

COKE MARKET REPORT

Analysis of the Global Metallurgical Coke & Coal Markets

Issue 10/22

October 31, 2022

The Coke Market in October 2022

The outlook for the world economy continues to deteriorate, but commodity prices stabilized and even recovered to a degree this month.

Chinese coke prices have been \$390-410/tonne fob this month, broadly similar to the levels of the past two months. Indications have been remarkably stable in the past few weeks, with no trend either up or down. Domestic coke prices increased by ¥90 per tonne this month over September, but due to the strength of the US dollar against the yuan, there was no increase in the export price.

Exports of coke from China continue to rise. In September, Chinese exports totaled almost 1.3m tonnes, up from 1.0m tonnes in the previous month and the highest monthly total in more than six years. The banning of Russian coke from the EU has led to more demand for Chinese coke, and there also appears to have been lower availability from Japan this year compared to 2021.

From \$425-440/tonne cfr in September, Indian coke prices increased marginally to \$440-450/tonne this month. Overall, the trend in price remains upwards, primarily on the back of rising coking coal prices. In Europe, on the other hand, the trend remains negative. There was a reduction of €140-150/tonne in the foundry coke price, taking it to €710-740/tonne (\$703-733/tonne) delivered this quarter. Blast furnace coke is lower by \$20/tonne from last month, taking the indication to \$400-420/tonne cfr. Stocks are rising in Europe due to lower iron and steel production, so there is little demand.

We estimate provisionally that world coke trade was 6.9m tonnes in the third quarter, down from 7.4m tonnes in the previous quarter. This level would still be above the quarterly average for the past two years. Coke trade was higher last quarter in Asia and Brazil but lower in Europe. As indicated previously, China's share of world coke trade was higher in the third quarter: we estimate that it was 46%, up from 25% in the first quarter and 34% in the second quarter.

Coking coal prices continued their upward momentum from last month, exceeding \$290/tonne fob in the last few weeks. From a range of \$260-275/tonne fob last month, in October the range has been \$275-295/tonne fob. Third-quarter metallurgical coal trade was lower in Europe and Brazil but higher in the Asian markets. In China, imports increased sharply to 19m tonnes, 40% up on the previous quarter.

Also Including:
Pig Iron Output Data
Trade Data on Coke
& Metallurgical Coal

Chinese coke prices
stable, but export
volumes increase.

Asian prices for coke
rising, but in Europe
they are falling.

The next issue of "Coke Market Report" will be dispatched on November 28, 2022. Subscribers are required to restrict the circulation of this research report to within their own organization; see the "Conditions of Supply" available from us. "Coke Market Report" is produced monthly by Resource-Net (ISSN 2406-4343). Available under annual subscription for €570 or US\$600. Included with the subscription cost are an annual summary of market data and access to an archive of past reports. To subscribe, contact Andrew Jones at andrew@resource-net.com. Visit www.resource-net.com for details of our activities.

COKE MARKET REPORT

We estimate that world iron output will total 1.30bn tonnes in 2022, which would be 2% lower than last year. In each of the years 2016 to 2021 there was an increase in world iron output, so this year would be first in six years to see a decline. Growth has primarily been centred in China, India and some other developing Asia economies. Undertakings by many countries to “net zero carbon emissions” by 2050 has not led to any noticeable shift away from steelmaking based on the coke-fueled blast furnace, therefore. Average growth in the ten years up to 2022 was almost 2% per year.

Fall in world iron output likely this year, following six years of increases.

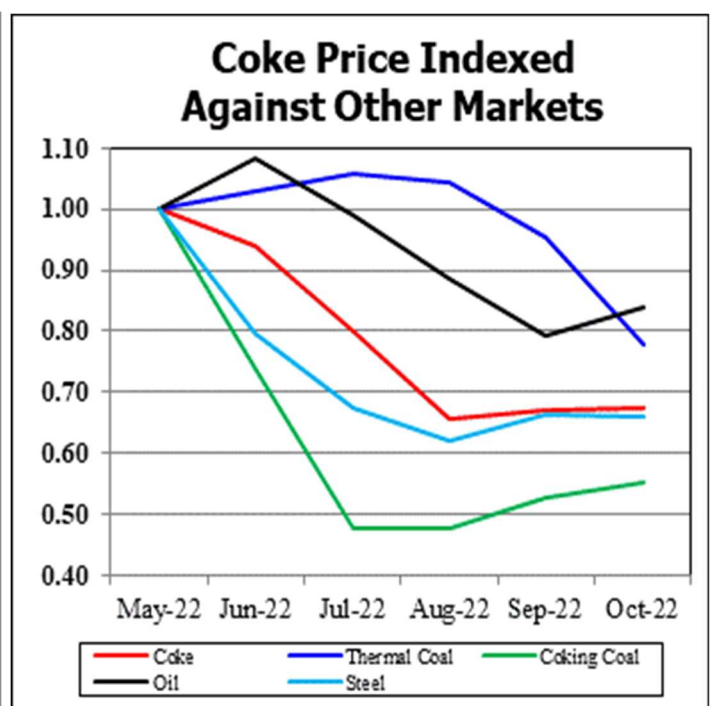
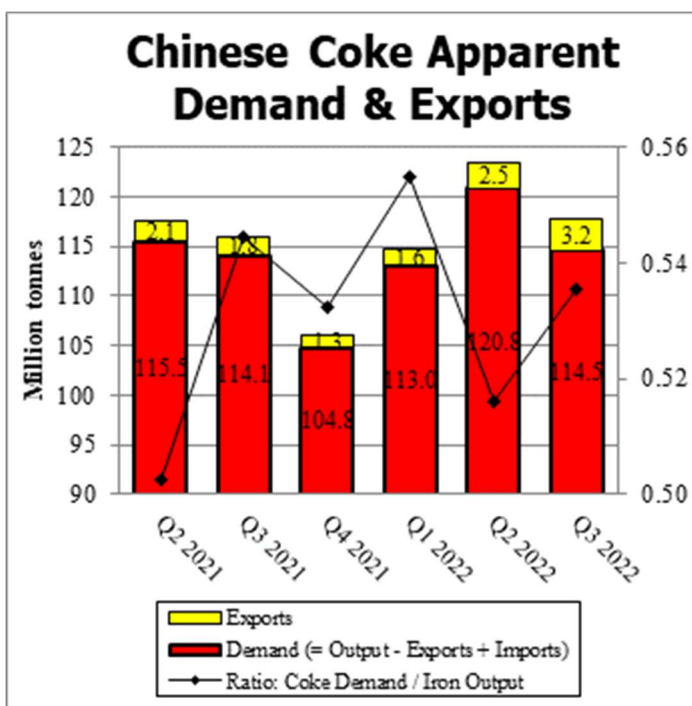
After declining steeply from May to July, world iron output has since seen a minor recovery, reaching 1.30bn tonnes last month on an annualized and seasonally adjusted basis. This represented a 3% rise from August. In Europe and North America, however, the trend remains quite negative.

Europe

In a potentially important ruling, the European Commission has declared that the use of German government funds for the “de-carbonization” of steelmaking at Salzgitter is compatible with EU law. A total of €1bn of investment from the federal and Lower Saxony state governments will be put towards the introduction of so-called “SALCOS”, standing for Salzgitter Low CO₂ Steelmaking. Together with €0.7bn from Salzgitter, this will enable the first stage to be completed by 2025, consisting of two direct-reduction iron (DRI) plants and three electric-arc furnaces. This will incrementally lead to the phase-out of coke-based steelmaking. Salzgitter has two coke batteries, with a 1.5m tpy capacity. ThyssenKrupp also recently announced a €2bn investment in a 2.5m tpy DRI plant, which would run on either “green” hydrogen or more probably natural gas. It is due to be completed by 2026.

German steel industry invests in DRI capacity, ultimately leading to lower coke production and demand.

Due to shortages in Europe, the closure of the last metallurgical coal mine in Czech Republic has been postponed. Originally due to close before the end of this year, the CSM mine of OKD will now operate until the end of 2023 at least, probably longer. It produced 2.0m tonnes of coking coal last year. This year’s planned production is 1.3m tonnes.



COKE MARKET REPORT

Europe (cont'd)

An explosion at a coal-grinding station temporarily disrupted production at JSW's Przyjazn plant in Poland last month, but operations have now returned to normal with minimal loss of production. The grinding plant should be rebuilt by April next year. The rebuild of battery #4 at Przyjazn began last year and is continuing. It is due to be completed in 2024, when battery #2 will close permanently. So Przyjazn's capacity will remain at around 2.7m tpy. Earlier this year, ownership of the small Bytom coke plant in Poland changed as well as the management. As a result, there has been some increase in production. Its capacity has been around 0.2m tpy, producing several grades of coke for the open market.

Minor disruption at one of Poland's largest coke plant this month.

Asia

ThyssenKrupp Uhde is to build and supply a coke battery for Nippon Coke & Engineering (NCE) at Kitakyushu, Japan. The top-charged, low-emission battery will replace existing battery #2A, originally built in 1980. Currently, it is scheduled to start producing in August 2024. The three remaining batteries at Kitakyushu are also to be rebuilt or repaired, but there is no schedule for this yet. The 2.0m tpy capacity at NCE produces for the merchant market, both domestic and export.

Another major investment in coke capacity in Japan.

Indian coke producers are claiming that the government's cancellation of 5% duty on coke imports back in May is leading to lower prices in the domestic market. At the same time, the duty on imported coking coal of 2.5% was also cancelled, something which would benefit the coke producers. From 0.6m tonnes in the first quarter, Indian coke imports have increased to 0.7m tonnes in the second quarter and an estimated 0.8m tonnes in the third quarter. Merchant coke capacity in India is estimated to be around 6m tpy, but actual production would be 60-70% of this.

Americas

Port data show that Colombian coke exports were 0.90m tonnes in the third quarter, a decline of 8% from the previous quarter. The total for the first nine months of 2022 was 3.1m tonnes, an increase of 7% from the same period of last year, however. Milpa remains the largest single supplier from Colombia, its exports totaling almost 0.5m tonnes so far this year. It was followed by Trafigura, Excomin, Carbomax de Colombia and Carbones Andinos.

Other markets

Coke production in Turkey is likely to be around 4.7m tonnes in 2022, which would be 1-2% up from 2021. Turkey's production has increased marginally on average over the last ten years. At Isdemir, coke battery #3 restarted this year following its rebuild by the Chinese company, ACRE. Several other coke projects over the past decade have sustained Turkish coke production at the current level.

Resource-Net's Price Projections for November 2022:

		<i>% Change from Current Month:</i>
Blast Furnace Coke (CSR 62%)	\$380-390/tonne fob China	-3.8%
Hard Coking Coal (Premium)	\$290-300/tonne fob Australia	+3.5%

METALLURGICAL COKE & COAL

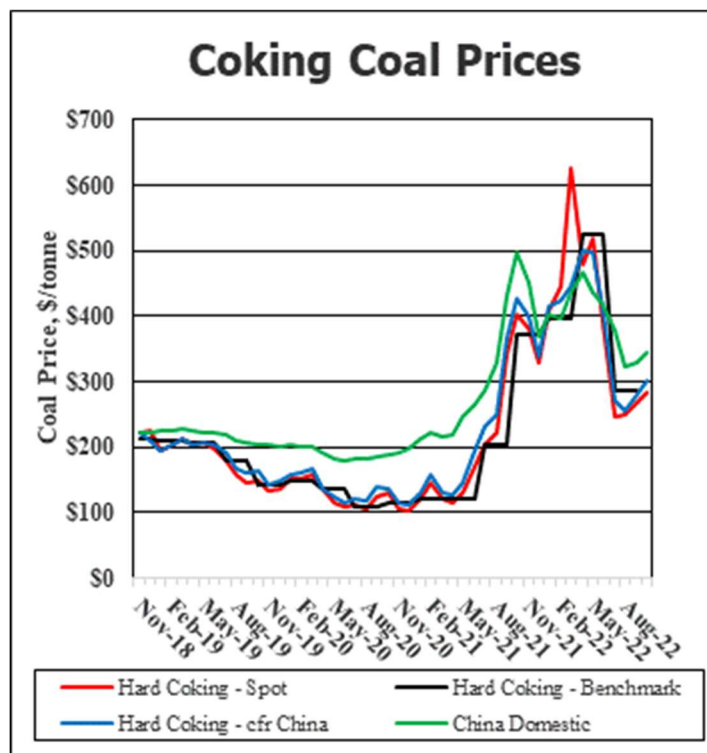
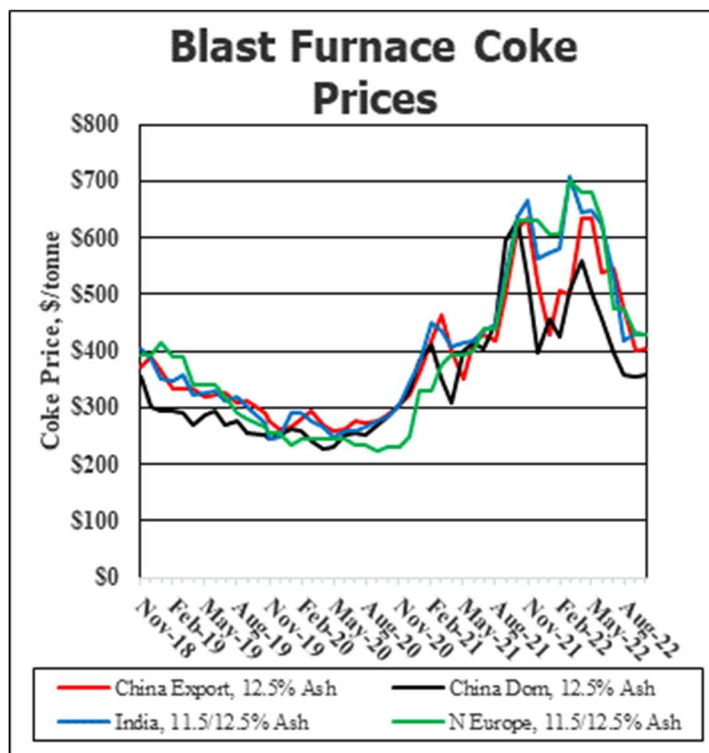
MARKET PRICES

	Aug 2022	Sept 2022	Oct 2022
US\$/tonne fob China:			
Blast Furnace Coke, 30/90mm, 12.5% Ash, 62% CSR	\$380-420	\$400-410	\$390-410
Blast Furnace Coke, 30/90mm, 12.5% Ash, 65% CSR	\$420-450	\$425-435	\$420-425
US\$/tonne cfr northern Europe:			
Blast Furnace Coke, 30/90mm, 11.5/12.5% Ash	\$450-500	\$420-440	\$400-420
Nut Coke, 10/25mm, 12/14% Ash	\$430-480	\$400-420	\$380-400
Coke Breeze, 0/10mm, 12/16% Ash	\$380-400	\$360-400	\$340-360
Foundry Coke, 90/250mm, 10.0% Ash (Delivered)	€850-890 (\$861-902)	€850-890 (\$843-883)	€710-740 (\$703-733)
US\$/tonne cfr India:			
Blast Furnace Coke, 30/90mm, 11.5/12.5% Ash	\$400-440	\$425-440	\$440-450
US\$/tonne fob Australia (Premium Grade):			
Hard Coking Coal – Spot	\$230-270	\$260-275	\$275-295
Hard Coking Coal – Quarterly Benchmark (see Note 1)	\$287	\$287	-
US\$/tonne cfr China (Premium Grade):			
Hard Coking Coal	\$220-290	\$270-290	\$295-310

Prices are obtained via discussions with industry participants. The ranges shown are representative of transactions over the entire month, so they do not necessarily indicate the prices prevailing on the report's date. They should always be interpreted alongside the report's market commentary.

Specifications are on resource-net.com/regular-research-reports/price-indications.

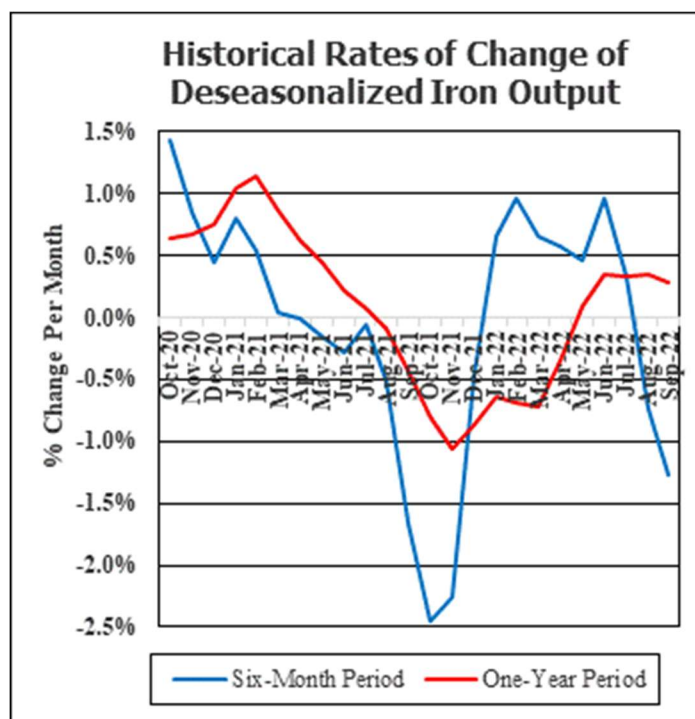
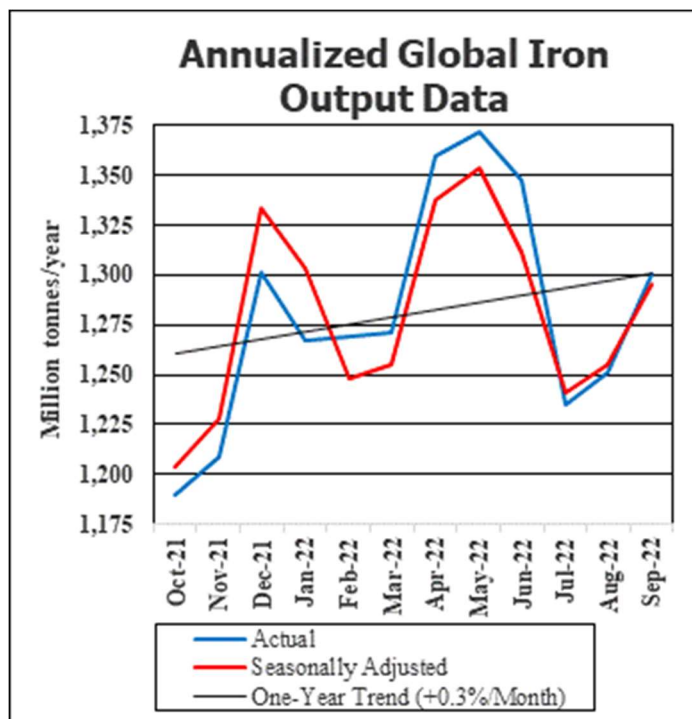
1 – The quarterly “benchmark” is the average of published daily indices of the first two months of the quarter and the last month of the previous quarter.



PIG IRON OUTPUT

SEASONALLY ADJUSTED & ANNUALIZED DATA MILLION TONNES

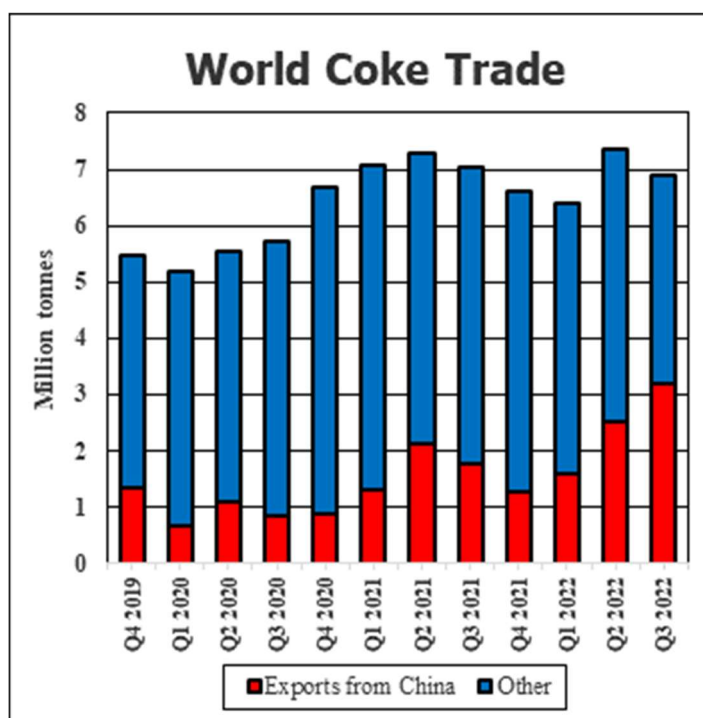
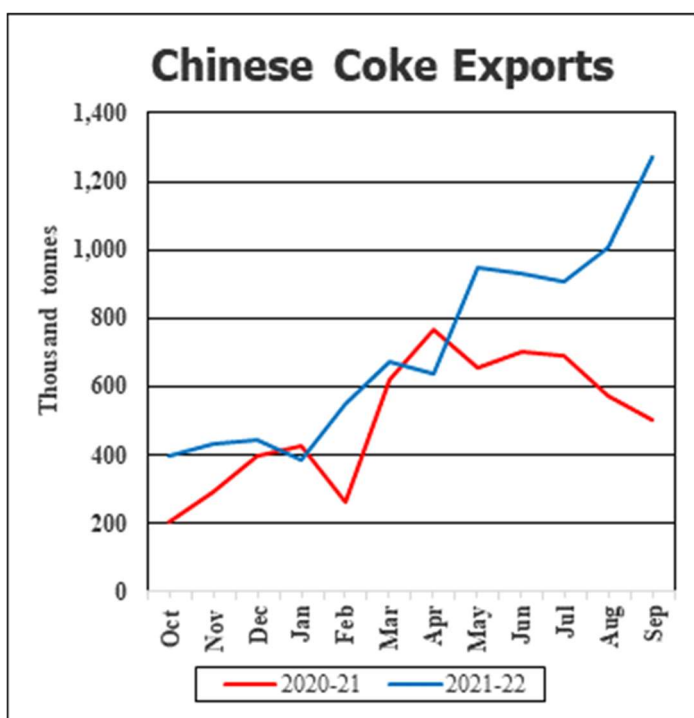
	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	% Monthly Change	
										6 Months	1 Year
Europe	84.14	82.80	78.91	82.15	83.30	80.11	79.82	80.15	75.81	-1.5%	-1.4%
Austria	6.27	5.88	6.30	6.06	6.01	5.57	5.96	5.83	5.14	-2.4%	-1.2%
France	8.49	9.47	8.90	7.01	8.69	8.77	8.13	9.08	7.48	1.0%	-1.6%
Germany	25.18	24.79	23.28	25.85	23.54	23.09	23.31	23.69	22.95	-1.7%	-1.7%
Italy	3.49	3.46	3.47	4.44	4.03	3.05	3.26	3.39	3.12	-6.7%	-1.2%
Netherlands	6.25	5.52	4.83	5.00	6.17	5.84	5.74	6.04	4.91	-0.5%	-0.7%
Spain	4.00	3.52	3.82	3.40	3.92	3.76	3.91	3.50	3.78	0.6%	-0.8%
United Kingdom	5.64	5.63	5.87	5.66	6.30	5.85	4.84	5.55	5.93	-1.0%	-1.1%
Other Europe	24.81	24.53	22.45	24.73	24.63	24.16	24.68	23.07	22.51	-1.8%	-1.4%
Americas	60.81	59.71	59.86	62.26	60.01	60.67	57.70	57.33	57.36	-1.7%	-0.6%
North America	27.36	27.48	27.52	28.32	27.68	27.07	27.11	26.61	27.10	-1.0%	-0.5%
Brazil	28.05	27.36	27.11	28.90	27.05	27.97	25.20	25.14	25.19	-2.9%	-0.7%
Other Latin America	5.40	4.86	5.22	5.04	5.29	5.63	5.39	5.59	5.06	0.4%	-0.3%
Asia	1,058.15	1,009.96	1,039.74	1,116.01	1,136.87	1,097.81	1,031.48	1,039.93	1,086.02	-1.3%	0.8%
China	852.38	806.68	832.40	912.52	930.13	900.64	834.98	841.86	896.62	-1.3%	1.1%
India	78.64	77.99	82.75	80.57	81.73	77.76	74.35	77.95	78.33	-0.9%	0.0%
Japan	68.25	68.34	68.41	66.52	67.36	63.59	61.22	62.93	61.02	-1.9%	-1.2%
South Korea	45.26	42.94	42.42	42.25	42.91	41.16	46.74	45.40	37.92	-0.6%	-0.8%
Taiwan	13.61	14.01	13.75	14.15	14.74	14.64	14.20	11.79	12.12	-4.1%	-1.9%
Africa	2.78	3.06	1.96	2.60	0.73	1.36	2.42	3.17	3.20	14.4%	-0.7%
Australia	4.59	4.56	4.29	4.50	4.39	4.60	4.20	4.24	3.72	-3.2%	-1.1%
Eurasia	80.39	76.74	59.20	57.80	56.07	55.46	55.45	57.93	57.99	0.3%	-4.0%
Middle East	12.26	10.98	11.52	12.60	12.12	11.45	10.43	12.13	11.39	-1.7%	-1.3%
TOTAL	1,303.12	1,247.79	1,255.48	1,337.92	1,353.49	1,311.46	1,241.52	1,254.88	1,295.48	-1.3%	0.3%



Pig iron data are from the World Steel Association. Output data have been de-seasonalized, i.e. adjusted for established seasonal (monthly) variations, and annualized. Monthly rates of change have been measured over periods of six months and one year.

METALLURGICAL COKE EXPORT DATA

000 TONNES	2020	2021	Qtr 1 22	Qtr 2 22	Qtr 3 22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	% Ch YoY
Coke Exports												
China												
India	393	691	182	477	465	119	61	297	75	53	336	81%
Japan	256	2,068	388	213	242	81	67	64	147	44	51	-27%
Other Asia	2,236	2,259	625	756	1256	213	231	313	215	433	608	37%
Other	604	1,437	413	1,071	1,221	225	591	256	470	475	276	110%
Total	3,489	6,455	1,609	2,518	3,184	638	950	930	908	1,005	1,271	41%
Colombia												
Brazil	917	1,285	386	263		136	93	34	64	28		-6%
Mexico	617	738	124	140		52	61	27	85	60		24%
Europe	651	767	187	240		118	97	26	32	192		57%
Other	1,170	1,243	544	477		158	122	196	164	159		32%
Total	3,355	4,033	1,242	1,119		463	372	284	346	440		23%
Czech Republic												
	536	651	147	145		41	59	45	49	61		-10%
Japan												
China	1,140	835	125	134	49	52	30	52	49	0	0	-59%
India	433	263	66	33	0	33	0	0	0	0	0	-39%
Other Asia	689	803	86	65	66	2	63	0	0	33	33	-55%
Other	699	875	4	22	55	19	3	0	0	28	27	-63%
Total	2,962	2,775	282	254	169	106	96	52	49	61	60	-58%
Poland												
Other Europe	4,232	5,170	1,417	1,383		516	487	380	365			14%
Other	2,052	1,949	494	278		77	89	113	82			-32%
Total	6,284	7,118	1,911	1,661		593	576	493	447			-1%



Data are sourced primarily from national customs authorities, extracted using code CN 270400 ("Coke & Semi-Coke of Coal").

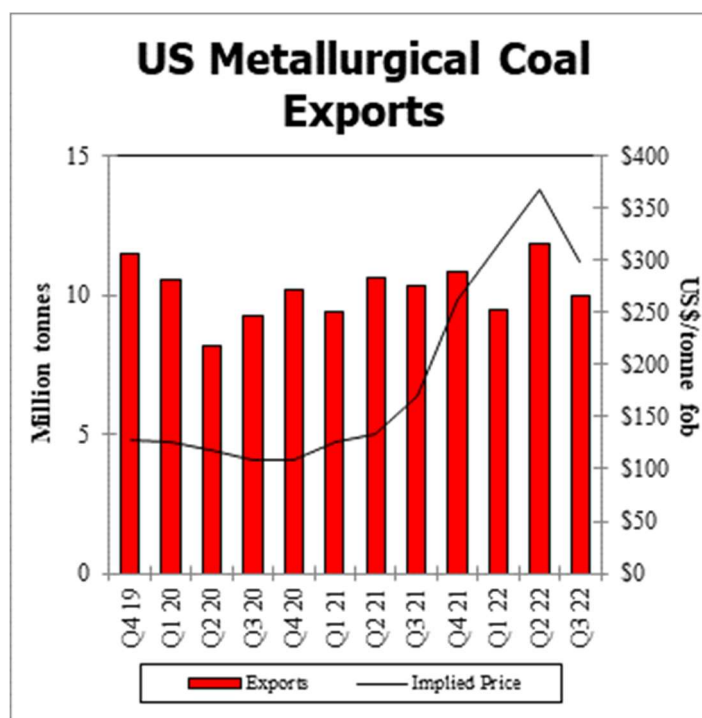
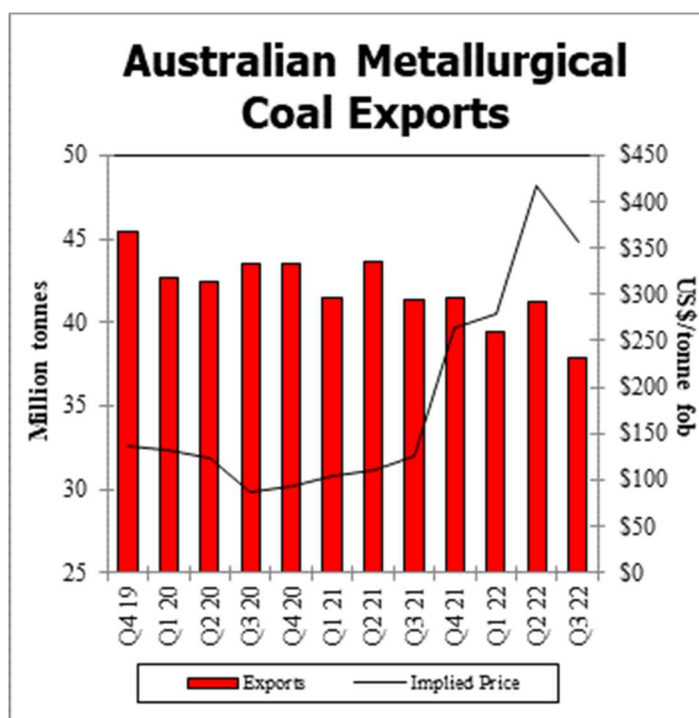
METALLURGICAL COKE IMPORT DATA

000 TONNES	2020	2021	Qtr 1 22	Qtr 2 22	Qtr 3 22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	% Ch YoY
<u>Coke Imports</u>												
<i>Europe</i>												
Austria	524	169	29	45		10	12	22	10			-52%
France	457	1,502	398	335		108	105	122	104			32%
Germany	1,583	2,353	572	580		206	236	138	187			25%
Italy	411	472	102	66		9	2	55	2			-7%
Romania	647	860	224	240		65	92	83	20			5%
Spain	888	800	215	175		94	37	44	5	28		-44%
United Kingdom	1,140	1,503	313	848		418	148	281	184	366		72%
<i>North America</i>												
Canada	1,285	1,250	276	325		91	83	152	43	111		10%
Mexico	1,025	1,388	285	410		130	138	141	51			4%
United States	147	106	8	22		3	1	18	9	2		-34%
<i>Asia</i>												
China	2,980	1,333	111	134	119	39	94	1	19	90	10	-71%
India	2,568	2,442	622	712		312	179	221	337	208		-12%
Indonesia	843	1011	176	482	732	104	154	224	81	260	391	46%
Japan	388	2,249	406	315	216	138	99	78	43	110	63	-20%
South Korea	265	328	75	82		27	27	28	17	27		14%
Malaysia	1,066	914	256	112	213	31	39	42	49	92	72	-25%
Taiwan	248	200	44	71		21	20	30	34	17		26%
Vietnam	867	976	270	245		29	140	76	52	99	131	-25%
<i>Other</i>												
Australia	152	224	50	108	140	21	38	49	31	65	44	119%
Brazil	1,358	1,671	493	767	869	174	172	421	312	311	246	44%
South Africa	90	566	106	119		34	64	21	82	119		78%
Ukraine	382	790	233	70		0	53	17	12	9		39%

Data are sourced primarily from national customs authorities, extracted using code CN 270400 ("Coke & Semi-Coke of Coal").

METALLURGICAL COAL EXPORT DATA

000 TONNES	2020	2021	Qtr 4 21	Qtr 1 22	Qtr 2 22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	%Ch YoY
Metallurgical Coal Exports												
Australia												
All Met Coal Exports	172,040	167,886	41,496	39,462	41,188	13,726	12,577	13,882	14,729	12,874	12,341	-6%
Implied Price, US\$/tonne fob	\$109	\$158	\$264	\$279	\$417	\$404	\$318	\$533	\$401	\$363	\$349	
Hard Coking:												
Exports	117,051	111,300	27,441	26,007	27,500	9,085	8,099	9,621	9,779	8,742	7,752	-9%
Implied Price, US\$/tonne fob	\$119	\$172	\$294	\$302	\$442	\$446	\$310	\$591	\$424	\$376	\$358	
Semi-Soft Coking, PCI:												
Exports	54,989	56,586	14,055	13,455	13,689	4,641	4,478	4,261	4,950	4,132	4,589	-1%
Implied Price, US\$/tonne fob	\$88	\$130	\$208	\$234	\$363	\$322	\$333	\$400	\$356	\$335	\$334	
Canada												
Met Coal Exports	31,575	26,212	6,132	7,057	7,962	2,810	2,709	2,401	2,852	2,097	2,546	4%
Implied Price, US\$/tonne fob	\$100	\$217	\$357	\$346	\$421	\$401	\$426	\$454	\$384	\$354	\$222	
United States												
Met Coal Exports	38,198	41,128	10,802	9,504	11,853	3,205	3,836	3,889	4,128	3,467	3,172	5%
Implied Price, US\$/tonne fob	\$116	\$174	\$263	\$315	\$368	\$366	\$386	\$355	\$364	\$320	\$278	
Above Countries Combined	270,919	267,066	66,721	63,575	68,781	22,334	21,715	22,764	24,302	21,030	20,652	-2%
Plus Estimate for Russia after January												
Account for around 85% of world metallurgical coal trade												

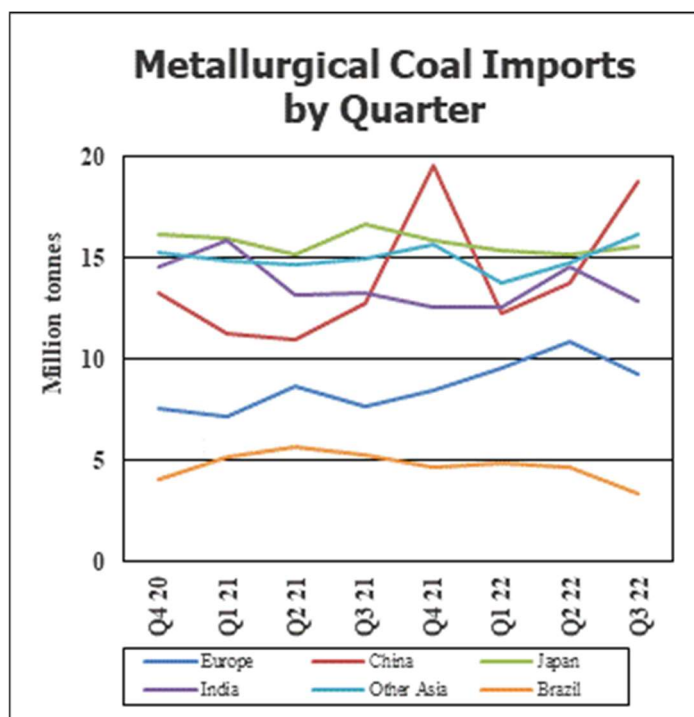
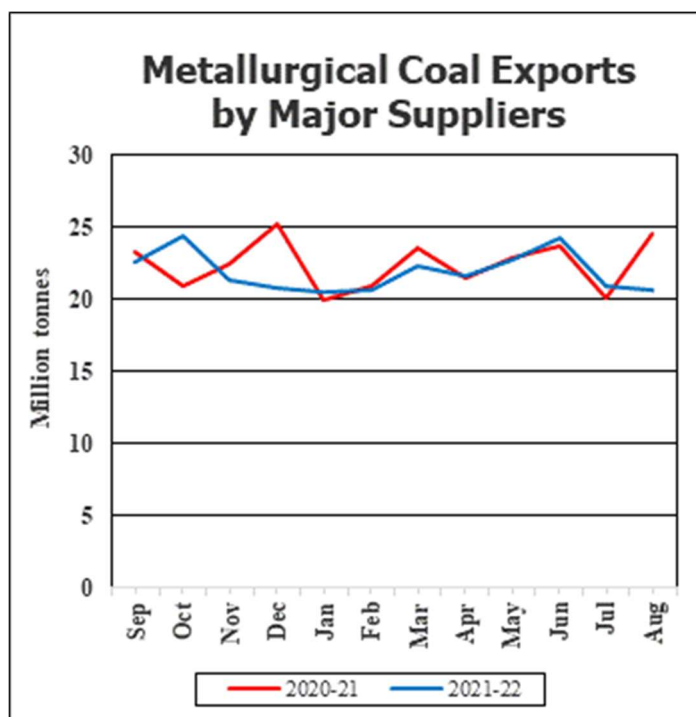


Data are sourced primarily from national customs authorities, extracted using code CN 27011210 ("Bituminous Coal, Metallurgical").

METALLURGICAL COAL IMPORT DATA

000 TONNES	2020	2021	Qtr 1 22	Qtr 2 22	Qtr 3 22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	%Ch YoY
Metallurgical Coal Imports												
Europe	28,407	31,063	9,558	10,873		3,844	3,530	3,499	2,806	3,399		22%
North America												
Canada	3,380	3,153	192	752		117	306	329	307	264		-17%
Mexico	192	193	45	60		0	30	30	0	0		-25%
United States	294	762	234	438		198	81	158	198	175		127%
Latin America												
Argentina	420	835	377	365		114	132	119	192	0		15%
Chile	772	843	273	182		0	89	93	0	0		-4%
Brazil	16,814	20,825	4,830	4,667	3,383	1,116	1,492	2,059	1,082	1,300	1,002	-13%
Asia												
China	72,622	54,693	12,260	13,804	19,369	4,256	4,565	4,983	6,118	6,406	6,845	35%
India	45,490	54,957	12,610	14,610		4,710	4,860	5,040	3,940	4,620		-8%
Indonesia	3,222	4,609	705	1,127		236	308	584	343	368		16%
Japan	63,292	63,775	15,375	15,178		4,737	5,124	5,317	5,688	4,698		0%
South Korea	30,484	31,441	7,386	7,019	8,031	2,212	2,404	2,404	2,655	2,878	2,498	-4%
Malaysia	2,326	2,312	482	614		11	289	314	122	148		-21%
Taiwan	12,498	10,706	2,782	2,843		860	892	1,091	1,197	1,165		5%
Vietnam	7,782	9,138	2,453	3,158		926	960	1,272	1,064	823		19%
Other												
South Africa	1,159	1,222	342	145		85	60	0	112	0		9%
Turkey	5,305	5,521	1,342	970		386	300	284	301	555		-10%

Much of the above data series are derived from export data for the leading four metallurgical coal exporting countries



Data are sourced primarily from national customs authorities, extracted using code CN 27011210 ("Bituminous Coal, Metallurgical").