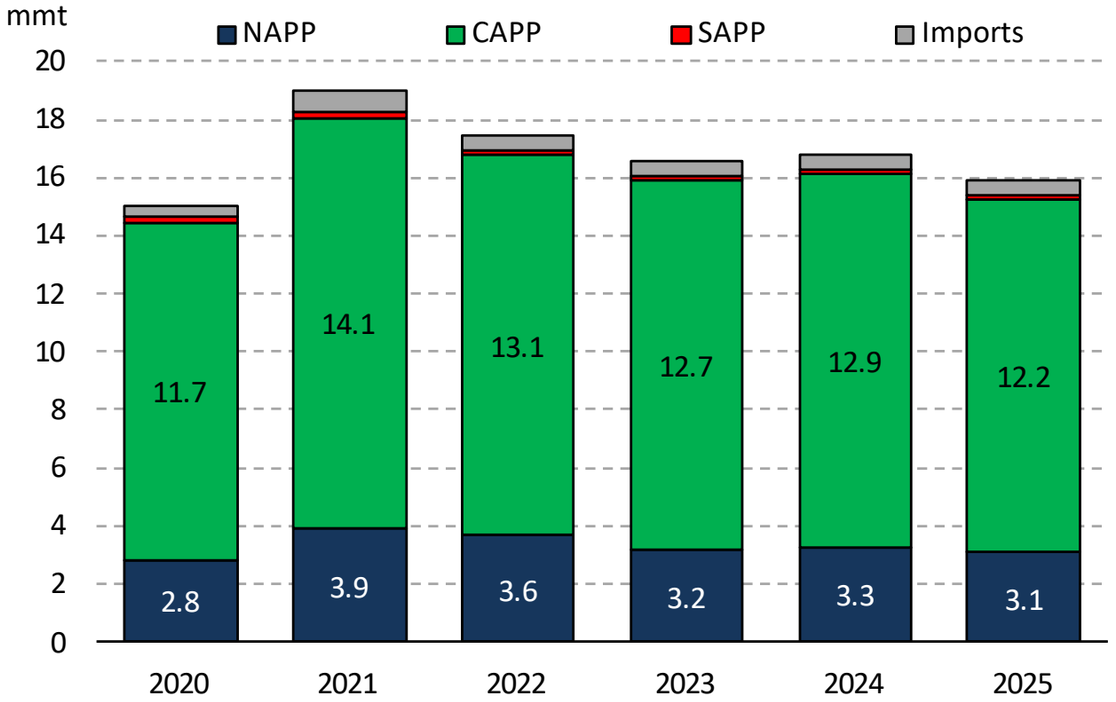
DOMESTIC METALLURGICAL COAL MARKETS IN SLOW DECLINE BUT FOLLOW WORLD MARKET PRICES

- Despite strong steel markets, the domestic steel industry is reducing coke use in the shift to electric arc furnaces
- Cleveland-Cliffs has idled another blast furnace at Indiana Harbor and is reducing coke rates through use of HBI
- US Steel is closing Clairton batteries 1-3 and building a new EAF in Arkansas that may replace Granite City in 2025

U.S. steel production & hot-rolled band steel price



Domestic met coal consumption (incl. PCI)



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SUPPLY, DEMAND & PRICES

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SUMMARY OF COAL SUPPLY AND DEMAND FORECAST

US Coal Supply (mmt)	2021	2022	2023	2024	2025
Northern Appalachia	88.5	87.7	87.9	88.9	86.6
Central & Southern App.	64.9	71.9	74.9	75.4	73.6
Illinois Basin	72.2	79.1	81.8	80.4	76.7
Powder River Basin	251.7	275.3	272.1	262.7	241.8
Rockies	42.5	43.4	43.4	39.7	35.9
Lignite and Other*	56.2	55.9	50.7	50.3	49.4
Imports	3.3	2.0	0.5	0.5	0.8
Total Supply	**579.3**	**615.3**	**611.3**	**598.0**	**564.9**

**Includes LIG,WINT,SW,ANT,AK*

US Coal Demand (mmt)	2021	2022	2023	2024	2025
Electric Burn	494.7	473.4	451.2	431.6	398.0
Electric Receipts	449.1	467.1	457.7	438.3	400.1
Stockpile Change	*(37.5)*	*(6.3)*	*6.4*	*6.7*	*2.2*
Coke Ovens	19.0	17.5	16.6	16.8	15.9
Comm./Indust.	25.8	25.4	24.9	24.6	23.8
Domestic Receipts	**494.0**	**510.0**	**499.2**	**479.7**	**439.9**
Export Metallurgical	45.9	51.7	57.6	59.8	62.2
Export Steam	45.3	51.6	52.5	56.5	60.5
Export Other*	0.5	0.4	0.4	0.4	0.3
Total Exports	**91.7**	**103.6**	**110.5**	**116.7**	**123.0**
Total Demand	**585.7**	**613.6**	**609.7**	**596.3**	**562.9**

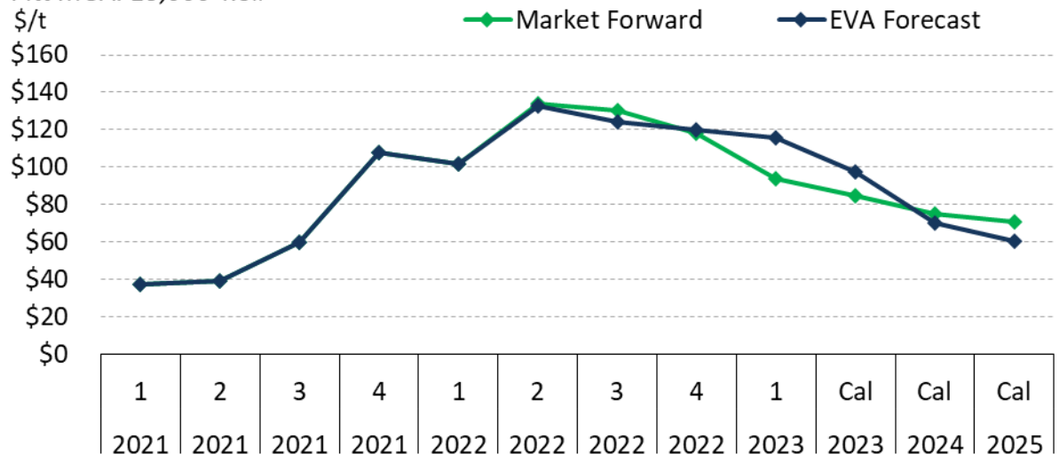
**Includes Lignite & Anthracite*

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EVA'S 3-YEAR PRICE FORECAST BY BASIN

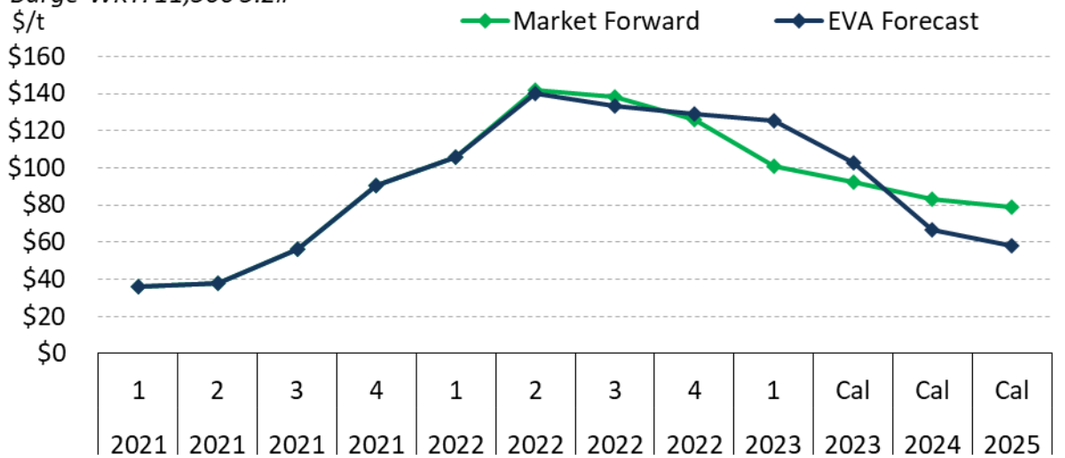
NAPP price forecast

Pitt MGA: 13,000 4.8#



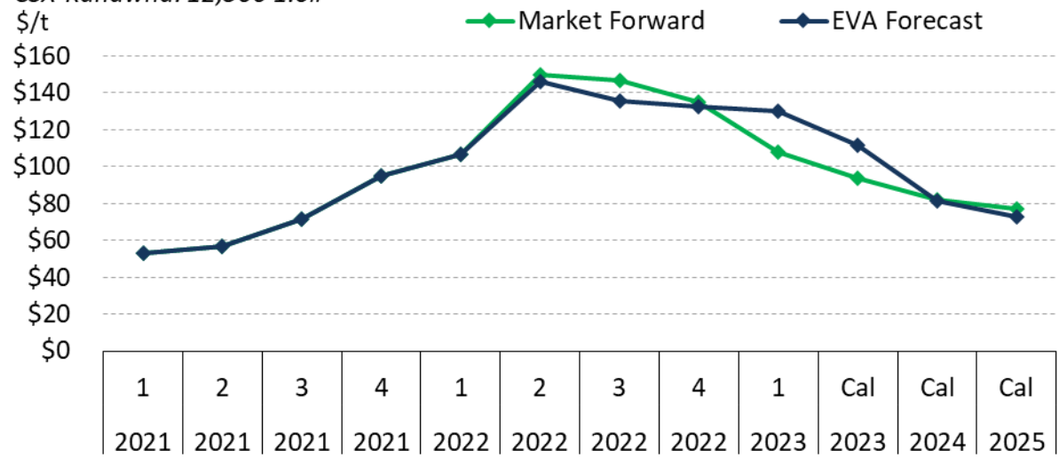
ILB price forecast

Barge-WKY: 11,500 5.2#



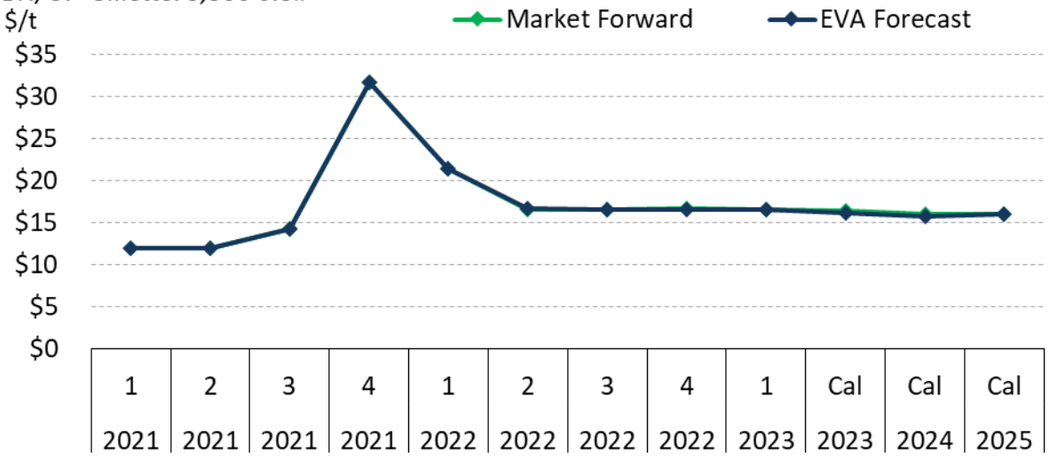
CAPP price forecast

CSX-Kanawha: 12,500 1.6#



PRB price forecast

BN/UP-Gillette: 8,800 0.8#



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Q&A

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