

# **Metallurgical Coal Market Report**

## **Metallurgical Coal Markets**

**(Extracted from “Coke Market Survey” for 2024)**

# Metallurgical Coal Market Report

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# Metallurgical Coal Market Report

## Metallurgical Coal Markets

### Definition of Coking Coal

**A coking coal is one that can be converted into coke by heating in the absence of air to drive off the volatile content (hydrocarbons).** When heated to a sufficiently high temperature, coking coals pass through a transient plastic phase in which they soften, swell and then solidify into a coherent cellular coke.

The term “metallurgical coal” includes both grades used for coking and for pulverized coal injection (PCI) in the blast furnace.

**A coal's “caking” properties are the main determinant of its suitability for coke production.** Various caking tests measure its tendency to swell, become plastic and re-solidify during devolatilization. To be suitable for coking, the coal must also produce a coke that meets the end-user's strength and hardness requirements.

The standard caking test measures the coal's “Crucible Swelling Number” (CSN). A so-called “hard” coking coal – this description has nothing to do with its physical strength – has a CSN of 7-9; lower value “semi-soft” or “weak” coking coal has a typical CSN of 3-6.5.

- So-called “semi-hard” coking coal is occasionally specified, but “hard” and “semi-soft” (or “weak”) are the main two classifications discussed in the market-place.
- There is scope for inter-changeability between semi-soft and thermal coals.

The caking properties of a coal are related to its specific morphology, but this subject is not well understood.

The greater the coal's volatile matter, the more tar is produced. But if the level of volatile matter is too low or too high in the coal, it results in inferior coke properties. It is generally considered that a level of 26-29 % of volatile matter in the coal blend is ideal for the coking process. Therefore, different coal types are blended to reach acceptable levels of volatility.

Ash and sulphur contents should be as low as possible, but they do not determine whether a coal can be classified as coking grade.

- High ash leads to lower productivity of the coke-making process.
- Sulphur historically has been specified at less one percent, but this limit has been relaxed in recent years due to supply tightness. When it carries through into the steel, sulphur leads to embrittlement.

Likewise, though often specified, the energy content (calorific value) is irrelevant, as the coal is not burned in the coking process.

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Pricing

**Pricing for metallurgical coal has moved steadily from long-term (annual) agreements to shorter term methods, including the use of published indices.** The situation varies by geographic region, with end-users in Asia and Europe the most receptive to price indices.

Quarterly benchmark pricing by negotiation between the Australian suppliers and Japanese consumers was abandoned from second quarter 2017 in favour of a variety of pricing methodologies.

- The quarterly benchmark being widely employed is calculated from the averages of the indices of the first two months of the quarter, together with the final month of the previous quarter.

In 2010, commodity publishing groups (now styled as “Price Reporting Agencies” or PRAs) launched coking coal indices, based on bids and offers submitted on an electronic exchange.

- Key participants are Argus, Fastmarkets and Platts.
- Since transactions on these exchanges can be infrequent, the pricing indices remain assessments made via discussions with market participants.
- Various delivery points are specified, both “cfr” the major markets and “fob” producer countries. However, the “fob” indications are derived extensively from the “cfr” prices for China and India by deducting freight costs.

**A problem with coking coal indices remains the lack of standardization of grades in the market.** Whereas other commodities (such as iron ore) have broadly homogeneous specifications, this is not the case with coking coal.

Some of the indices have pricing adjustment mechanisms to take into account variations between coal types. However, these are imperfect as the value of a particular coal type depends on the specific requirements of the end-user and the current state of the market.

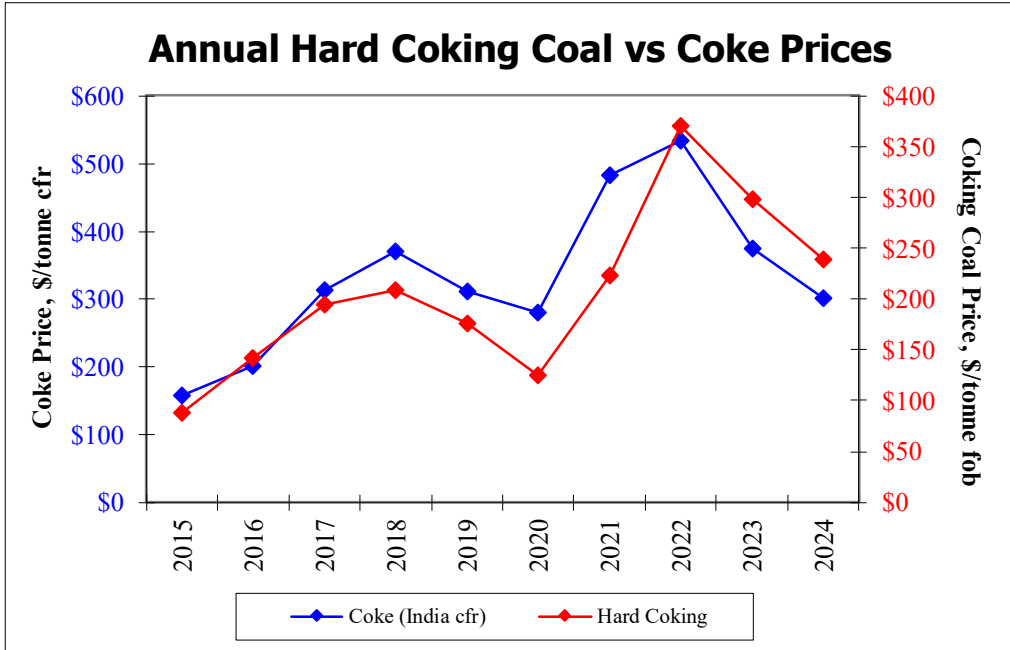
- As detailed on the previous page, the most meaningful coal quality is the swelling index. Specifying a maximum volatile content for a coal index is virtually pointless since cokemakers aim for a range of 26-29% volatiles in the coal blend. The calorific value is similarly irrelevant when discussing coking coal.

On the Singapore SGX exchange, future and swaps based on coking coal indices were launched in 2014.

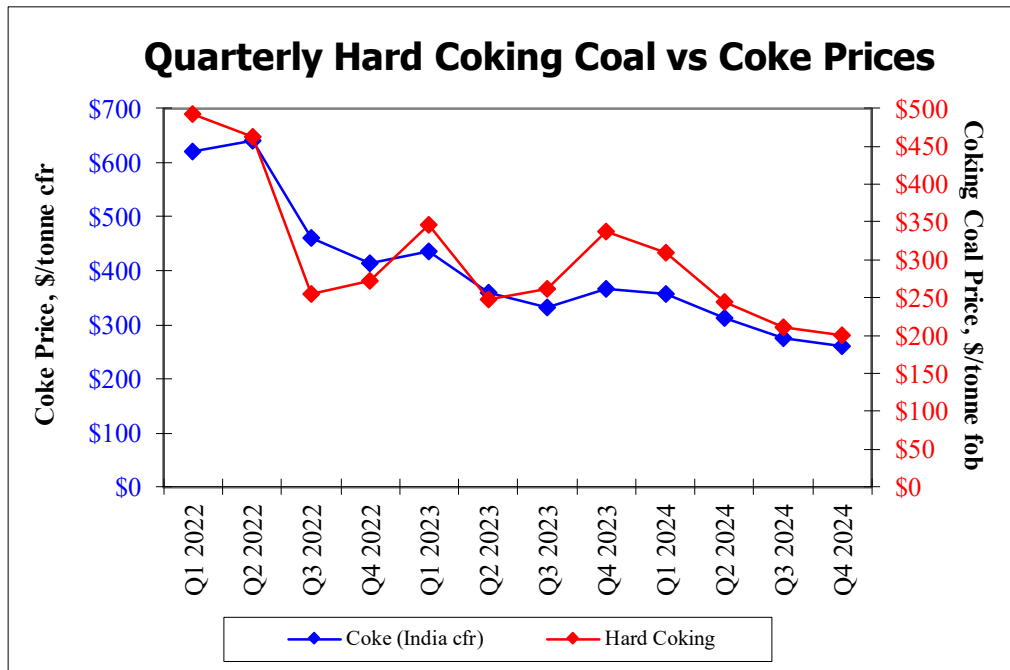
# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Pricing (cont'd)



*Coke prices have been low against those for coking coal in the last two years.*

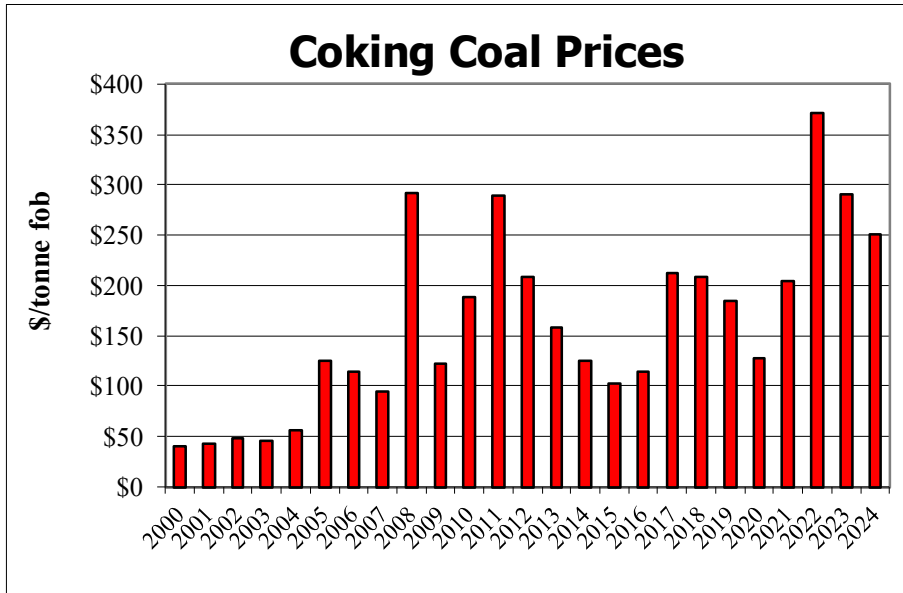


*Coking coal prices have fallen faster than those for coke over the past few quarters.*

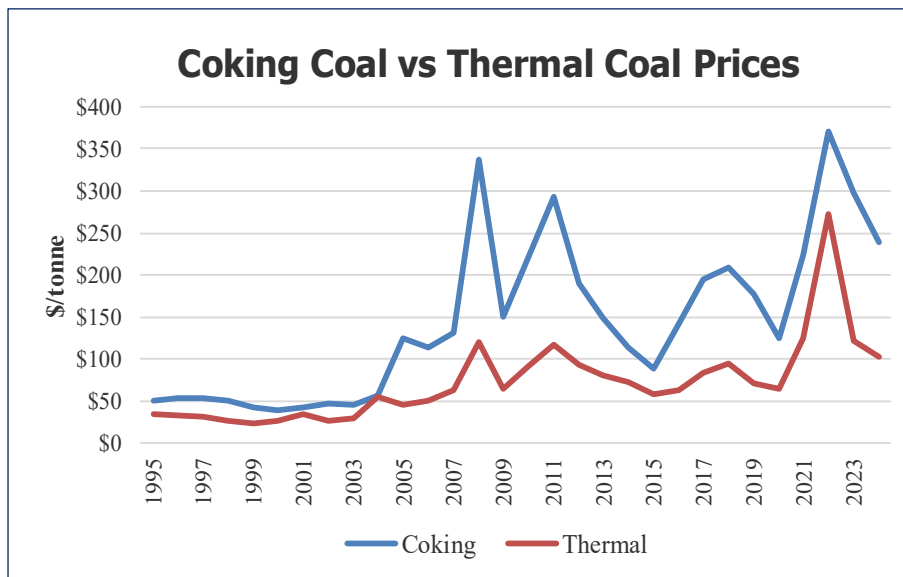
# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Pricing (cont'd)



*Shows hard coking coal prices on “fob Australia” basis over the past two decades. Peaks were reached in 2008, 2011 and again in 2022.*



*Since 2005 there has been a divergence between coking and thermal coal price. In the last few years, the two markets have converged to some degree.*

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Export Volumes

The figures show metallurgical coal exports by country from 2015 to 2024. Australia remains the largest single supplier, its share usually exceeding 50%. Canadian exports have been relatively stable. The US has the role of “swing supplier” to world markets, its volume rising last year.

<b>Metallurgical Coal Exports</b>						
<b>Million tonnes</b>						
	<b>2015</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>% Ann Growth 2015-24</b>
<b>Primary Suppliers</b>						
Australia	185.9	167.9	167.6	151.3	<i>145.0</i>	-2.5%
Canada	27.9	26.2	28.1	30.6	<i>30.0</i>	0.3%
Indonesia	20.1	16.7	17.8	19.4	<i>20.0</i>	-0.5%
Mongolia	12.7	14.0	25.6	53.9	<i>60.0</i>	11.7%
Russia	18.5	31.8	32.7	31.2	<i>30.0</i>	5.4%
United States	41.7	41.1	42.1	46.5	<i>51.0</i>	0.7%
<b>Minor Suppliers</b>						
China	1.0	0.1	0.3	0.4	<i>0.3</i>	-18.1%
Colombia	1.4	1.4	1.5	1.2	<i>1.1</i>	1.0%
Mozambique	4.9	3.8	3.0	3.3	<i>3.0</i>	-7.0%
New Zealand	1.7	1.1	1.1	1.2	<i>1.1</i>	0.8%
Poland	2.5	3.3	3.4	3.4	<i>3.4</i>	3.1%
South Africa	0.5	1.4	1.5	1.8	<i>1.8</i>	8.8%
<b>Total</b>	<b>318.8</b>	<b>308.8</b>	<b>324.7</b>	<b>344.2</b>	<b><i>346.7</i></b>	<b>0.2%</b>
<i>% Ch Year-on-Year</i>		<i>-3.9%</i>	<i>5.1%</i>	<i>6.0%</i>	<i>0.7%</i>	

*Estimates for 2024 in italics*

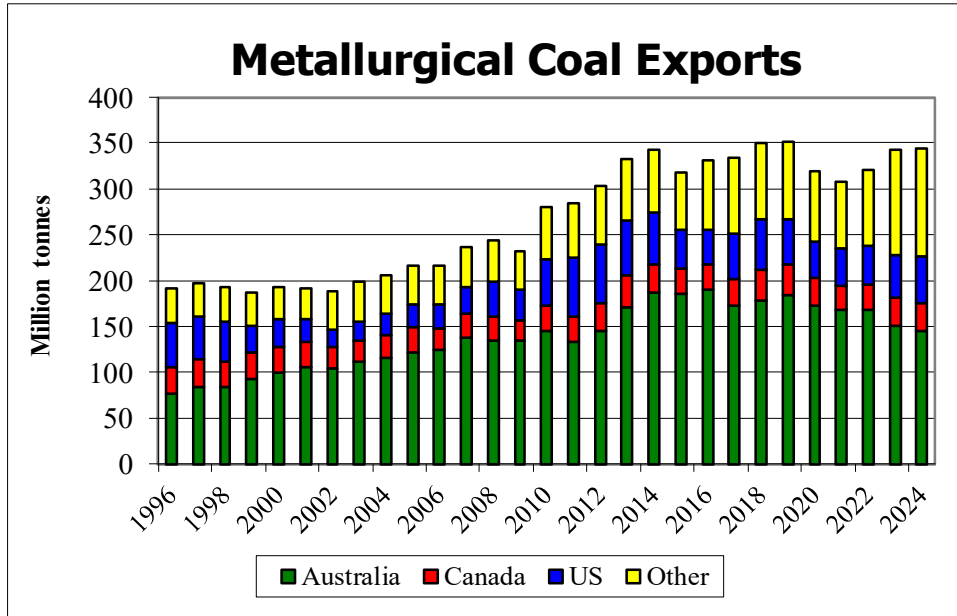
**Australia, Canada and the US have long been regarded as the leading sea-borne metallurgical coal suppliers.** Their combined exports account for two-thirds of the world total.

Other significant participants are: Indonesia, mainly offering semi-soft or “weak” coal to other Asian countries; Mongolia which is currently only supplying neighbouring China; and Russia, embargoed from Europe so active primarily in Asia, China in particular. These six countries account for more than 95% of the total exports of metallurgical coal.

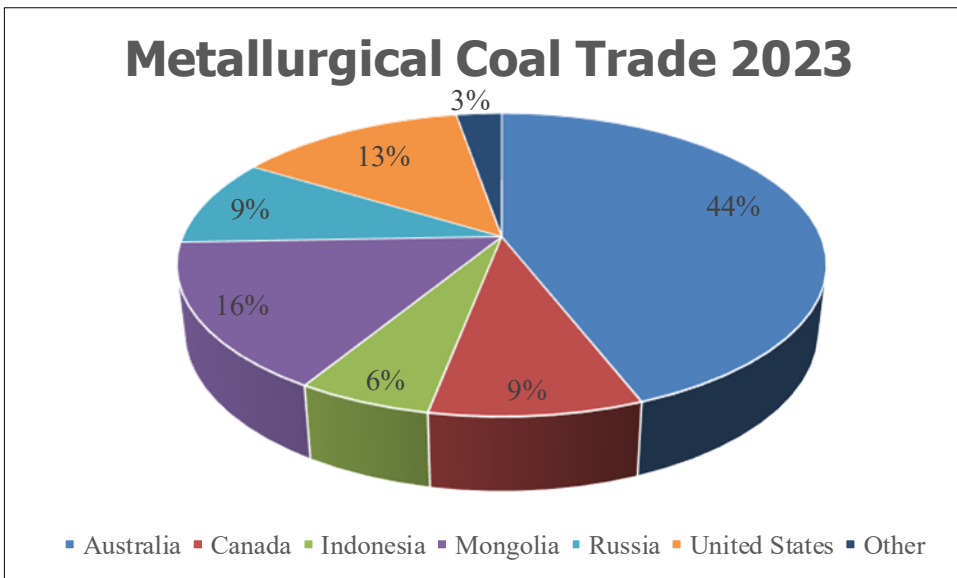
# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Export Volumes (cont'd)



*World trade in coking coal is dominated by Australia, Canada and the US.*



*Australia's share of world trade in coking coal declined to less than 50% last year.*

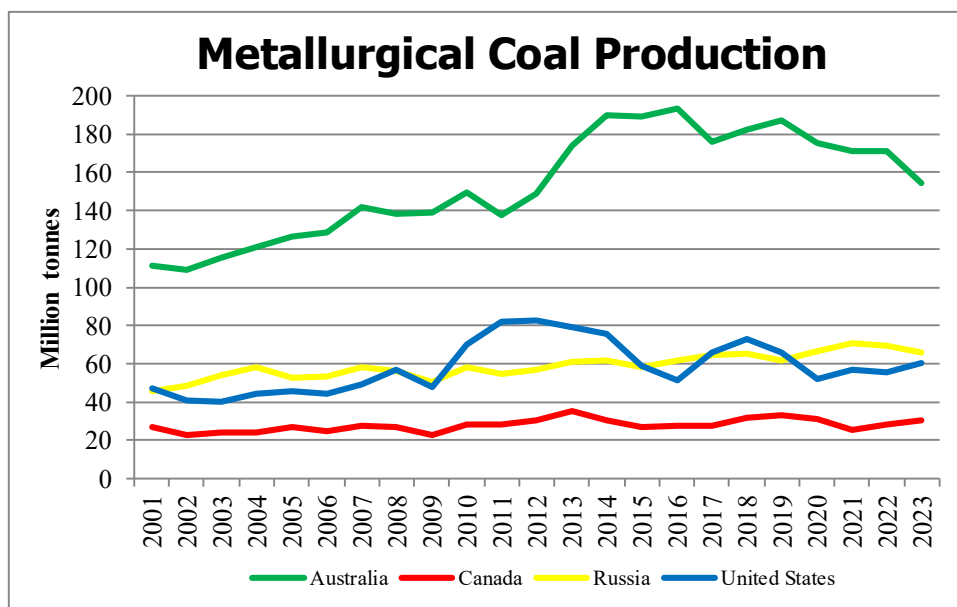


# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production

The chart shows the estimated annual production of the four major export-driven producers:



*Long-term tendency for production of leading four suppliers to world markets.*

	Production, M tonnes		
	2013	2023	
Australia	174	155	From 2000 through to 2015-16, Australia captured much of the growth in world demand for coking coal due to its relative efficiency and geographical position. International mining groups are now disposing of coal assets, which are being acquired by junior companies. Production has been falling in recent years, due in part to China's obstruction of Australian coal.
Canada	35	30	Production has been broadly stable. Costs sit between those of Australia and the US. No expansion to mine capacity is planned.
Russia	61	67	Steady upturn in Russian production as acceptance grows in the Far East. Europe and Ukraine have also been important markets. Russia's invasion of Ukraine led to its coal being banned from EU markets after August.
United States	79	60	Due to its high-cost profile, the US has played the role of "swing supplier" in the world market. There has been a long-term fall in the production. The US coal industry faces a tough environmental regime.

# Metallurgical Coal Market Report

## Historical Metallurgical Coal Production Million tonnes

	2015	2020	2021	2022	2023	2024	<i>% Ann Change 2015-24</i>
<b>EUROPE</b>							
Czech Republic	3.8	1.0	2.0	0.9	0.5	<i>0.3</i>	-20.3%
Germany	3.8	0.0	0.0	0.0	0.0	<i>0.0</i>	
Poland	13.0	11.1	11.0	11.0	10.9	<i>9.5</i>	-3.2%
United Kingdom	0.0	0.0	0.0	0.0	0.0	<i>0.0</i>	
<b>TOTAL - EUROPE</b>	<b>20.6</b>	<b>12.1</b>	<b>13.0</b>	<b>11.9</b>	<b>11.4</b>	<b>9.8</b>	<b>-8.0%</b>
<i>% Change Year-on-Year</i>		2.2%	7.4%	-8.5%	-4.1%	-14.0%	
<b>EURASIA</b>							
Kazakhstan	4.6	3.6	3.3	2.6	2.6	<i>3.1</i>	-6.2%
Russia	58.2	66.8	70.8	69.1	66.2	<i>64.0</i>	1.2%
Ukraine	6.1	5.0	5.0	4.0	2.0	<i>2.0</i>	-11.3%
<b>TOTAL - EURASIA</b>	<b>68.9</b>	<b>75.4</b>	<b>79.1</b>	<b>75.7</b>	<b>70.8</b>	<b>69.1</b>	<b>0.0%</b>
<i>% Change Year-on-Year</i>		4.9%	4.9%	-4.3%	-6.4%	-2.4%	
<b>NORTH AMERICA</b>							
Canada	27.1	31.2	25.7	28.6	30.1	<i>30.7</i>	0.7%
Mexico	1.4	0.8	0.9	0.8	0.2	<i>0.2</i>	-14.6%
United States	58.8	52.1	56.8	55.5	60.4	<i>64.4</i>	0.0%
<b>TOTAL - NORTH AMERICA</b>	<b>87.3</b>	<b>84.1</b>	<b>83.5</b>	<b>84.9</b>	<b>90.7</b>	<b>95.3</b>	<b>0.1%</b>
<i>% Change Year-on-Year</i>		-16.5%	-0.7%	1.8%	6.8%	5.1%	
<b>LATIN AMERICA</b>							
Brazil	0.1	0.1	0.1	0.1	0.1	<i>0.1</i>	0.0%
Colombia	4.3	6.4	7.2	7.9	6.4	<i>6.5</i>	6.1%
<b>TOTAL - LATIN AMERICA</b>	<b>4.4</b>	<b>6.5</b>	<b>7.3</b>	<b>8.0</b>	<b>6.5</b>	<b>6.6</b>	<b>6.0%</b>
<i>% Change Year-on-Year</i>		11.5%	12.6%	8.7%	-18.1%	1.0%	

*Estimates for 2024 in italics*

*(Cont'd)*

# Metallurgical Coal Market Report

## Historical Metallurgical Coal Production (cont'd) Million tonnes

	2015	2020	2021	2022	2023	2024	% Ann Change 2015-24
<b>SUB SAHARAN AFRICA</b>							
Mozambique	4.9	3.6	3.8	3.0	3.3	<i>3.0</i>	-7.0%
South Africa	2.2	2.2	1.9	2.2	2.5	<i>2.4</i>	0.8%
Zimbabwe	0.2	0.3	0.6	0.8	1.0	<i>1.3</i>	24.0%
<b>TOTAL - SUB SAHARAN AFRICA</b>	<b>7.3</b>	<b>6.1</b>	<b>6.3</b>	<b>6.0</b>	<b>6.7</b>	<b>6.7</b>	<b>-2.4%</b>
<i>% Change Year-on-Year</i>		-20.5%	2.7%	-5.0%	11.8%	0.4%	
<b>MIDDLE EAST &amp; NORTH AFRICA</b>							
Iran	1.0	1.0	1.0	1.0	1.0	<i>1.0</i>	0.0%
Turkey	0.3	0.3	0.3	0.3	0.3	<i>0.3</i>	0.0%
<b>TOTAL - MIDDLE EAST &amp; NORTH AFRICA</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	<b>0.0%</b>
<i>% Change Year-on-Year</i>		0.0%	0.0%	0.0%	0.0%	0.0%	
<b>ASIA</b>							
China	580.2	587.9	595.6	599.2	588.1	<i>553.5</i>	0.4%
India	30.0	23.4	25.0	29.2	32.6	<i>35.0</i>	2.2%
Indonesia	20.1	14.8	16.7	17.8	19.4	<i>20.0</i>	-0.5%
Mongolia	12.7	23.8	14.0	25.6	53.9	<i>60.0</i>	11.7%
Vietnam	0.1	0.1	0.1	0.1	0.1	<i>0.1</i>	0.0%
<b>TOTAL - ASIA</b>	<b>643.1</b>	<b>650.0</b>	<b>651.5</b>	<b>672.0</b>	<b>694.1</b>	<b>668.6</b>	<b>0.9%</b>
<i>% Change Year-on-Year</i>		-1.6%	0.2%	3.2%	3.3%	-3.7%	
<b>AUSTRALIA</b>							
Australia	189.4	175.5	171.3	171.0	154.5	<i>147.5</i>	-2.5%
New Zealand	1.7	1.0	1.1	1.1	1.2	<i>1.1</i>	0.8%
<b>TOTAL - AUSTRALIA</b>	<b>191.0</b>	<b>176.5</b>	<b>172.4</b>	<b>172.1</b>	<b>155.6</b>	<b>148.6</b>	<b>-2.5%</b>
<i>% Change Year-on-Year</i>		-6.3%	-2.4%	-0.1%	-9.6%	-4.5%	
<b>TOTAL - WORLD</b>	<b>1,024.0</b>	<b>1,012.1</b>	<b>1,014.4</b>	<b>1,031.9</b>	<b>1,037.2</b>	<b>1,006.1</b>	<b>0.1%</b>
<i>% Change Year-on-Year</i>		-3.4%	0.2%	1.7%	0.5%	-3.0%	

*Estimates for 2024 in italics*

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Europe	Production, Million tonnes			Comments
	2022	2023	2024	
Czech Republic	0.9	0.5	0.3	<p>Following the liquidation of the UK-listed mining company New World Resources in 2016, production continued at the <b>OKD</b> mines under the management of state company, Prisko. Historically, eight mines operated in the Karvina area. The last mine, CSM, was due to close in 2022, but now it will stay open until 2025. Its production last year was 0.5m tonnes. Customers have been the Czech coke plants, plus US Steel Kosice and voestalpine.</p> <p><i>Long-Term Outlook: Operations are to continue until 2025 at least, possibly 2030.</i></p>
Poland	11.0	10.9	9.5	<p><b>Jastrzebska Spolka Weglowa (JSW)</b> mines hard coking coal at Borynia-Zofiowk, Jastrzebie-Bzie, Knurów-Szczygłowice and Pniówek, and semi-soft coal at Budryk. Gas explosions at Pniówek in 2023 has disrupted production this year. Since around 2021-22 Polish state company <b>PGG</b> has been supplying semi-soft coal to the coke industry.</p> <p>Around 70% of Polish coal production is used domestically, the rest exported to Austria, Czech Republic and Slovakia.</p> <p><i>Long-Term Outlook: Substantial investment is needed to sustain production in Poland, but there is political support for its continuation.</i></p>
United Kingdom	-	-	-	<p>Australian-backed <b>West Cumbria Mining</b> is proposing a mine at Whitehaven. It would extract 3m tpy of coking coal from underneath the Irish Sea. Despite local opposition, the local authority supports the project. In September the UK High Court ruled against the project going ahead.</p>
<b>Total Europe</b>	<b>11.9</b>	<b>11.4</b>	<b>9.8</b>	

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Eurasia	Production, Million tonnes			Comments
	2022	2023	2024	
Kazakhstan	2.6	2.6	3.1	<p>There are eight underground mines in the Karaganda region supplying the Temirtau coke plant. These mines have also exported to Russia and Ukraine. Control passed from <b>ArcelorMittal</b> to the Kazakh government in 2023, along with the steel plant.</p> <p>Production has declined from a recent peak of 4.8m tonnes in 2014 to 2.6m tonnes last year. This appears to be due to declining reserves. There are also safety issues at the mines. This year has seen an increase in production, however.</p> <p><i>Long-Term Outlook: Under the government management there is an attempt to raise coal production.</i></p>
Russia	69.1	66.2	64.0	<p>Russian steelmakers are self-sufficient in coking coal, although the quality is not high by international standards. The main region for production is the Kuznetsk basin in the southern part of western Siberia (75-80% of the production). There is also production from the Pechora and South Yakutsk basins. Exports are almost equally split between the Kuzbass and South Yakutsk basins. There are around 10 major producers of metallurgical coal in Russia.</p> <p>Since 2022, official customs data for Russian metallurgical coal exports have been unavailable. From August 2022, Russian coal was blocked from European markets, so shipments have been diverted to other countries, China in particular. A source in Russia estimates that metallurgical coal exports were 31.2m tonnes in 2023, 5% lower than in the previous year.</p> <p><b>Evrax</b> is the leading producer of metallurgical coal in Russia. Some is for its own use, but there are also outside sales to other Russian companies as well as exports. It has three mines.</p>

(Cont'd)

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Eurasia (cont'd)	Production, Million tonnes			Comments
	2022	2023	2024	
Russia (cont'd)	69.1	66.2	64.0	<p>In 2011 <b>Mechel</b> began mining the Elga resource. Mechel later sold 49% of Elga to Gazprombank to reduce debts. In 2020 the Elga mine was bought by A-Property.</p> <p>Russia's largest steel plant MMK meets around 40% of its own coking coal demand through the production of its subsidiary. At two mines, <b>MMK Coal</b> produces around 3m tpy.</p> <p>Steel group <b>Severstal</b> produces enough coking coal to meet most of its own demand. Its production is 4.5-5.0m tpy.</p> <p>Other metallurgical coal producers include <b>Sibuglemet</b>, <b>Stroyservis</b> and <b>SDS-Ugol</b>.</p> <p><i>Long-Term Outlook: Unhindered by the environmental constraints of their counterparts in Australia and North America, Russian producers continue to expand output. National policy supports self-sufficiency in metallurgical coal.</i></p>
Ukraine	4.0	2.0	2.0	<p>Coal mining is primarily in the eastern region of Donetsk. Mines are deep and seams narrow, leading to high costs of extraction. Production is in long-term decline; back in 2001-02, production was around 40m tpy. Ukraine's costs are high by international standards. Methane evolution makes many mines unsafe and prone to explosions.</p> <p><i>Long-Term Outlook: Largely out of solidarity with Europe, Ukraine has committed to phasing out coal mining by 2035. However, much of the capacity is in the eastern areas of Donetsk and Luhansk, outside of the government's control. Coal mining is the major employer in this region.</i></p>
<b>Total Eurasia</b>	<b>75.7</b>	<b>70.8</b>	<b>69.1</b>	

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

North America	Production, Million tonnes			Comments
	2022	2023	2024	
Canada	28.6	30.1	30.7	Canada is the world's third-largest sea-borne exporter of metallurgical coal after Australia and the US. Annual production has been around 30m tonnes in recent years, most of which is exported. Asia accounts for around 85% of Canada's exports, Europe just less than 10%. Most production is in British Columbia, well placed for exports to Asia. There are also coal resources in Alberta.

*A listing of Canada's metallurgical coal mines is on the next page.* Teck Coal has been by far the largest producer, accounting for 80-85% of Canada's exports. In 2024 the acquisition by **Glencore** of Teck's coal assets was finalized. **Conuma Resources** is the other significant producer in Canada. There are other resources, which might be developed in the future.

*Long-Term Outlook: Asian buyers have always supported an expansion to Canadian capacity to supply an alternative to Australia. But Canadian government policy will not support any major expansion to coal production.*

*(Cont'd)*

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

#### Canadian Metallurgical Coal Capacity

<b>Companies Mine Locations</b>	<b>Capacity, Million tpy</b>	<b>Details</b>
Colonial Coal <i>Flatbed, Hugeunot</i>	-	Colonial Coal holds coal resources in British Columbia. Potential production is 3.5-5m tpy, but there is no time-frame for development.
Conuma Coal Resources <i>Brule, Willow Creek, Wolverine, Quintette</i>	5.5	In 2016 Conuma Coal Resources acquired three idle mines from Walter Energy and restarted production at two of them – Brule and Wolverine. Brule produces low-volatile PCI coal, Wolverine hard coking coal. Restarted in 2018, Willow Creek produces both hard coking and PCI coal. The Wolverine mine has run out of coal and is being closed this year. After more than 20 years idle, the Quintette mine restarted in 2024.
CST Canada Coal <i>Grande Cache</i>	2.0	Grande Cache in Alberta closed in 2015, and its Asian owner went bankrupt in 2017. The following year, an entity known as Sonicfield Global bought the mine and ultimately restart production under the management of CST Canada.
Glencore <i>Elkview, Fording River, Greenhills, Line Creek</i>	27.0	Glencore's acquisition of Teck Coal's assets is being finalized in 2024. Nippon Steel and Posco will hold minority stakes. Coking coal production in 2023 was 23.7m tonnes in 2023. The Coal Mountain and Cardinal River (Alberta) mines closed in 2018 and 2020, respectively, production increasing from the other mines to compensate. About three-quarters was hard coking coal, the remainder lower grades of metallurgical coal. Most sales are in Asia.
<b>Total</b>	<b>34.5</b>	



# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

North America (cont'd)	Production, Million tonnes			Comments
	2022	2023	2024	
Mexico	0.8	0.2	0.2	<p>A subsidiary of steelmaker Ahmsa – Mimosa – used to mine coal at Coahuila. In 2022 it closed “Mine VII” after 15 years of operation and started operations from “Mine VIII”. With the closure of Ahmsa, operations at Mimosa halted in 2023.</p> <p>Coking coal is still produced at Nueva Rosita on a small scale for local coke production.</p> <p><i>Long-Term Outlook: With Ahmsa’s bankruptcy, Mexican metallurgical coal production will be lower in the future.</i></p>
United States	55.5	60.4	64.4	<p>US coking coal production is in the states of Alabama, Kentucky, Virginia and West Virginia. Resources are primarily located in the Appalachian region. Around 60% of US metallurgical coal production is high-volatile, the rest mid- and low-volatile grades.</p> <p>In 2011-12, US metallurgical coal production exceeded 80m tonnes but declined thereafter. Production has seen an upturn since 2020, however, due to a rise in exports.</p> <p>US metallurgical exports peaked at 65m tonnes in 2013. Last year’s exports were 47m tonnes, the highest since 2019. Due to the embargo on Russia, exports to Europe increased in 2022 but were lower last year. Asian markets – China, India, Japan and South Korea, primarily – took 46% of total exports last year. Major traders in US coal for export are <b>International Materials</b> and <b>Xcoal</b>.</p>

(Cont'd)

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

North America (cont'd)	Production, Million tonnes			Comments
	2022	2023	2024	
United States (cont'd)	55.5	60.4	64.4	<p><i>A listing of US metallurgical coal mines is on the next three pages.</i> Since 2015, substantial restructuring of the US industry has taken place. Companies such as Mechel, Severstal and SunCoke have exited the metallurgical coal business. Alpha Metallurgical Resources is the largest single producer, with a capacity of 17m tpy.</p> <p>There are around 20 or so producers of metallurgical coal in the US. Their total capacity is estimated to be around 76m tpy. Current capacity utilization in the US appears to be 80-85%, therefore. We count 66 separate mines, indicating that the average capacity per mine is just 1.1m tpy, therefore.</p> <p><i>Long-Term Outlook: Company restructuring following the poor market of 2013-15 has left the US coking coal sector fragmented. Costs of the US coal industry appear on average higher than those of its main competitors in the sea-borne market, Australia and Canada.</i></p>
<b>Total North America</b>	<b>84.9</b>	<b>90.7</b>	<b>95.3</b>	

(Cont'd)

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

#### US Metallurgical Coal Capacity

<b>Companies Mine Locations</b>	<b>Capacity, Million tpy</b>	<b>Details</b>
Allegiance Coal <i>Black Warrior, New Elk Mine</i>	-	Australian-registered Allegiance Coal bought the New Elk Mine in Colorado in 2020 and restarted it in 2021. It bought the Black Warrior mine in Alabama in 2021 and restarted production. The company went into bankruptcy in 2023.
Allegheny Metallurgical <i>Volga</i>	1.0	A small metallurgical coal mine situated in West Virginia. An expansion to 3.0m tpy is due from next year. A fire disrupted production in 2024.
Alpha Metallurgical Resources <i>88 Strip, Bear Ridge Upper Banner, Deep Mine 41 &amp; 44, Long Branch (Virginia), Black Eagle, Road Fork 52, Horse Creek Eagle, Panther Eagle, Checkmate Powellton, Workman Creek North &amp; South, Kingston No 2, Kingston North &amp; South, Glen Alum, Jerry Fork Eagle, Cedar Grove No 3, Lynn Branch, Davy Branch, Rolling Thunder (West Virginia)</i>	17.0	In 2018 Contura merged with Alpha Natural Resources, one of the leading metallurgical coal suppliers in the US. Before 2015, the two companies were a single entity, when Alpha filed for bankruptcy. The combined entity now operates as Alpha Metallurgical Resources. Its mines are in Virginia and West Virginia and number 21 currently. It is the single-largest metallurgical coal producer in the US.
American Carbon <i>Deane Mining, Knott County, McCoy Elkhorn, Gold Star, Wyoming County</i>	2.5	From 2015 American Resources acquired assets in eastern Kentucky and West Virginia and restarted production. The business is known as “American Carbon”.
American Consolidated Natural Resources (ACNR) <i>Oak Grove</i>	4.0	The Oak Grove mine is in Alabama. ACNR emerged in 2020 from the bankruptcy of Murray Energy the previous year. Murray Energy itself was the outcome of the bankruptcy of Mission Coal in 2018.

(Cont'd)

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

#### US Metallurgical Coal Capacity (cont'd)

<b>Companies Mine Locations</b>	<b>Capacity, Million tpy</b>	<b>Details</b>
Arch Resources <i>Beckley, Leer, Leer South, Mountain Laurel</i>	8.0	Arch Resources emerged from bankruptcy in 2016 and is now the leader in high-volatile coking coal in the US. It mines metallurgical coal at four locations in Appalachia. Its largest mine, Leer, began operating in 2011-13. Leer South entered production in 2021.
Blackhawk Mining <i>American Eagle, Blue Diamond, Kanawha Eagle, Maple Eagle, Rockwell</i>	6.5	Blackhawk was formed in 2010 and has grown by acquisitions. Currently, it has five metallurgical coal mines, including Maple Eagle acquired in 2020.
Caretta Minerals <i>West Virginia</i>	1.0	After a three-year closure, JSW Steel restarted production at its West Virginia mines in 2018. In September 2023 an agreement was reached to sell the coal assets to West Virginia Properties.
Cleveland-Cliffs <i>Mid Vol, Concept</i>	2.6	Along with ArcelorMittals's other US assets, Cleveland-Cliffs acquired these two mines in 2020. The mines are in Virginia and West Virginia, respectively.
Consol Energy <i>Bailey, Enlow Fork, Harvey, Itmann</i>	2.5	Consol has three mines in northern Appalachia producing both thermal and metallurgical (semi-soft) coal. Operations began at Itmann, West Virginia in 2020.
Coronado Coal <i>Buchanan, Greenbrier, Logan</i>	7.0	Established in 2011 in Canada, Coronado Coal has three mines in Central Appalachia as well as operations in Australia. It switched its registration to Australia in 2018. Coronado acquired its largest US mine, Buchanan, from Consol in 2016. Greenbrier has been idle since 2020.
Corsa Coal <i>Acosta, Casselman, Horning, Schrock Run</i>	2.0	Canadian-registered Corsa Coal focuses on metallurgical coal, mined in Pennsylvania. Acosta was opened in 2017, Horning in 2018.

(Cont'd)

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

#### US Metallurgical Coal Capacity (cont'd)

<b>Companies Mine Locations</b>	<b>Capacity, Million tpy</b>	<b>Details</b>
Drummond Coal <i>Twin Pines</i>	1.0	Primarily a thermal coal producer, Drummond has coking coal production in Alabama. It sold the Shoal Creek mine to Peabody in 2018.
Peabody Energy <i>Shoal Creek</i>	1.0	Peabody acquired Shoal Creek in Alabama from Drummond in 2018. It also produces metallurgical coal in Australia.
Ramaco Resources <i>Berwind, Elk Creek, Knox Creek, RAM Mine</i>	4.0	Elk Creek in West Virginia began production in 2016 and accounts for most of Ramaco's production. Knox Creek was acquired from Alpha Natural Resources in 2016. There is no activity at RAM Mine. Berwind started producing in 2022.
Rosebud Mining <i>Cresson, Madison, Mine 78</i>	4.5	The Cresson mine restarted in 2017. Rosebud's three metallurgical coal mines are in Pennsylvania.
United Coal (Metinvest) <i>Affinity, Carter Roag, Pocahontas, Wellmore</i>	3.0	Metinvest of Ukraine acquired United Coal in 2009. It operates via three subsidiary companies with four mines located in Kentucky, Virginia and West Virginia.
Warrior Met Coal <i>No 4, No 7</i>	8.0	On the bankruptcy of Walter Energy in 2015, its two Alabama mines passed into the ownership of a new entity, Warrior Met Coal. It has two mines, both of high depth, exploiting the Blue Creek seam. It supplies domestic and export markets. An expansion - the Blue Creek Mining Complex - is due from 2026.
<b>Total</b>	<b>75.6</b>	

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Latin America	Production, Million tonnes			Comments
	2022	2023	2024	
Brazil	0.1	0.1	0.1	There is minor production in the southern state of Santa Catarina for foundry coke production.
Colombia	7.9	6.4	6.5	<p>Metallurgical coal reserves are in Boyaca, Cucuta and Cundinamarca. Mining is small-scale and underground, operators numbering up to 2000.</p> <p>Most of Colombia's production is used by domestic coke plants. Exports were 1.2m tonnes last year, the lowest level for three years. Markets were primarily Brazil, China and Japan. Exporters last year were <b>Bulk Trading, Camco, Coquecol</b> and <b>Trafigura</b>.</p> <p>The main producers are <b>Acerias Paz Del Rio, Carbocoque, Carbones Andinos, Coquecol</b> and <b>Milpa</b>, primarily for internal use.</p> <p><i>Long-term Outlook: Thermal coal is a major contributor to Colombia's economy, so the country is unlikely to discourage its mining in the near term. Metallurgical coal production primarily meets demand from the domestic coke industry.</i></p>
<b>Total Latin America</b>	<b>8.0</b>	<b>6.5</b>	<b>6.6</b>	

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Sub-Saharan Africa	Production, Million tonnes			Comments
	2022	2023	2024	
Mozambique	3.0	3.3	3.0	<p>It is estimated that Mozambican metallurgical coal exports were 3.3m tonnes in 2023, with India by far the largest single market. In 2017 and 2018 exports exceeded 7m tonnes but have since been lower.</p> <p>Coal mining was restarted in Mozambique in 2011 by Brazilian group Vale. The reserves in Tete province are mined using open-cast techniques. Exports have been below expectations due to logistical and operational problems. The quality of the coal reserves is also far below that originally suggested by studies.</p> <p>In 2022 <b>Vale</b> concluded the sale of the Tete coal mine to <b>Vulcan Minerals</b>, part of the <b>Jindal Group</b> of India, for \$270m. Vulcan Minerals is the only company actively extracting coal in Mozambique currently.</p> <p>A Vale-led consortium completed a 900 km railway line from Moatize to Nacala port in 2015, along with port infrastructure.</p> <p>In 2014 Rio Tinto sold its Mozambican assets to <b>International Coal Ventures Ltd (ICVL)</b>, controlled by some Indian steel companies, including SAIL. The price of \$50m represented a huge write-down on its initial investment of \$3.7bn. ICVL does not appear to be active currently.</p> <p><i>Long-term Outlook: Due to low quality and high costs, coal exports from Mozambique are unlikely to become significant.</i></p>

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Sub-Saharan Africa (cont'd)	Production, Million tonnes			Comments
	2022	2023	2024	
South Africa	2.2	2.5	2.4	<p>Production of metallurgical coal in South Africa is primarily to supply domestic demand. The Grooteegeluk mine in Limpopo of <b>Exxaro</b> produces coking coal for ArcelorMittal's South African coke plants. The quality is semi-soft.</p> <p>In 2011-13, Coal of Africa produced semi-soft coal at Vele in Limpopo, close to the Zimbabwean border. The mine is on care and maintenance. The company was re-named <b>MC Mining</b> in 2017.</p> <p>MC Mining has several coal assets, but Makhado is the furthest advanced. Makhado could potentially produce up to 0.9m tpy of hard coking coal. This year doubts have emerged on the ability of MC Mining to continue as a viable business. We believe that Makhado is unlikely to proceed.</p> <p><i>Long-term Outlook: Little prospect of any significant increase in production of metallurgical coal in South Africa.</i></p>
Zimbabwe	0.8	1.0	1.3	<p>The long-term primary coal producer, state-owned <b>Hwange Colliery</b>, is massively in debt and loss-making. It has been in administration since 2018, though output has been recovering. Its focus has switched to thermal coal away from coking.</p> <p>There has been a recent rise in Zimbabwe's coking coal production due to the involvement of Chinese companies, primarily for their own Hwange coking plants. These mines would appear to be operating illegally.</p> <p><i>Long-term Outlook: Output is rising due to Chinese investment and participation.</i></p>
<b>Total Sub-Saharan Africa</b>	<b>6.0</b>	<b>6.7</b>	<b>6.7</b>	



# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Middle East & North Africa	Production, Million tonnes			Comments
	2022	2023	2024	
Iran	1.0	1.0	1.0	<p>Iran has three coking coal mines with a combined output of around 1m tpy, insufficient to meet all demand. Despite international trade sanctions, imports continue, Australia and Russia being the most likely sources.</p> <p>In 2014, Esfahan Steel acquired <b>East Alborz Coal Mines Co (Eacmco)</b>, the largest coal mine in Iran. There is also <b>Kerman Coal Mines</b>.</p> <p>Iranian Mines &amp; Mining Industries Development &amp; Renovation Organisation (Imidro) has plans to raise coking coal production to 4m tpy, time-frame unknown.</p>
Turkey	0.3	0.3	0.3	<p>Coking coal is produced in the Zonguldak region of Turkey, close to the Erdemir and Kardemir steel plants. Mining appears to be under the control of state-owned <b>Turkiye Taskomuru Kurumu</b>, which receives large government subsidies.</p>
<b>Total Middle East &amp; North Africa</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Asia	Production, Million tonnes			Comments
	2022	2023	2024	
China	599.2	588.1	553.5	<p>In China, the main sources for hard coking coal are Guizhou, Henan and Shanxi provinces. Lesser grades of coking coal are mined in Anhui, Guizhou, Hebei, Heilongjiang, Henan, Jiangsu, Shandong, Shanxi and Yunnan.</p> <p>By some margin, China is the world's largest coking coal producer. Totals shown are estimated from coke production and metallurgical coal trade balance.</p> <p>Since 2017, the Chinese government has been stepping up its efforts to close unsafe and unprofitable mines, with the aim of improving the environmental situation. There is considerable over-capacity in the coal-mining industry, which means prices have often been below costs.</p> <p><i>Long-Term Outlook: Due to government pressure, production is set to decline in the future. But outright elimination of Chinese coal production is improbable for many decades, when the economy has matured and technical alternatives to coke-based steelmaking are proven.</i></p>
India	39.2	32.6	35.0	<p>State-owned <b>SAIL</b> produces metallurgical coal for its own use at Chasnalla and Jitpur in the Jharia field. <b>Tata Steel</b> has coal mining at West Bokaro and Jharia (Jharkhand). Between them, these two groups control all of Indian's coking coal resources. Output has been increasing in recent years, according to government data.</p> <p><i>Long-Term Outlook: Reserves of high-quality coking coal are limited in India, so imports will continue to be significant. Like China, India will not sign up to any elimination of coal production and usage for the foreseeable future.</i></p>

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Asia (cont'd)	Production, Million tonnes			Comments
	2022	2023	2024	
Indonesia	17.8	19.4	20.0	Japan has imported coking coal from Indonesia for many years, primarily semi-soft quality. China and India also import metallurgical coal from Indonesia. With the investment in coke capacity in Sulawesi, there is growing demand for metallurgical coal in Indonesia; but most or possibly all of this is being imported.

The Central Kalimantan area of Indonesian Borneo has good-quality coking coal resources, though due to its remote location, most remain untapped. The terrain is challenging, so building infrastructure would be difficult and expensive. There is also environmental opposition to coal mine development.

A BHP Billiton-Adaro Energy joint venture developed the Maruwei resource in this area. **Adaro Energy** bought out BHP Billiton's share in 2016. Adaro's Lampunut mine is Indonesia's only source of hard coking coal, according to the company. From 2020-21, Adaro ceased mining semi-soft coal to focus resources on hard coal from Lampunut. It produced 4.5m tonnes of hard coking coal in 2023, 34% higher than in the previous year. Adaro also owns the Kestrel mine in Australia.

*Long-Term Outlook: Although the government has a broadly "pro-coal" stance, logistical shortfalls obstruct the further development of Indonesia's metallurgical coal resources.*

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Asia (cont'd)	Production, Million tonnes			Comments
	2022	2023	2024	
Mongolia	25.6	53.9	60.0	<p>Mongolia has become a significant source of coking coal for China, its exports increasing from less than 5m tpy before 2010 to more than 50m tonnes last year. This year they will be higher again. It should be noted that much of the Mongolian coal is exported in the “run of mine” state, so the data may over-state the useable volume.</p> <p>Our data are extracted from Chinese import data; a corruption scandal occurred in 2023, as it seems much of the coal was not declared to the customs authority of Mongolia. Before 2022, all coal was moved by truck to Baotou in China, from where it went to the steelmaking areas by rail. In 2022, however, a 233 km rail line to the Chinese border was opened, cutting transport costs dramatically.</p> <p>The main resource is Tavan Tolgoi in southern Mongolia, one of the world’s largest coal deposits. State-owned <b>Erdenes Mongol</b> was established in 2007 to oversee the strategic development of the country’s mineral assets including coal.</p> <p>Other producers are locally controlled <b>Energy Resources (Mongolian Mining Corp)</b> and <b>SouthGobi Resources</b>. There are more than 30 coking coal mines in Mongolia.</p> <p>Australian-registered <b>Aspire Mining</b> is developing the Ovoot and Nuurstei coking coal projects. In 2019, a development plan envisaged a 4m tpy operation for Ovoot. The project’s viability was increased by a proposed rail link with Russia.</p> <p><i>Long-term Outlook: Improvement in rail links with China and Russia is leading to a rise in Mongolian coal exports.</i></p>
Vietnam	0.1	0.1	0.1	Vietnam Steel uses up to 100,000 tpy of coking coal produced locally.
<b>Total Asia</b>	<b>672.0</b>	<b>694.1</b>	<b>668.6</b>	

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Australia	Production, Million tonnes			Comments
	2022	2023	2024	
Australia	171.0	154.5	147.5	Australia is the world's leading exporter of metallurgical coal, accounting for more than half of world trade. Over the last ten years, the export volume has declined by 3% per year on average. Asia remains by far the largest market for Australian metallurgical coal, accounting for 83% of the total exports last year; due to embargo, the customs data show minimal exports to China. The main markets in Asia were India, Japan and South Korea, followed by Taiwan and Vietnam. Europe was the other major market, accounting for 13% of exports.

Metallurgical coal is produced in several regions of Australia:

- High-volatile soft and semi-soft coking coals from the Newcastle and Hunter Coalfields, New South Wales;
- Low- and mid-volatile hard coking coals from the Southern Coalfields, New South Wales;
- Low-, mid- or high-volatile hard coking coals from the Bowen Basin, Queensland.

In recent years, **BHP** has been Australia's leading producer of metallurgical coal via two joint ventures with Japanese companies: **BHP Mitsubishi Alliance (BMA)** and **BHP Mitsui Coal (BMC)**. In 2022 Stanmore Resources acquired outright control of the BMC mines; and in 2023 BMA sold two mines to Whitehaven Coal. BMA still operates five mines in Queensland but has indicated that eventually it will dispose of them.

**Anglo American** is the second-largest metallurgical coal producer in Australia after BMA. Others include **Glencore**, **Stanmore Coal**, **QCoal** and **Yancoal**.

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# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Australia (cont'd)	Production, Million tonnes			Comments
	2022	2023	2024	
Australia (cont'd)	171.0	154.5	147.5	<p>There are four companies active in metallurgical coal in New South Wales. They operate 11 mines with a combined 21m tpy capacity, mainly semi-soft grades. Yancoal bought out Glencore's interest in its joint venture, and it is now by far the largest metallurgical coal producer in New South Wales.</p> <p>In Queensland, there appear to be 13 enterprises active with around 37 mines; total capacity is 187m tpy.</p> <p>After a ten-year freeze, Queensland State hiked the royalty rates from 15% to 40% on coal prices exceeding A\$300/tonne in 2022. New South Wales increased royalties in 2023.</p> <p>Australia's total mine capacity for metallurgical coal is approximately 210m tpy, therefore. So capacity utilization appeared to be around 75% last year.</p> <p>In 2022 <b>Pembroke Resources</b> began developing a new mine in Queensland's Bowen Basin for coking coal, Olive Downs. Ultimate capacity is intended to be 15m tpy. Production started in 2023.</p> <p><i>Long-Term Outlook: Australian government remains committed to coal production due to the economic benefit that New South Wales and Queensland derive from it. Larger international resource groups are in the process of exiting coal, however, transferring the assets to local companies.</i></p>

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# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

#### Australian Metallurgical Coal Capacity

<b>Companies Mine Locations</b>	<b>Capacity, Million tpy</b>	<b>Details</b>
<b><i>New South Wales:</i></b>	<b><i>21.0</i></b>	
Illawarra Metallurgical Coal <i>Appin, Dendrobrium</i>	7.0	In 2024 South32 sold the Appin and Dendrobrium mines to an entity controlled by Singapore-registered Golden Energy & Resources and M Resources. These mines produce hard grades for BlueScope Steel, as well as exporting. In 2022 South32 announced that it would not proceed with a major investment in Dendrobrium, indicating that the mine will not continue beyond 2028. Appin is likely to continue to at least 2039.
SIMEC Mining <i>Tahmoor</i>	2.0	In 2018, Glencore sold the Tahmoor mine to SIMEC Mining, a division of GFG Alliance. GFG owns OneSteel in South Australia, where the coke plant closed last year. Tahmoor primarily produces hard coking coal. An extension was opened in 2022, adding ten years to the mine-life.
Whitehaven Coal <i>Maules Creek</i>	3.0	Primarily a thermal coal producer, Whitehaven extracts semi-soft coking coal from Maules Creek, which began operating in 2015. In 2023 Whitehaven Coal purchased of two of BMA's coking coal mines in Queensland.
Yancoal <i>Ashton, Bulga, Integra, Liddell, Mount Owen, Mount Thorley Warkworth, Ravensorth</i>	9.0	Chinese-owned Yancoal was established in 2004 and has expanded through acquisitions. Its mines in New South Wales produce semi-soft and semi-hard coals along with thermal. Five of the mines - Bulga, Integra, Liddell, Mount Owen, Ravensworth – were previously operated in a joint venture with Glencore, but Yancoal acquired full control in 2022. The Austar mine closed in 2020, and Stratford will close in 2024.

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# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

#### Australian Metallurgical Coal Capacity (cont'd)

<b>Companies Mine Locations</b>	<b>Capacity, Million tpy</b>	<b>Details</b>
<b>Queensland:</b>	<b>192.0</b>	
Anglo American <i>Aquila, Capcoal, Dawson, Grosvenor, Moranbah North</i>	23.0	Of these five mines, Grosvenor and Moranbah are Anglo's best coking coal assets. Anglo American's metallurgical coal production was 16.0m tonnes in 2023, up by 1m tonnes from the previous year. Operations at the Grosvenor mine restarted in 2022, following closure due to a gas explosion in 2020; but in 2024 it was closed again. Aquila started in 2022. In late 2024 an agreement was reached to sell Anglo's coal assets to Peabody.
BHP Mitsubishi Alliance (BMA) <i>Broadmeadow, Caval Ridge, Goonyella Riverside, Peak Downs, Saraji</i>	50.0	A joint venture between BHP (50%) and Mitsubishi Development (50%), BMA is Australia's largest metallurgical coal producer. BMA's metallurgical coal production was 44.6m tonnes in 2023-24.
Coronado Coal <i>Curragh</i>	8.5	Wesfarmers sold the Curragh mine to Coronado Coal in 2018. An extension, Mammoth Underground, began production in 2024. It will increase saleable production by 1.5-2.0m tpy.
Fitzroy Australia Resources <i>Carborough Downs</i>	2.8	Fitzroy operates Carborough Downs on behalf of AMCI and Riverstone of the US. The mine was acquired from Vale in 2016.
Glencore <i>Collinsville, Hail Creek, Oaky Creek</i>	17.0	Collinsville produces coking coal, and Oaky Creek metallurgical coal. Hail Creek produces both thermal and metallurgical coal. Glencore acquired the Hail Creek mine from Rio Tinto in 2018. Glencore owns only 55% of Oaky Creek, other companies holding the balance. The Newlands mine stopped production in 2023. Glencore produced 7.5m tonnes of hard and 4.1m tonnes of semi-soft coking coal in 2023, lower than in the previous year.
Jellinbah Group <i>Jellinbah, Lake Vermont</i>	15.0	Privately owned, the Jellinbah mine produces semi-soft and PCI coal. Lake Vermont produces hard coking and PCI coal. Marubeni and Sojitz hold minority shares in both mines. Anglo American sold its 33% share of Jellinbah in 2024.

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# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

#### Australian Metallurgical Coal Capacity (cont'd)

<b>Companies Mine Locations</b>	<b>Capacity, Million tpy</b>	<b>Details</b>
<b>Queensland (cont'd):</b>		
Kestrel Coal Resources <i>Kestrel</i>	7.1	Kestrel Coal Resources is a joint venture between Adaro Energy of Indonesia (48%) and EMR Capital of Australia (52%). The joint venture acquired Rio Tinto's 80% share in Kestrel in 2018. Mitsui continues to hold a 20% share in the mine.
Peabody <i>Centurion, Coppabella, Metropolitan, Middlemount, Moorvale</i>	8.0	A major part of the Peabody mines' production is PCI coal. They also produce thermal and hard coking coal. Elevated gas levels led to the closure of North Goonyella (3m tpy) in 2018, but mining resumed in 2024. It has been renamed Centurion. Peabody sold the Millennium mine in 2021.
Pembroke Resources <i>Olive Downs</i>	5.0	In 2023 a new mine – Olive Downs - began operating in Queensland. Capacity is ultimately targeted to reach 15m tpy.
QCoal <i>Byerwen, Cook, Cows, Drake, Jax, Sonoma</i>	16.0	QCoal was established in 1989. A joint venture with JFE Steel, the Byerwen mine started in 2018. Of the other mines, the largest are Drake and Sonoma. The mines produce hard coking and thermal coal. QCoal acquired the idle Cook mine in 2020 and restarted in 2022.

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# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

#### Australian Metallurgical Coal Capacity (cont'd)

<b>Companies Mine Locations</b>	<b>Capacity, Million tpy</b>	<b>Details</b>
<b>Queensland (cont'd):</b>		
Stanmore Coal <i>Isaac Downs, Mavis Downs, Millenium, Poitrel, South Walker Creek</i>	15.4	Issac Plains produces semi-soft coking coal and was acquired from Vale in 2015. In 2018-19, most mining transitioned to the Isaac Downs operation. Until 2022, Poitrel and South Walker Creek (SWC) were in a joint venture between BHP (80%) and Mitsui (20%), known as BHP Mitsui Coal (BMC). Poitrel produces both hard coking and PCI coal; SWC produces PCI coal. In 2022 Stanmore Resources acquired the shares of both BHP and Mitsui in BMC. Stanmore bought out M Resources' share in MetRes in 2023, thereby taking complete control of the Mavis Downs, and Millennium mines.
Whitehaven Coal <i>Blackwater, Daunia</i>	15.0	Whitehaven acquired two coking coal mines from BMA in 2024.
Yancoal <i>Yarrabee</i>	3.0	Yarrabee produces coal for PCI applications only. Yancoal also has a joint venture with Peabody for the Middlemount mine.
<b>Total</b>	<b>208.0</b>	

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

### Metallurgical Coal Production (cont'd)

Australia (cont'd)	Production, Million tonnes			Comments
	2022	2023	2024	
New Zealand	1.1	1.2	1.1	<p>Most of New Zealand's metallurgical coal production has originated from the Stockton mine on South Island. In 2017 Stockton was acquired by <b>BT Mining</b>, a joint venture between Bathurst Resources and Talleys Energy. Hard coking coal is mined at Stockton and exported.</p> <p>Stockton's coal resources are likely to be exhausted in 2026-27, so Bathurst Resources is looking to develop other coal areas on South Island. In 2024 the development of the Buller Plateaux project was approved by BT Mining and the government. The plan is to extract 20m tonnes of coking coal for exports over a 25-year period at a rate of up to 1.2m tpy.</p> <p><i>Long-Term Outlook: Production in New Zealand is to continue at the current level into the future.</i></p>
<b>Total Australia</b>	<b>172.1</b>	<b>155.6</b>	<b>148.6</b>	

# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

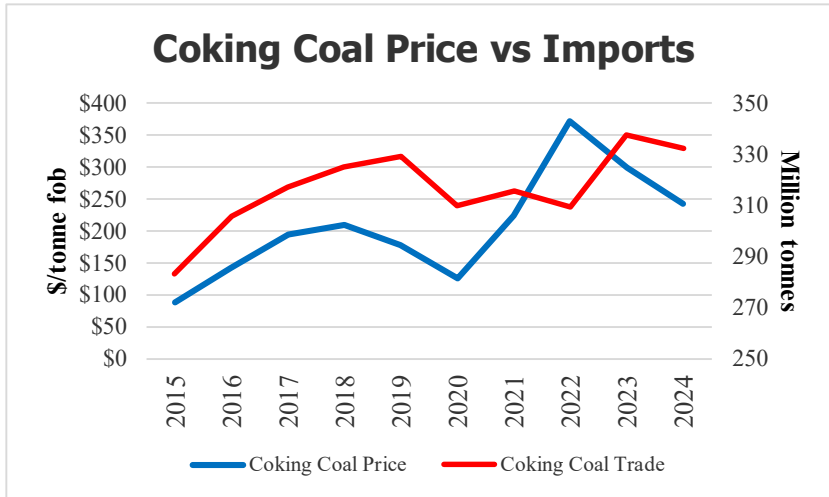
### Metallurgical Coal Trade Balance

Million tonnes	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b><u>Export Potential</u></b>										
<b>Primary Suppliers</b>										
Australia	180.0	180.0	175.0	175.0	170.0	170.0	170.0	165.0	165.0	165.0
Canada	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Indonesia	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Mongolia	35.0	35.0	35.0	50.0	60.0	70.0	80.0	80.0	80.0	80.0
Russia	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
United States	50.0	50.0	45.0	45.0	40.0	40.0	40.0	35.0	35.0	35.0
<b>Minor Suppliers</b>										
China	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Colombia	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Mozambique	5.0	5.0	5.0	5.0	5.0	5.0	5.0	8.0	9.0	10.0
New Zealand	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Poland	3.0	2.5	2.0	2.0	1.5	1.5	1.0	0.5	0.0	0.0
South Africa	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.0	1.0
<b>Total</b>	<b>368.0</b>	<b>367.5</b>	<b>356.0</b>	<b>371.0</b>	<b>370.5</b>	<b>380.5</b>	<b>390.0</b>	<b>382.0</b>	<b>382.0</b>	<b>383.0</b>
<b><u>Import Demand</u></b>										
Europe	33.4	37.8	39.9	34.2	31.1	29.2	30.0	27.4	24.3	22.8
Eurasia	8.6	9.0	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1
North America	3.9	4.1	4.3	4.0	2.4	1.9	1.3	1.2	0.7	0.7
Latin America	18.0	22.5	18.4	17.1	17.9	18.0	18.5	19.0	19.5	19.5
Sub-Saharan Africa	1.4	1.3	0.9	0.9	0.7	0.7	0.7	0.6	0.5	0.5
Middle East & North Africa	6.7	7.1	6.7	6.1	6.0	6.0	6.5	7.0	7.0	7.0
Asia	237.7	233.6	238.8	274.9	274.1	263.6	271.3	262.5	250.7	236.4
Australia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>309.6</b>	<b>315.5</b>	<b>309.4</b>	<b>337.4</b>	<b>332.3</b>	<b>319.5</b>	<b>328.4</b>	<b>317.8</b>	<b>302.8</b>	<b>287.0</b>
<b>Imports As % of Potential Supply</b>	<b>84%</b>	<b>86%</b>	<b>87%</b>	<b>91%</b>	<b>90%</b>	<b>84%</b>	<b>84%</b>	<b>83%</b>	<b>79%</b>	<b>75%</b>

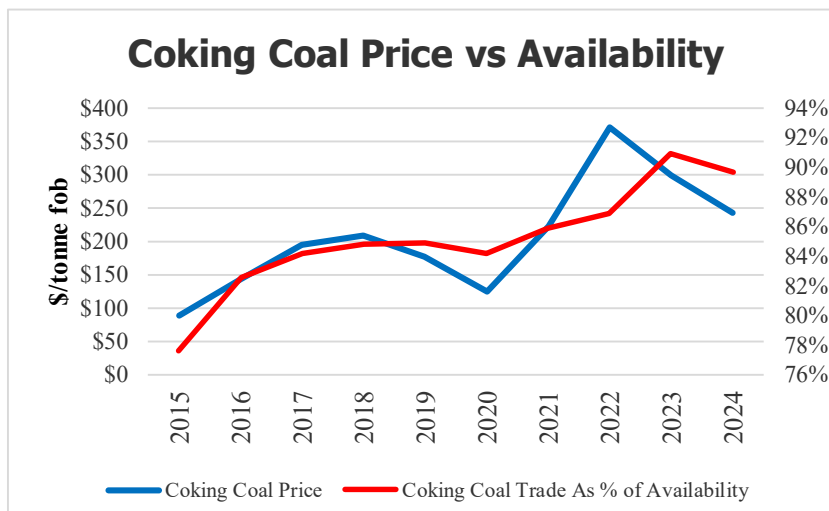
# Metallurgical Coal Market Report

## Metallurgical Coal Markets (cont'd)

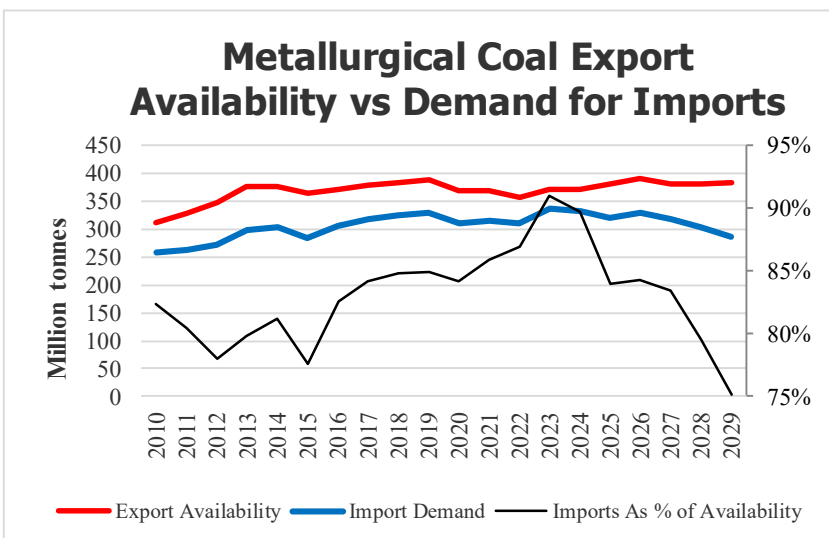
### Metallurgical Coal Trade Balance (cont'd)



*Hard coking coal price versus world import demand for coking coal*



*Coking coal price versus estimated export availability.*



*Coal export availability versus actual demand, historical and forecast to 2029.*