Global Energy Weekly

Coal comes in from the cold

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Coal prices hit record highs on global gas crisis…

Thermal coal prices have continued to skyrocket reaching the highest levels on record, with both prompt Australian Newcastle and European API2 coal breaking $250/t early this week. The coal market's rally started earlier this year as demand rebounded from the pandemic and producers struggled to meet the call after slashing output last year as prices neared record lows (see Coal steams ahead). That said, the exponential move in coal prices that has unfolded in the last few weeks is linked to a historic global gas rally as European gas inventories have struggled to refill ahead of winter. While coal prices have quadrupled from the lows last fall, European and Asian gas prices have jumped over 20x. Expensive gas generation is now rotating to an already tight thermal coal market.

…boosting demand as utilities switch fuels…

As the European storage outlook has turned increasingly dire, TTF gas prices have nearly doubled over the last 16 trading days. Newcastle and European API2 coal prices jumped 60% over that same timeframe. While European coal generation was handcuffed by record carbon prices in the early parts of the summer, soaring TTF prices have now unlocked the gas-to-coal switching lever. Additionally, China has posted record thermal generation this year with output jumping 14% YoY through August, even if high fuel costs have sidelined some generators. Chinese thermal generation has been powered by an economic recovery and a drop in hydro generation.

…just as global supply continues to struggle

Meanwhile, producers have struggled to meet increased demand. In Indonesia, the world's largest coal producer, heavy rains flooded mines and high river levels affected barge movements. In addition, a Covid surge in July and difficulty sourcing mining equipment kept Indonesian production relatively flat to 2020 levels. Meanwhile, other major coal producing countries have fared worse, with Colombia production down 8% YoY through August, South African supply slipping 11% yoy, and Australian output declining nearly 3% through July. As a result, prices have surged to find more supply and destroy demand. Now, even the highest cost producers have responded, such as the US with exports up nearly 50% yoy, but it hasn't been enough.

Winter upside risks, but prices to normalize in 2H 2022

Given the tight supply/demand picture, thermal coal markets remain exposed to upside risks this winter as surging global gas markets look to shed demand. Extreme volatility could continue across the energy complex, especially into the start of the winter, as below normal temperatures could exacerbate the supply situation and send prices even higher. While production issues have certainly contributed to market tightness in the near term, we continue to expect supply, which was easily able to fulfill 2019 demand levels, to catch up in the back half of 2022. That said, in the near term upside risk remains on tight global energy supplies. We boost our Newcastle forecast to $225/t in Q4, $145/t in 2022 and $100/t in 2023, roughly $10-15/t below current forwards.

Exhibit 1: BofA Commodity Research Themes and Outlook

Key takeaways

	View	Recent report
Macro outlook	■ Our economists see world GDP rising 6% in 2021 and expanding by an additional 4.5% in 2022. ■ Steady distribution of effective vaccines suggests that cyclical real and financial assets like oil should perform strongly into 2021.	
WTI and Brent crude oil	■ We project Brent and WTI to average $68/bbl and $65/bbl, respectively, in 2021 and $75 and $71 in 2022. ■ Our supply and demand forecasts suggest a 1.4mn b/d deficit in 2021 followed by a 400k b/d deficit in 2022. ■ We forecast global demand to rebound nearly 6mn b/d YoY in 2021 after falling 8.7mn b/d in 2020. ■ During 2021-23, we forecast demand to grow by more than 9mn b/d, the fastest pace since the 1970s. ■ Non-OPEC supply should grow roughly 700k b/d YoY in 2021 and an additional 2mn b/d+ in 2022. ■ We project total US supply to remain flattish in 2021 and rise more than 1.5mn b/d in 2022. ■ OPEC supplies are set to rise 600k b/d in 2021 and 2.1mn b/d in 2022 as OPEC+ adds back supply and as Iran returns.	
Atlantic Basin oil products	■ We see upside for NWE gasoil and EBOB cracks in 2H21 and 2022 on strong driving activity, manufacturing and road freight, and a steady recovery in air travel. We forecast gasoil and EBOB cracks to Brent to average 11.50 and $7.50/bbl, respectively, in 2022. ■ Despite improving RBOB and ULSD fundamentals, we anticipate weaker RIN prices in the future, which drives our bearish view on RBOB and ULSD cracks versus Brent, which we expect to average $15.75/bbl and $19.25/bbl, respectively, in 2022. ■ We expect LSFO (1.0%) cracks versus Brent to fall in 2022, averaging -$2/bbl as OPEC+ production and refinery runs increase.	• Refinery margin doublespeak 04 June 2021
US natural gas	■ Winter tail risk has increased as US storage faces a deficit to the 5yr avg while traditional balancing levers have lost elasticity ■ But we expect HH to avg $4.25/MMBtu in Q4 and $3.45/MMBtu in 2022 as risk premium has reached excessive levels	• Tails of US nat gas 17 September 2021
LNG	■ Global gas prices have surged higher on strong Asian demand and low European storage inventories ■ We see upside risks this winter with limited inventories and spare capacity, Panama Canal congestion to support JKM-TTF spread	• LNG explodes higher August 2021
Thermal coal	■ Thermal coal prices have skyrocketed as high nat gas prices have boosted coal demand, while the supply side has struggled ■ We expect Newcastle coal to average $225/t in the 4Q of 2021 and $145/t in 2022	• Coal comes in from the cold 08 October 2021

Source: BofA Global Research estimates

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Exhibit 2: BofA Commodity Price Forecasts 21-22F

(end-of-period forecasts)

	units	Sep-21F	Dec-21F	Mar-22F	Jun-22F	Sep-22F
WTI Crude Oil	($/bbl)	72	72	69	79	95
Brent Crude Oil	($/bbl)	75	75	73	83	100
US natural gas	($/MMBtu)	5.00	4.00	3.50	3.25	3.30

Source: BofA Global Research estimates

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Exhibit 3: BofA Commodity Price Forecasts

(period averages) 2021

	units	1Q21F	2Q21F	3Q21F	4Q21F	2021F	1Q22F	2Q22F	3Q22F	4Q22F	2022F
WTI Crude Oil	($/bbl)	58.00	66.00	69.00	65.00	**65.00**	66.00	69.00	79.00	69.00	**71.00**
Brent Crude Oil	($/bbl)	61.00	69.00	72.00	68.00	**68.00**	70.00	73.00	83.00	73.00	**75.00**
US NY Harbor ULSD (HO) Cracks to Brent Crude Oil	($/bbl)	11.90	15.50	18.00	20.00	**16.30**	20.00	19.00	19.00	19.00	**19.25**
US RBOB Cracks to Brent Crude Oil	($/bbl)	14.40	20.00	19.00	14.00	**16.80**	17.00	21.00	16.00	9.00	**15.75**
USGC 1% Residual Cracks to Brent Crude Oil	($/bbl)	2.10	-1.00	-2.00	-2.00	**-0.70**	-2.00	-2.00	-2.00	-2.00	**-2.00**
NWE Low Sulphur Gasoil Cracks to Brent Crude Oil	($/bbl)	5.30	6.50	9.00	10.00	**7.70**	11.00	11.00	12.00	12.00	**11.50**
NWE Eurobob Cracks to Brent Crude Oil	($/bbl)	6.10	10.50	11.00	7.00	**8.70**	6.00	9.00	10.00	5.00	**7.50**
NWE 1% Residual Cracks to Brent Crude Oil	($/bbl)	1.50	-2.00	-2.00	-2.00	**-1.10**	-2.00	-2.00	-2.00	-2.00	**-2.00**
US Natural Gas	($/MMBtu)	2.72	2.97	3.95	4.25	**3.47**	3.75	3.25	3.30	3.50	**3.45**
Thermal coal, Newcastle FOB	($/t)	87.47	106.84	165.73	225.00	**146.26**	190.00	150.00	125.00	115.00	**145.00**
Aluminium	$/t	2,067	2,401	2,640	2,750	**2,465**	3,000	3,250	3,250	3,500	**3,250**
Copper	$/t	8,525	9,696	9,411	9,750	**9,345**	10,500	10,500	9,500	9,000	**9,875**
Lead	$/t	2,051	2,129	2,352	2,000	**2,133**	2,251	2,251	2,251	2,251	**2,251**
Nickel	$/t	18,368	17,376	19,219	18,500	**18,366**	19,000	22,000	22,500	25,000	**22,125**
Zinc	$/t	2,751	2,916	2,989	3,000	**2,914**	3,000	2,750	2,750	2,500	**2,750**
Gold	$/oz	1,799	1,814	1,799	1,800	**1,803**	1,900	1,800	1,900	1,900	**1,875**
Silver	$/oz	26.64	26.69	24.99	25.00	**25.83**	27.50	31.00	31.00	31.00	**30.13**
Platinum	$/oz	1,166	1,183	1,023	1,000	**1,093**	1,000	1,250	1,500	1,500	**1,313**
Palladium	$/oz	2,364	2,789	2,456	2,000	**2,402**	2,000	2,250	2,000	2,000	**2,063**

Source: BofA Global Research estimates

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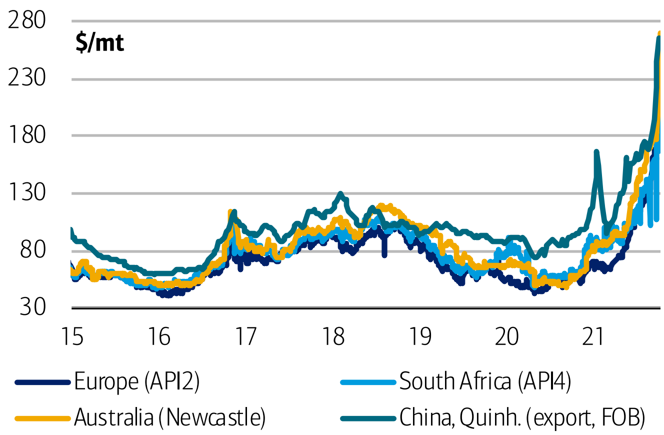
Coal comes in from the cold

Thermal coal prices skyrocket as record nat gas prices boost coal demand...
Thermal coal prices have continued to skyrocket, reaching the highest levels on record, with both prompt Newcastle and European API2 coal breaking $250/t early this week (Exhibit 4). The coal market's rally started earlier this year as demand rebounded from the pandemic as producers struggled to meet the call after slashing output last year as prices neared record lows (see Coal steams ahead). That said, the exponential move in coal prices that has unfolded over the last several weeks has been fueled by a historic global gas rally as European gas inventories have struggled to refill ahead of the winter (see Carbon drags EU nat gas prices higher). While coal prices have quadrupled from the lows last fall, European and Asian gas prices have jumped over 20x. As a result, global gas prices have carried coal higher as expensive gas-fired generation looks for cheaper alternatives in an already tight thermal coal market (Exhibit 5).

Exhibit 4: Global coal prices
Thermal coal prices have continued to skyrocket reaching the highest levels in over a decade, with prompt Newcastle trading over $200/t



Source: Bloomberg, IHS

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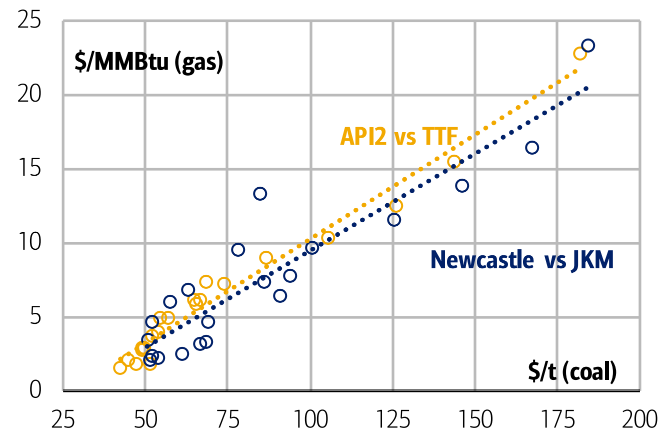
Exhibit 5: Thermal coal vs natural gas (monthly averages, 2020 to date)
Global gas prices have carried coal higher as expensive gas-fired generation looks for cheaper alternatives in an already tight thermal coal market



Source: Bloomberg, BofA Global Research

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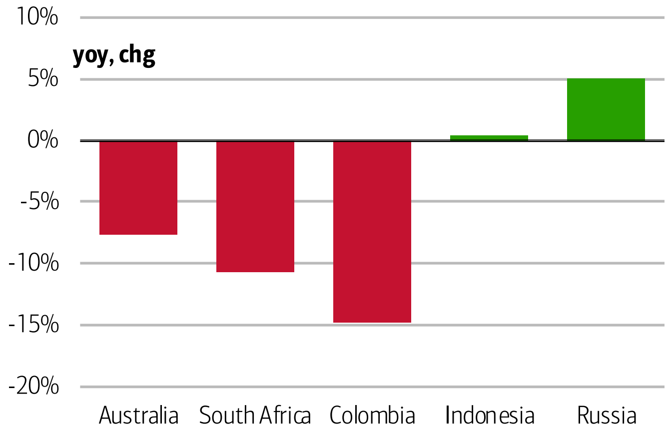
...while production continues to stumble keeping the market undersupplied
Supply continues to stumble as producers press to ramp up production to meet increased demand. Heavy rains in the coal producing regions of Indonesia caused producers to declare force majeure as mines have flooded and high river levels impacted barge movements. In addition, a Covid-19 surge in July and difficulties sourcing mining equipment have kept Indonesia production relatively flat to 2020 levels in the first half of this year (Exhibit 6). Meanwhile, other major coal producing countries have fared worse, with Colombia production down 8% through August vs 2020 levels, South African supply slipping 11% yoy, and Australian output declining nearly 3% through July. As a result, prices have surged to find more supply and now even the highest cost producers, such as the US, have started to respond with exports up nearly 50% yoy (Exhibit 7). While supply issues have certainly contributed to market tightness in the near term, we continue to expect supply, which was easily able to fulfill 2019 demand levels, will catch up in the back half of 2022. Next year, we expect coal exports in 2022 to rise by 16 million tons to 920 million tons, up nearly 2%. That said, there is still significant upside risk this winter as global energy supplies remain in short supply. We boost our Newcastle forecast to $225/t in Q4, $145/t in 2022 and $100/t in 2023, roughly $10-15/t below current forwards.

Exhibit 6: Major coal producing countries, yoy change (Jan-June)
Global production has struggled as Australia, South Africa and Colombia all posted yoy declines in the 1H totaling a shortfall of 16 million tons



Source: IHS

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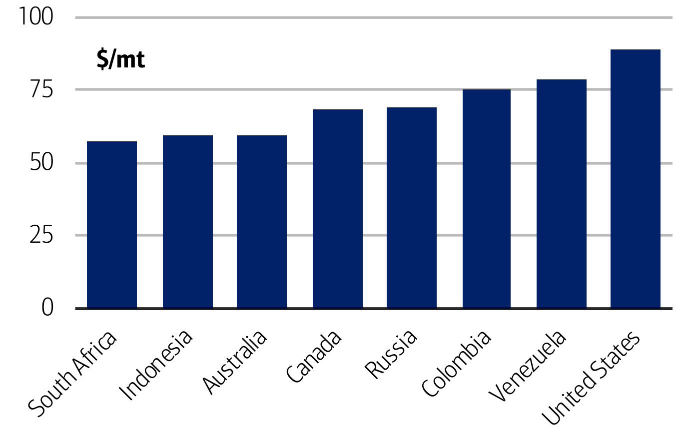
Exhibit 7: Coal cost of supply by country, 6,000 kc delivered to China
Prices have incentivized even the most high cost production, such as the United States, which has increased exports nearly 50% yoy



Source: IHS

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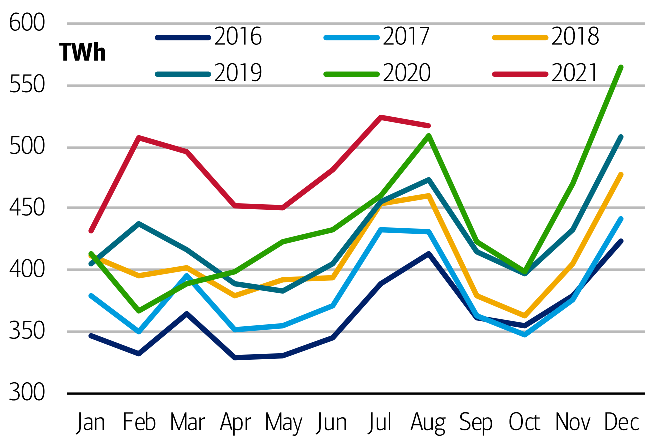
Chinese thermal generation up 14% yoy, as hydro gen drops from 2020 levels…

Thermal generation in China remains at record levels this year with output jumping 14% through August vs 2020 levels (Exhibit 8). The growth in thermal generation has been powered not only by a strong post Covid economic recovery but a drop in hydro generation as well. Chinese hydro output in August averaged 184 aGW (average GW for the month) a drop of 5 aGW vs 2020 levels, as the utilization rate fell from 52% last year to 48% this year (Exhibit 9). Thermal generation averaged 694 aGW in August, up 10 aGW yoy, as it was needed to fill the hydro gap.

Exhibit 8: China thermal generation
Thermal generation in China remains at record levels with output jumping 14% through August vs 2020 levels…



Source: NBS China

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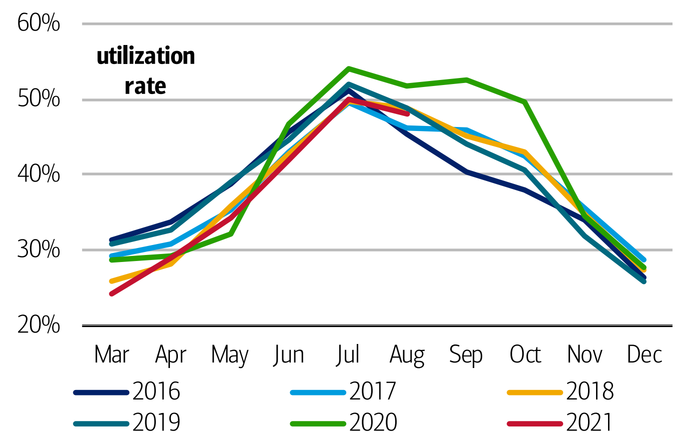
Exhibit 9: Chinese hydro generation utilization
…driven in part by lower hydro generation as utilization fell from 52% in 2020 to 48% this year, a difference of 5 aGW



Source: CEIC, BofA Global Research

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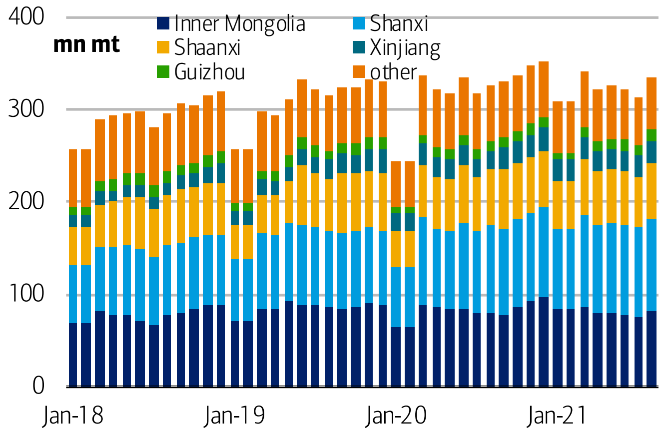
…while domestic production has struggled amidst a safety crackdown…

Domestic production continues to face headwinds in ramping up to meet demand as many mines have faced increased safety oversight and restrictions. In fact, Chinese raw coal production in July dropped to 314 million tons, the lowest level, excluding the Jan-Feb periods (Chinese New Year), since May 2019 (Exhibit 10). However, since then, capacity utilization has been running over 100% as China turns to domestic production to help balance the shortage (Exhibit 11).

Exhibit 10: Mainland China coal production by region

Domestic production continues to face headwinds from increased safety scrutiny ...



Source: IHS

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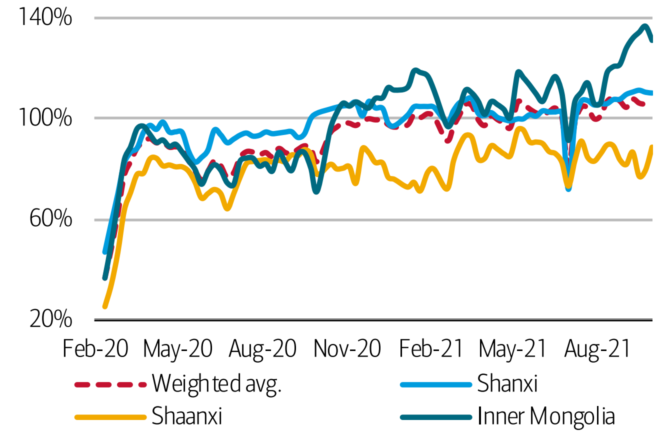
Exhibit 11: Capacity utilization rates at major production bases, China

...but capacity utilization rates have ramped up over the last several weeks as the coal shortage becomes more dire



Source: Sxcoal, BofA Global Research

Note: The sample from Sxcoal contains 408mnt capacity in total – 1) Shanxi (120mnt); 2) Shaanxi (101mnt) and Inner Mongolia (178mnt), and includes some coal mines under closures

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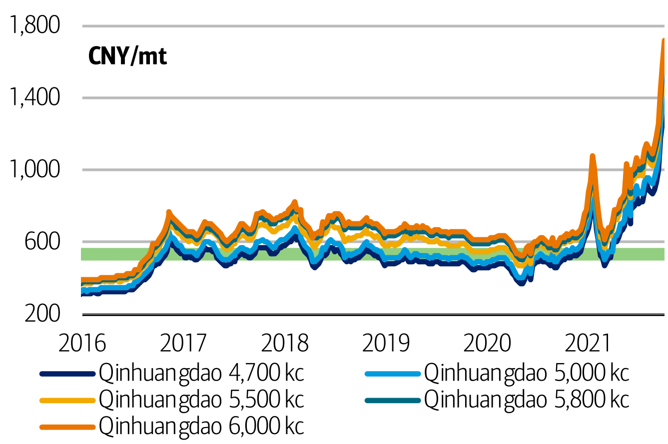
...pushing domestic prices to record heights and encouraging more imports...

The shortage has caused domestic prices to rise to 1,600 CNY or $250/t, surpassing the record highs from last winter (Exhibit 12). The increased domestic prices have encouraged additional seaborne imports, which totaled 12.1 mn tons in August, up nearly 4mn tons vs August 2020 (Exhibit 13). We currently expect China to import 117 mn tons of thermal coal in 2021, up 5 mn tons from our previous forecast. That said, official customs data shows Chinese imports down nearly 10% ytd driven in part by a boost of volumes in Q1 2020 as a result of year end 2019 import quotas. Real-time data from IHS suggest arrivals were up 12% yoy through the 1H of 2021, which aligns with the fundamental reality of a tighter market and higher prices.

Exhibit 12: China domestic coal price

Domestic Chinese coal prices have surged to over 1600 CNY encouraging more seaborne exports as domestic production struggles to meet demand



Source: Bloomberg, IHS

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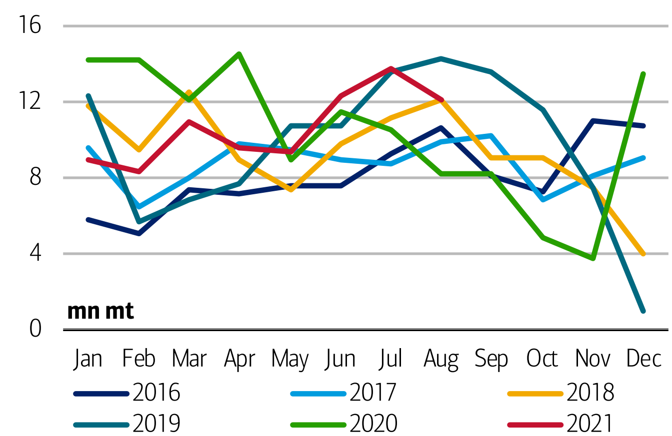
Exhibit 13: China thermal coal imports

Higher domestic prices have encouraged additional imports which totaled 12.1 million tons in August, a jump of over 4 mn tons year over year



Source: IHS

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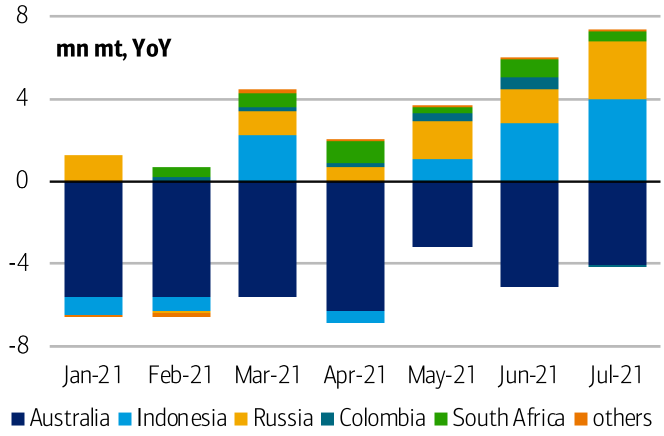
...but the ban on Australian imports has limited Chinese options...

China has maintained its ban on Australian imports, which has disrupted trade flows and limited China's import options this year. Australian volumes have been replaced by volumes from Indonesia, Russia, and South Africa (Exhibit 14). Imported 5,500 kc coal, the primary Australian import, has mainly come from Indonesia, which has seen its export spread to China widen back out to nearly $20/t on higher Chinese domestic prices

(Exhibit 15). This, however, has exposed China to Indonesian supply struggles and left them with limited other options.

Exhibit 14: YoY change in import destinations for China steam coal

Australian volumes have been replaced by imports from Indonesia, Russia and South Africa



Source: IHS

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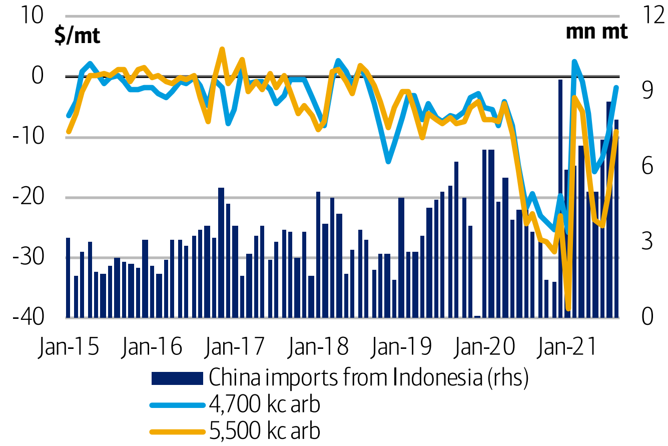
Exhibit 15: China thermal coal imports from Indonesia and arbs

The Chinese import arb for Indonesian 5,500 coal has widened back out to nearly $20/t on higher domestic prices



Source: IHS, Clarksons, BofA Global Research

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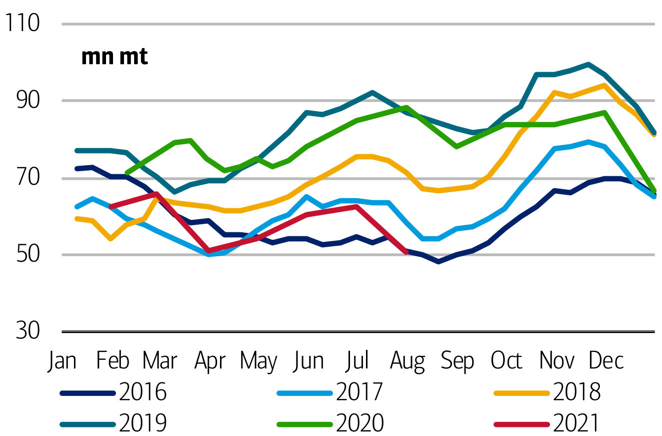
...and created an undersupply that has fueled restocking demand...

The combination of record thermal generation, domestic production headwinds, and skyrocketing seaborne import prices has translated to declining stockpiles in China. July Inventories at key power plants in China dropped to the lowest seasonal level in our data history (Exhibit 16). Port stockpiles have not fared much better and have tracked close the 5yr lows for much of the summer, roughly 20% lower than 2020 levels (Exhibit 17).

Exhibit 16: China coal stocks at key power plants

Stockpiles at key Chinese power plants dropped to the lowest seasonal level in our data history in July



Source: IHS

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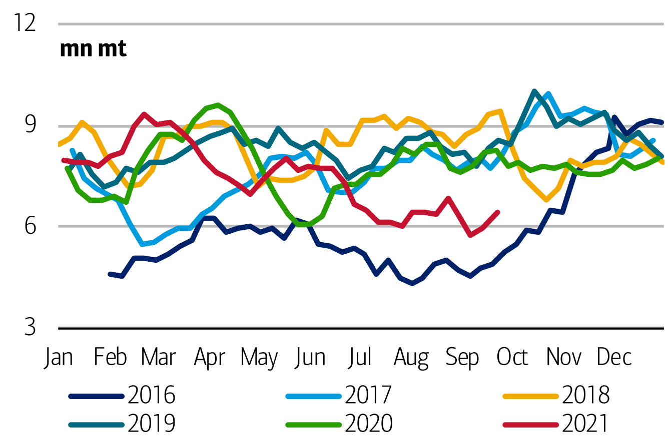
Exhibit 17: China coal stocks at ports

Port stocks showed a similar trend as record thermal gen, domestic production headwinds, and skyrocketing imports prices take their toll



Source: IHS

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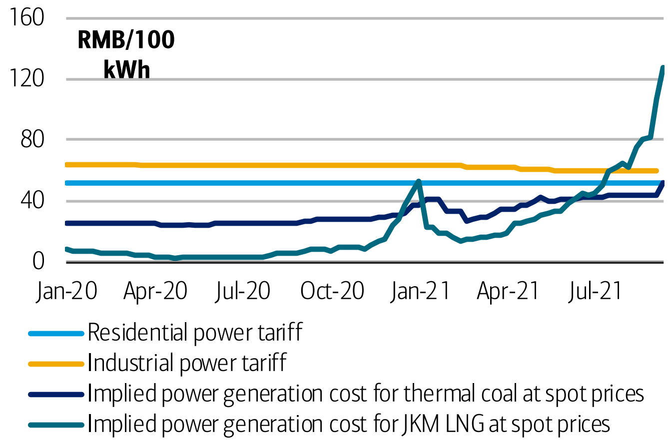
China's power crisis has further increased the chaos as winter approaches

In a fight to control prices, the government has focused on demand and has launched crackdowns on energy intensive industries such as Bitcoin and aluminum, which accounts for nearly 7% of China's overall electricity consumption. In recent weeks, the power crisis in China has accelerated as prices continued to skyrocket, which has squeezed the margins of domestic generators that face regulated electricity rates (Exhibit 18) (see Electricity issues pile on top of auto and construction headwinds). As a result, some generators have reportedly shutdown leading to a power crunch. The total generation utilization rate in China fell in August to its lowest seasonal level in at least five years (Exhibit 19), suggesting the crisis is not from a lack of capacity, but from evaporating margins for generators and government policies trying to shed demand to quell prices and preserve supplies ahead of the winter. China has taken several steps to address the ongoing power crisis as highlighted by our Asian team (see Will coal shortage be resolved soon?) Measures have included: allowing full production in excess of FY21 quotas, greenlighting additional capacity expansions, increasing imports, and raising power tariffs.

Exhibit 18: China power tariffs and generation costs

The power crisis in China has accelerated as sky high prices have squeezed the margins of domestic generators that face regulated power tariffs



Source: Bloomberg, CEIC, BofA Global Research

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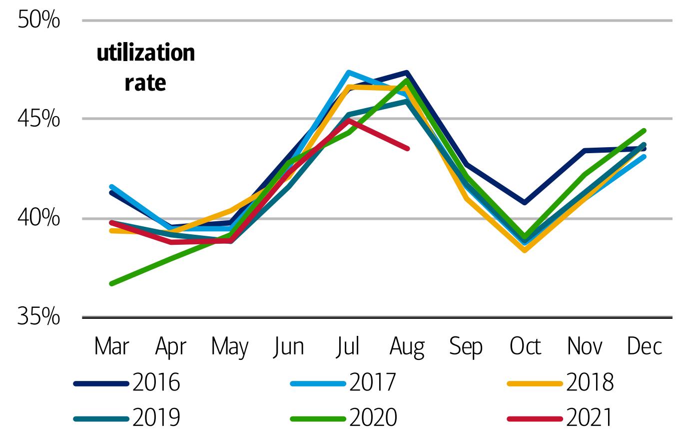
Exhibit 19: Chinese total generation utilization rate

Total generation utilization in August fell to the lowest seasonal level in the last 5yrs on restricted demand and low generation margins



Source: CEIC, BofA Global Research

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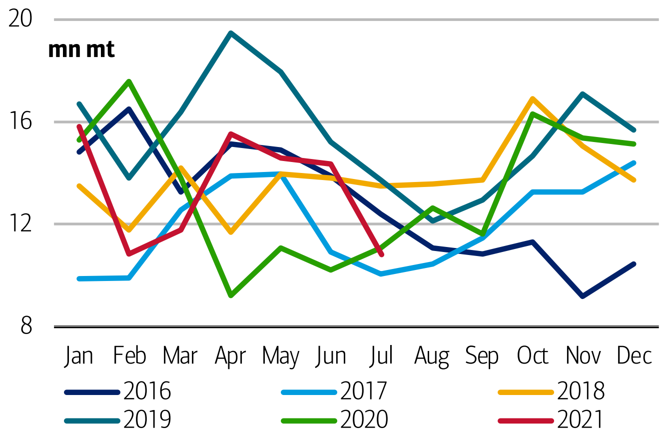
India balks at higher prices as July imports slide to lowest levels of the year

Thermal imports into India fell to the lowest levels of the year in July as record high prices have taken their toll on demand (Exhibit 20). While imports typically decline into the monsoon season, this year's dip has been fueled by power generators balking at the high international prices and instead relying on stockpiles. Higher demand for Indonesian coal, particularly from China, has pushed prices higher and weakened the export arb to India (Exhibit 21).

Exhibit 20: India thermal coal imports
Thermal imports into India fell to the lowest levels of the year in July...



Source: IHS

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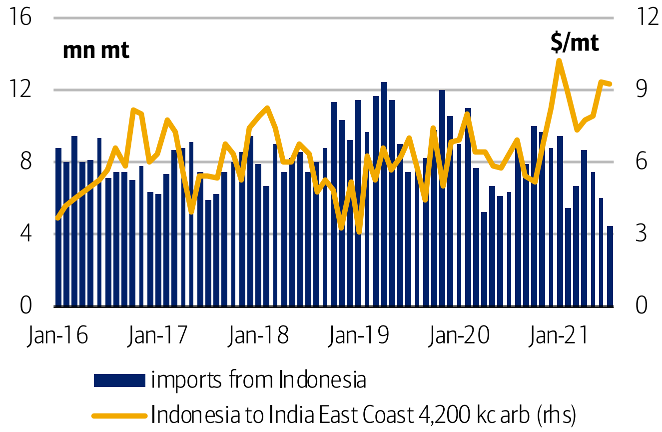
Exhibit 21: India thermal coal imports from Indonesia and arb
...as higher demand for Indonesian coal pushed prices higher and weakened the export arb



Source: IHS, BofA Global Research

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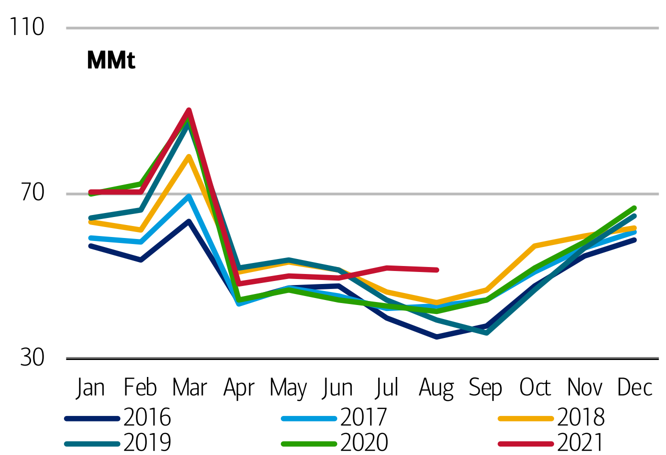
...and domestic production jumps to seasonal highs...

While imports into India have declined, its domestic production has surged to record seasonal levels of output (Exhibit 22). In addition to record production, ample pithead stocks have been able to meet some of the incremental demand. In March stocks stood at 108 million tons, but plummeted to 61 million tons by the end of July as buyers turned to cheaper domestic supply in lieu of expensive imports (Exhibit 23). Coal India (CIL) has recently reemphasized it has adequate stocks and is prepared to meet any surge in coal demand from the power sector.

Exhibit 22: India coal production
Domestic production in India has surged to record seasonal highs in August



Source: IHS

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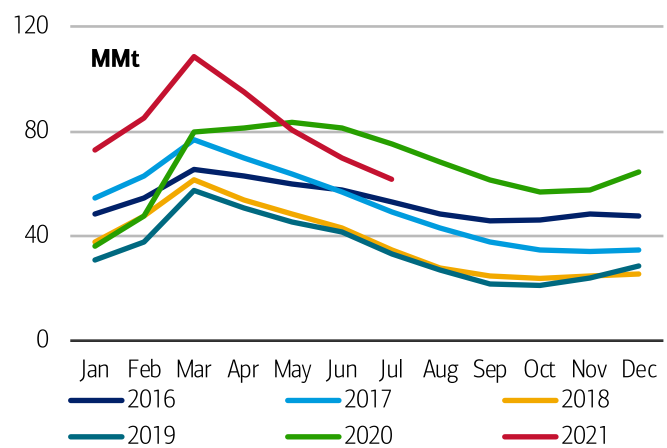
Exhibit 23: India coal stocks at pithead
Pithead stocks have declined 47 million tons since March as buyers increasingly turn to domestic supplies given the high cost of imports



Source: IHS

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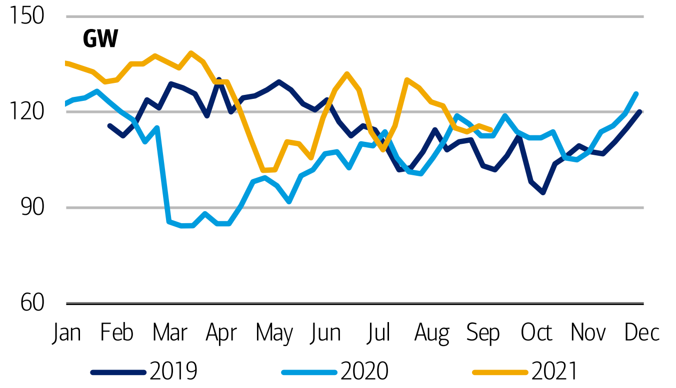
...but supplies have dwindled as power generation demand remains strong

Thermal generation in India has recovered from the Covid-19 fueled drop in April and May and reached record levels in July and August (Exhibit 24). As discussed above, the drop in international imports has taken a toll on inventory levels at power stations, with many plants reporting less than 10 days of supply (Exhibit 25). While current pithead stocks can meet near term demand, it is not a situation that can be sustained indefinitely. That said, given recent trends, there is downside risk to our India import forecast of 167 million tons.

Exhibit 24: Thermal power generation in India, weekly
Thermal generation in India recovered from the Covid-19 fueled drop in March and April and has rebounded to record highs in July and August...



Source: Bloomberg

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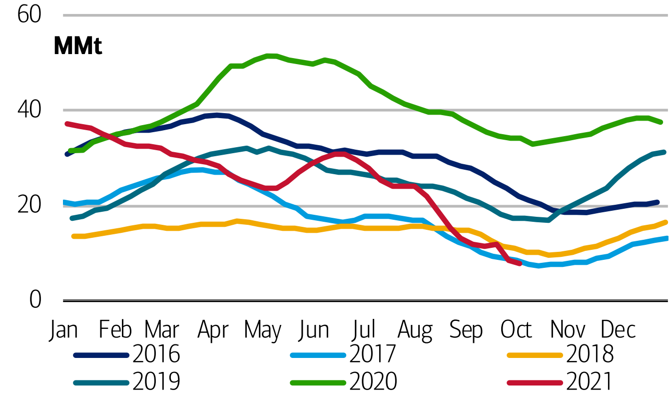
Exhibit 25: Indian power stations: coal stocks
...which has accelerated the drawdown of coal stocks at power plants, which are now operating at under 10 days of supply



Source: IHS

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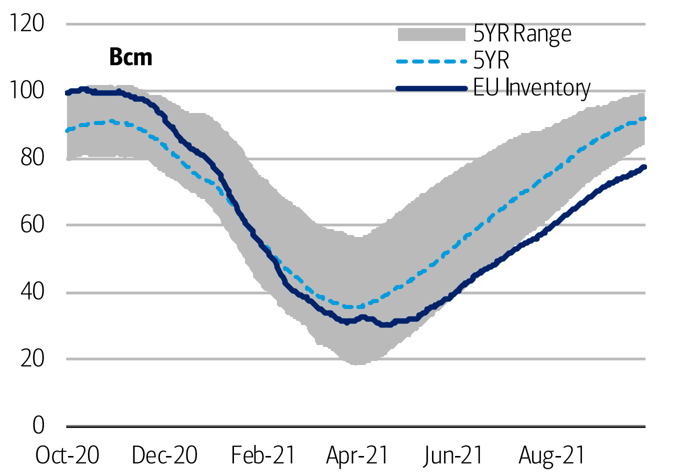
Facing a storage crisis European gas has surged to above $30/MMBtu...

Global gas prices have exploded higher in recent days with TTF prices, the European benchmark, trading to an intraday high of €162/MWh, over $50/MMBtu, on Wednesday, October 6th, before retreating. Global gas prices have reached record heights as Europe has struggled to refill storage inventories ahead of winter. European storage levels finished September at just shy of 78 Bcm, nearly 22 Bcm lower than last year's level and 14 Bcm or 15% below the 5yr average of 92 Bcm (Exhibit 26). Injections have been limited due to higher carbon prices that reduced gas-to-coal switching early in the summer, lower Russian pipeline volumes, and a decline in LNG imports due to surging Asian demand (Exhibit 27) (see LNG explodes higher).

Exhibit 26: European storage
European storage levels finished September at just shy of 78 Bcm, roughly 14 Bcm below the 5yr average



Source: Bloomberg, BofA Global Research

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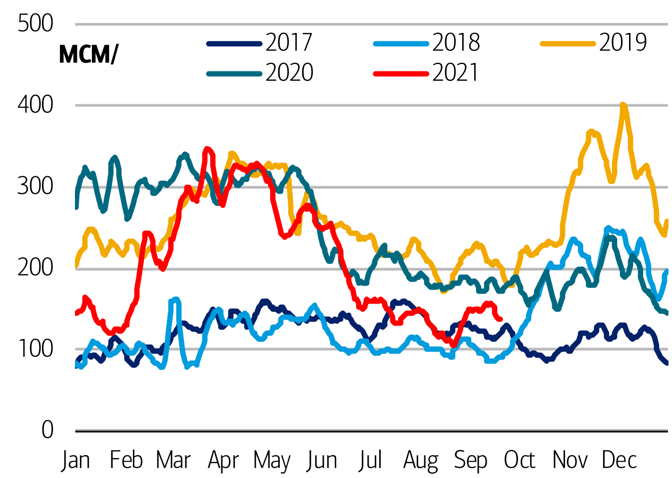
Exhibit 27: Europe LNG imports
European storage struggled to refill this summer due to high carbon costs, lower Russian imports, and a decline in LNG imports



Source: Bloomberg

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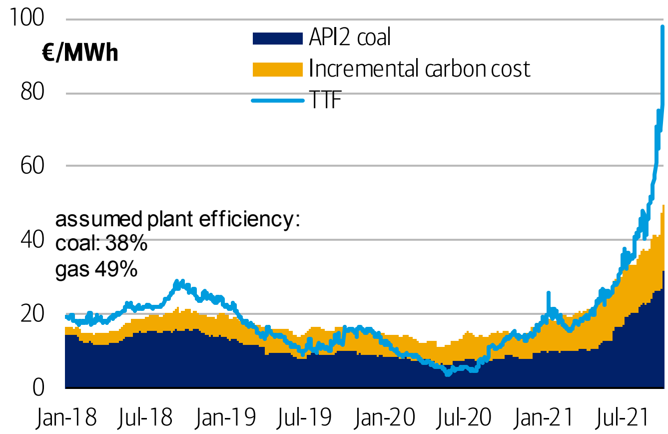
...which has pushed more coal generation into the power stack...

As the storage outlook has turned increasingly dire, TTF prices have nearly doubled over the last 16 trading days (Exhibit 28). European API2 coal prices jumped 60% over that same timeframe. While European coal generation was handcuffed by record carbon prices in the early parts of the summer, soaring TTF prices have now unlocked the gas-to-coal switching lever in Europe and fueled a jump in coal-fired generation (Exhibit 29). Gas' share of thermal generation in Northwest Europe has been steadily falling over the last couple months, but dropped significantly in September falling to 70% from 84% in June. That difference in generation share was worth ~30 Mcm/d of gas demand in September.

Exhibit 28: European hard coal gas equivalent price and TTF
TTF prices have surged this summer, nearly 70% in just 17 trading days, and have unlocked gas to coal switching in Europe



Source: Bloomberg, BofA Global Research estimates

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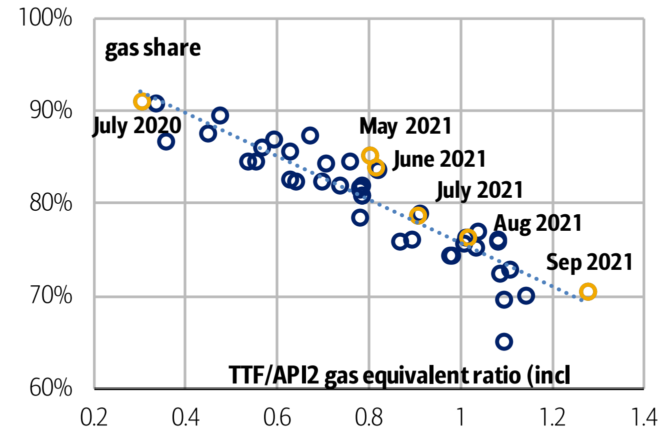
Exhibit 29: Gas' share of thermal generation, Northwest Europe
Gas' share of thermal generation in Northwest Europe dropped significantly in September falling to 70% from 84% in June



Source: Bloomberg, BofA Flobal Research estimates

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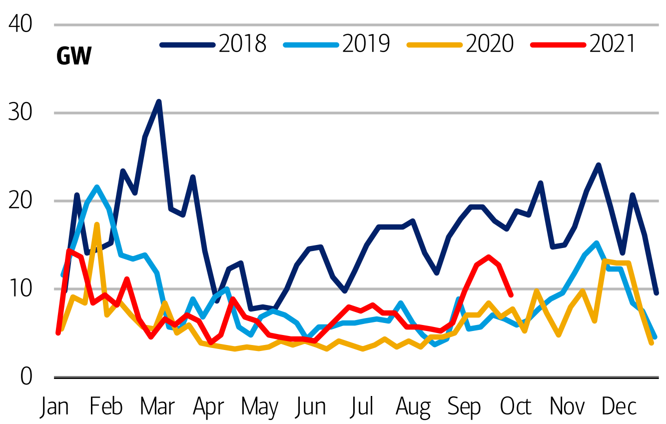
…and helped boost API2 coal prices on stronger generation and low inventories

As gas costs outpaced the incremental carbon costs from coal, generators began to switch to coal-fired generation. As a result, coal generation surged higher in September, averaging over 12 GW a day, the highest level since January (Exhibit 30). However, this increased demand comes at a time when coal stocks at European power plants have reached multi year lows (Exhibit 31), boosting thermal import demand in an already tight global market. As a result, it has been a challenge for power plants to secure spot coal supplies and the additional demand has contributed to both European coal (API2) and Newcastle coal prices reaching record levels.

Exhibit 30: Europe coal-fired power generation, weekly
European coal-fired generation has responded, rising to the highest weekly level recorded this summer, 12 GW of output



Source: Bloomberg

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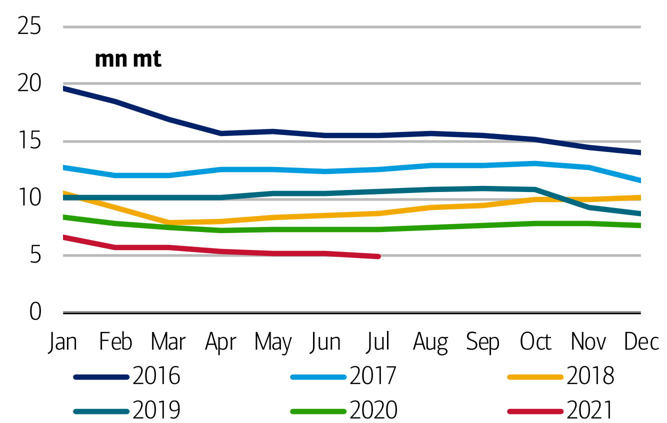
Exhibit 31: Coal stocks at European power plants (Denmark, Finland, France, UK)
Coal stocks at European power plants have fallen to multi-year lows boosting thermal coal import demand as coal generation spikes



Source: IHS

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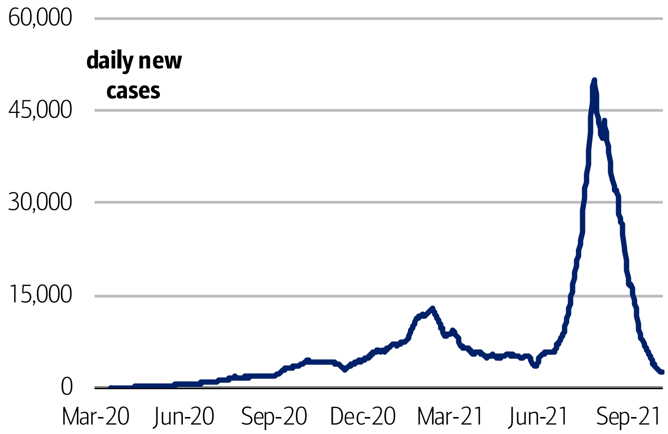
Indonesian supply has struggled to ramp up to meet demand…

Indonesian supply continues to stumble as producers try to ramp up production to meet increased demand. First, a Covid-19 wave in July disrupted producers and limited operations due to manpower shortages (Exhibit 32). More recently, heavy rains in the coal producing regions of Kalimantan have caused producers to declare force majeure as mines have flooded and high river levels have impacted barge movements (Exhibit 33). This is on top of a domestic shortage of coal that resulted in authorities enacting an export ban in August on 34 miners until their domestic supply obligations were fulfilled. These events will undoubtedly impact Indonesian production in the near term, further tightening the spot coal market.

Exhibit 32: Indonesia: daily new confirmed Covid-19 cases (7-day MA)
A wave of Covid-19 cases in Indonesia in July disrupted operations and limited manpower



Source: CEIC

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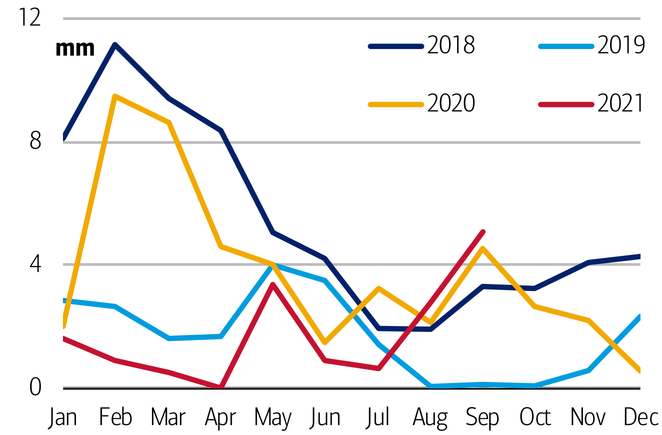
Exhibit 33: Indonesia Banjarmasin precipitation (South Kalimantan)
Heavy rains in the coal producing regions of Kalimantan have caused producers to declare force majeure



Source: Bloomberg

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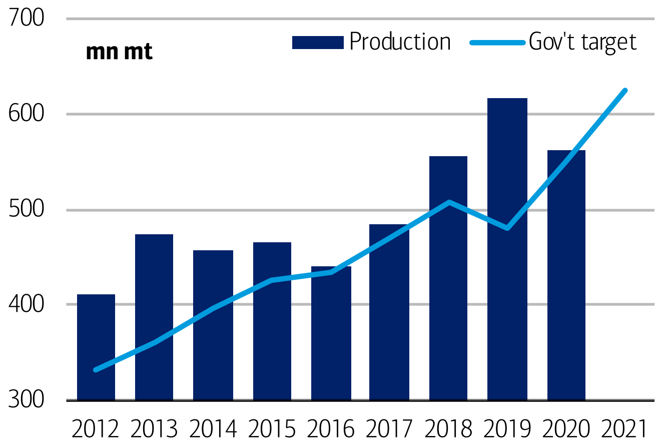
...but signs of supply growth on the horizon...

As highlighted previously, the Indonesia government has increased its 2021 coal production target to 625 million tons, an increase of 75 million from the original target of 550 million tons, which was flat to 2020 levels (Exhibit 34). Despite the aforementioned production struggles, output through July was still up nearly 8% year over year and on pace for over 600 million tons. However, export volumes so far have lagged posting a 2.4% gain yoy in 1H2021 as domestic consumption has increased as well (Exhibit 35). We expect Indonesian exports to total 361 million tons in 2021, up roughly 6% yoy, given higher prices and increased production guidance. In 2022, we expect exports to grow further reaching 368 million tons, up 2% yoy.

Exhibit 34: Indonesian coal production and government target
The Indonesian government is targeting 625 million tons of production in 2021, up nearly 14% from 2020's target of 550 million



Source: IHS, BofA Global Research estimates

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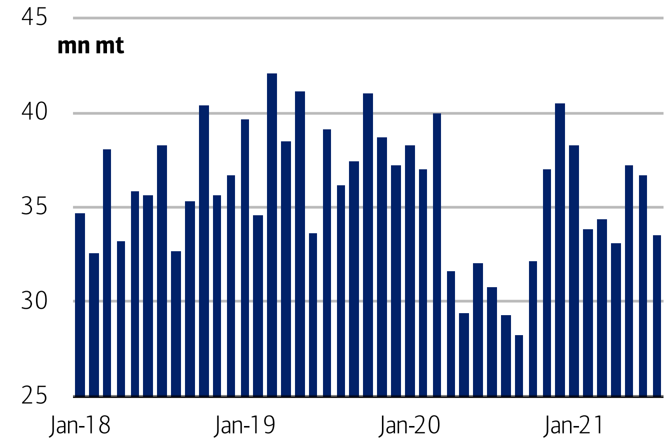
Exhibit 35: Indonesian coal exports
Indonesia export volumes were up 2.4% yoy in the 1H, but we expect exports to ramp up in 2H boosting exports to 361 million



Source: Bloomberg

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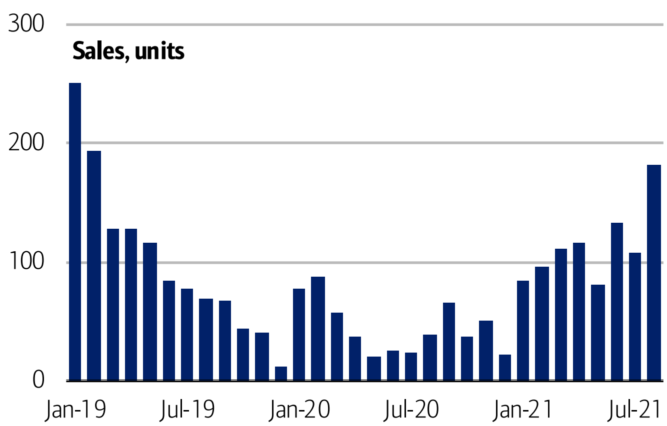
... as mining equipment sales reach the highest level since February 2019

Our Indonesian mining team recently noted that heavy equipment purchases have picked up signaling a jump in production could be looming (Exhibit 36). United Tractors (UNTR) is a leading provider of mining equipment and has seen its sales double in the first half of 2021 vs 2020 (see Peak coal prices, expect cycle to reverse). Further, most major Indonesian producers have issued production growth guidance, with a volume weighted forecast of 6% yoy, representing roughly 40% of Indonesian production (Exhibit 37).

Exhibit 36: Monthly UNTR heaving equipment sales (mining)
United Tractors (UNTR) has seen its sales of heavy mining equipment start to accelerate, which could signal a jump in production is looming



Source: BofA Global Research, company data

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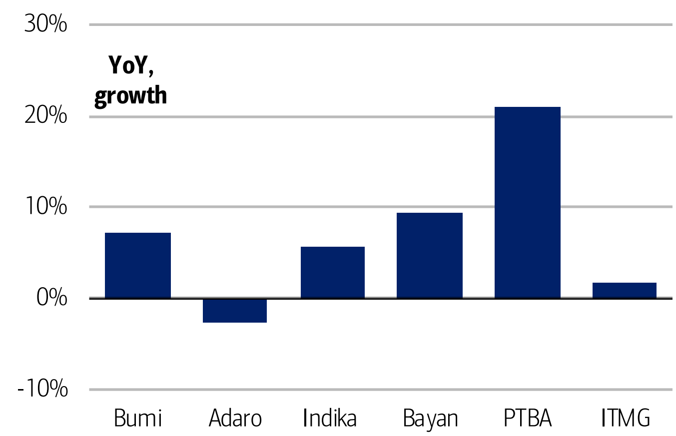
Exhibit 37: Indonesia coal miner production guidance
Major Indonesian producers, representing roughly 40% of output, have issued guidance of 6% yoy growth on average (volume weighted)



Source: BofA Global Research, company data

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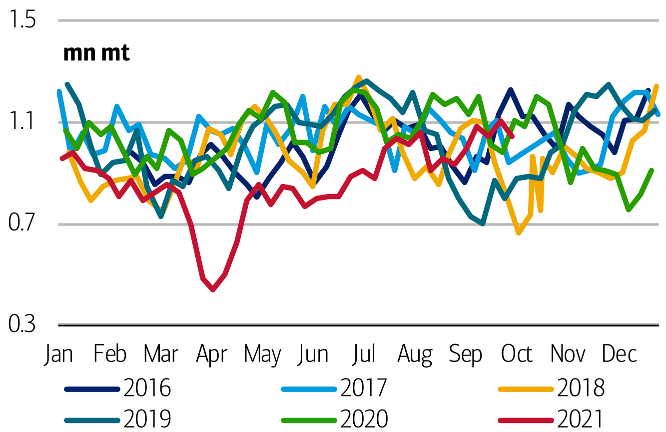
Australia coal exports look to be back on track, after dropping 8% in 1H21

Australian exports have recovered from a disastrous 1Q that saw March exports tumble to 13.2 mn/tons, the lowest export total since March 2013. Newcastle Coal Infrastructure Group (NGIC), which already had one shiploader offline, had to suspend operations in March as its only other working shipload required immediate repairs. Both shiploaders have since returned to service helping boost NGIC throughputs and overall Australian exports (Exhibit 38). Despite the trade war with China, Australia has found new homes for its exports, in particular to India and South Korea (Exhibit 39). We expect Australian exports to total 197 million tons, just under 2020 levels of 199 million tons, on strong production in the 2H driven by higher prices and the return of the NGIC shiploader.

Exhibit 38: Newcastle Coal Infrastructure Group throughputs, 4wk MA

Exports tumbled to 13.2 mn/t in March, the lowest since 2013, as the both NGIC shiploaders were offline



Source: IHS

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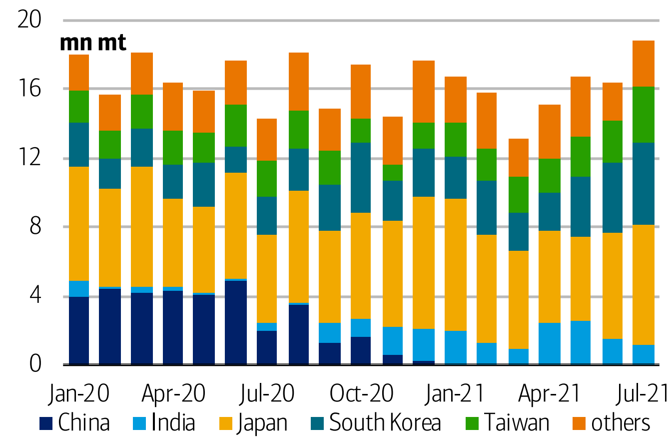
Exhibit 39: Australia thermal coal exports by country

Despite the trade war with China, Australia has found new homes for it exports, boosting volumes to India and South Korea in particular



Source: IHS

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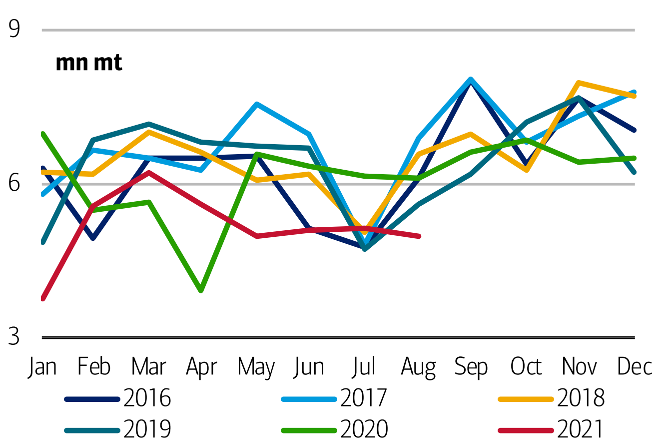
South Africa and Colombia posted double digit drops in output in 1H

South Africa and Colombia both saw exports in the 1H trail 2020 levels by over 10%. In South Africa, a host of issues ranging from planned maintenance, train derailments, and civil unrest have disrupted export volumes which fell to 41.4 million tons through August, the lowest total for that time period since 2007 (Exhibit 40). We expect a recovery in the 2H, but remain cautious forecasting exports to decline to 66 million tons from 74 million in 2020. Meanwhile, exports continue to struggle in Colombia posting a drop of over 3mn tons vs 2020 levels through August despite last year's 19 day suspension of all mining activities due to the pandemic. Exports have lagged as Cerrejon production has been impacted by rail blockades while Prodeco and CNR closures have reduced volumes (Exhibit 41). We forecast Colombian exports to total 55 million tons this year with another 3 million tons of growth in 2022.

Exhibit 40: Thermal coal exports ex. lignite: South Africa

South African exports fell to 36.4 million tons through July, the lowest total for that time period since 2011



Source: IHS

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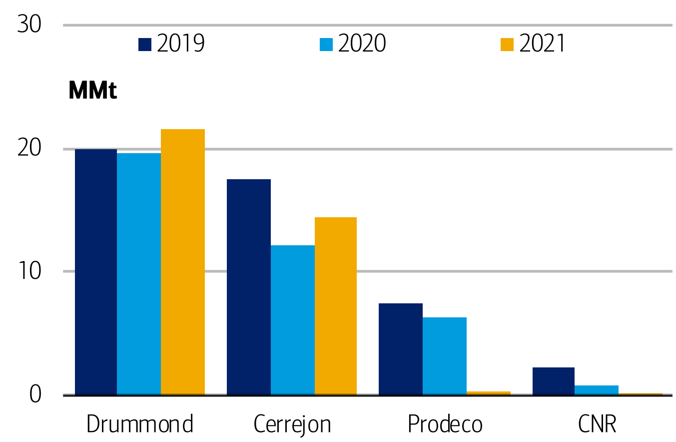
Exhibit 41: Colombia coal exports by producer (Jan-Aug)

Colombian production has struggled as Cerrejon volumes have been impacted by protests, while Prodeco and CNR operations remain closed



Source: IHS

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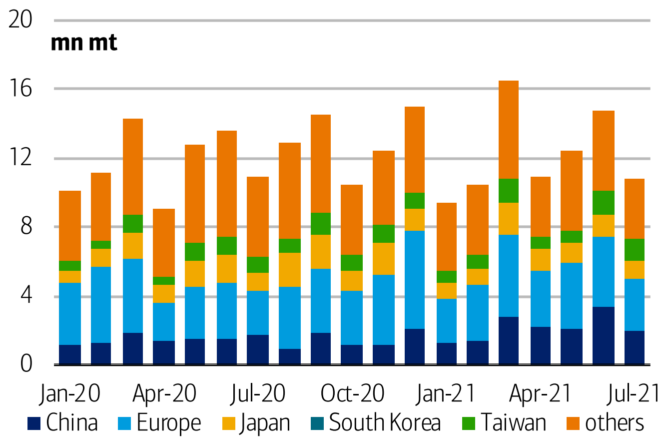
Russia and the US have responded to higher prices with additional exports

While there have not been a ton of bright spots on the thermal coal production stage, Russia and the US have responded to the call. Russian volumes were up 3.6 mn tons, roughly 4% through July this year vs 2020 levels (Exhibit 42). We expect Russian exports to total 153 million tons, just shy of the 2019's high watermark of 156 million tons. Meanwhile, in the United States, typically one of the highest cost producers, exports have surged over 50% from 2020 levels, albeit off of a low total. Exports through August totaled 24.6 mn tons vs 15.6 mn over the same time frame last year (Exhibit 43).

Exhibit 42: Russia thermal coal exports by country

Russian exports have jumped 4% through July and we expect will total 153 million this year, just shy of the high watermark in 2019 of 156 million tons



Source: IHS

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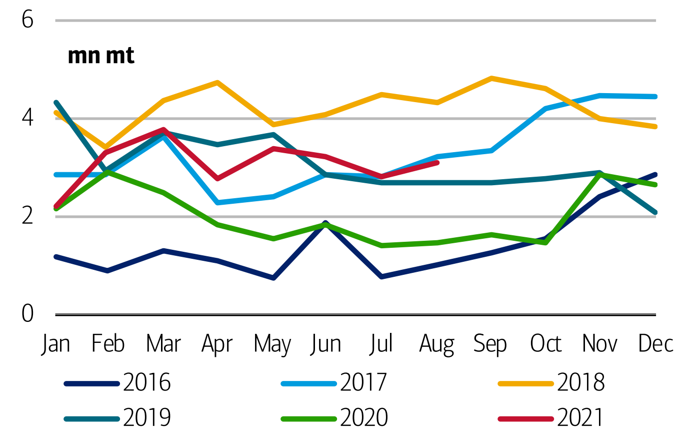
Exhibit 43: Thermal coal exports ex. lignite: United States

As a result of surging prices, even the highest cost coal producers, such as the US, have started to respond with ytd volumes up over 50%



Source: IHS

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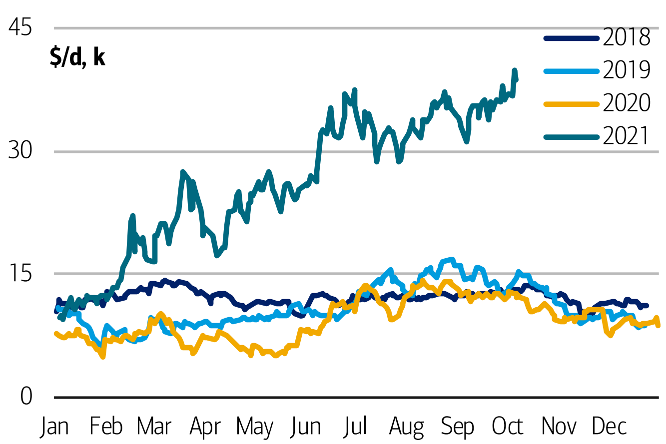
Freight rates have added an additional $10-$15/t to the cost of delivered coal

Soaring dry bulk freight rates have compounded the supply struggles, adding incremental costs for coal deliveries. Freight rates reached $38k/day at the end of September, the highest levels of the year (Exhibit 44). While freight rates have become a small drop in the bucket given recent coal price swings, they have added an additional $10-$15/t to the price of delivered coal this year (Exhibit 45), which in other environments would act as a significant headwind for coal demand.

Exhibit 44: Panamax freight rates, $/day (thousands)

Freight rates have soared higher in 2021, reaching $38k/d at the end of September, the highest level of the year



Source: Bloomberg

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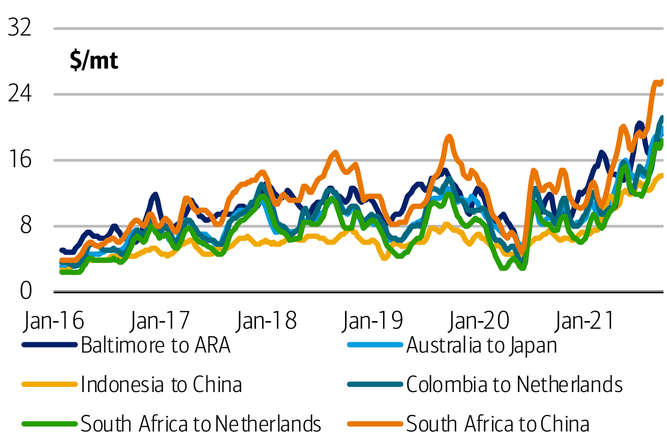
Exhibit 45: Freight rates for selected major routes, 4-week MA

Increased freight rates have added $10-$15/t to the cost of delivered coal this year, which in other environments would be a headwind for coal demanc



Source: IHS

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Exhibit 46: Thermal coal balances
Thermal coal annual balances

Thermal coal exports and imports (million metric tons)

Thermal coal exports	2015	2016	2017	2018	2019	2020	2021F	2022F	2023F
Indonesia	327	311	319	343	372	339	361	368	370
Australia	202	200	200	208	212	199	197	198	197
Russia	118	131	140	148	156	147	153	158	161
South Africa	77	76	81	79	77	74	66	73	73
Colombia	81	89	83	80	76	52	55	58	59
United States	25	17	39	51	37	24	34	30	26
Canada	2	2	2	1	2	5	5	5	5
China	1	4	4	2	3	1	1	1	1
Other	42	45	39	31	34	24	30	29	28
Total	**876**	**874**	**907**	**942**	**968**	**864**	**904**	**920**	**921**

Thermal coal imports	2015	2016	2017	2018	2019	2020	2021F	2022F	2023F
India	156	154	144	166	186	159	167	172	174
Japan	144	140	144	140	137	129	131	132	133
China	83	98	105	113	115	125	117	118	115
South Korea	94	93	110	109	103	87	88	89	90
Taiwan	67	65	69	69	67	63	66	66	65
Malaysia	20	24	34	34	34	36	35	35	36
Turkey	28	30	33	32	31	34	34	35	37
Philippines	10	18	19	22	26	27	28	29	29
Brazil	22	21	22	22	20	17	20	20	19
Hong Kong	11	11	10	11	10	5	6	6	6
Thailand	11	10	10	8	8	8	9	9	9
Chile	9	11	10	11	10	10	10	10	9
United States	8	8	6	5	5	4	4	4	3
Canada	3	3	3	3	4	2	2	2	2
Europe	156	136	133	128	98	64	72	68	62
Other	55	52	55	72	113	95	115	127	134
Total	**876**	**874**	**907**	**942**	**968**	**864**	**904**	**920**	**921**

Source: IHS, Platts, BofA Global Research estimates

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