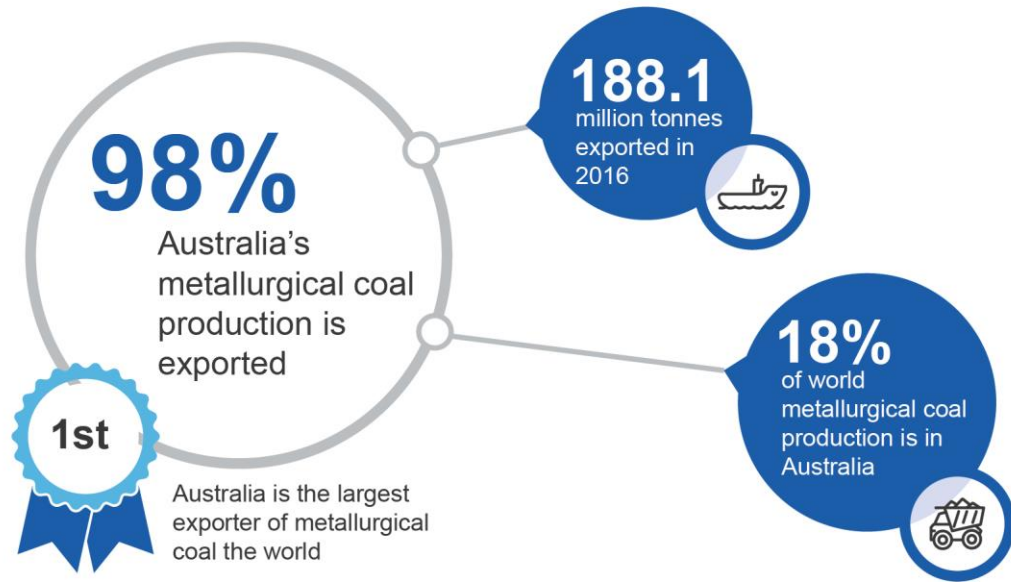
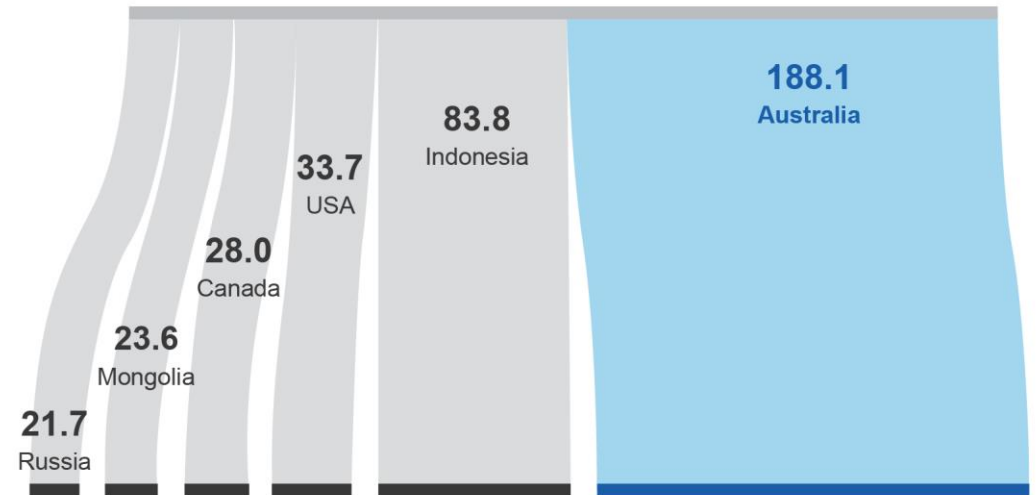


Metallurgical coal

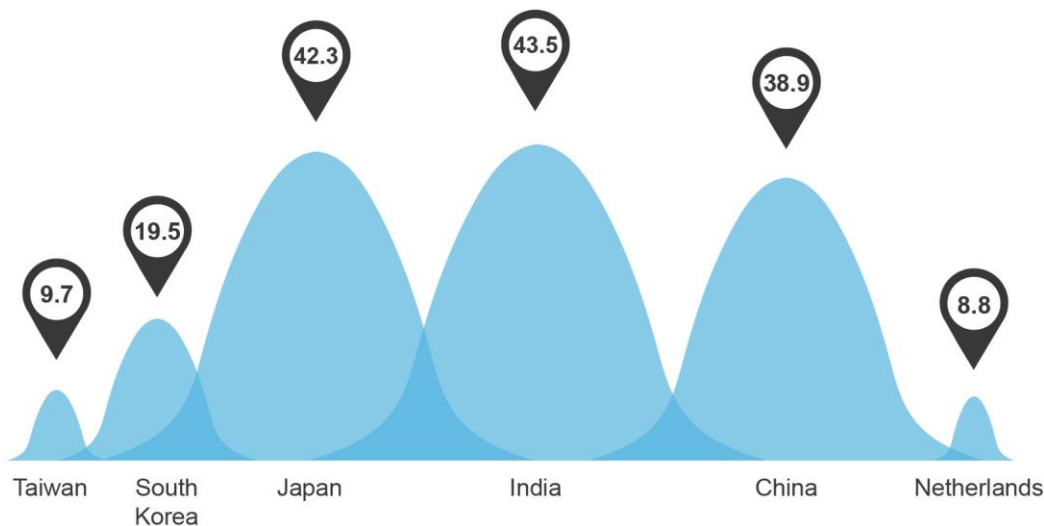
Resources and Energy Quarterly December 2017



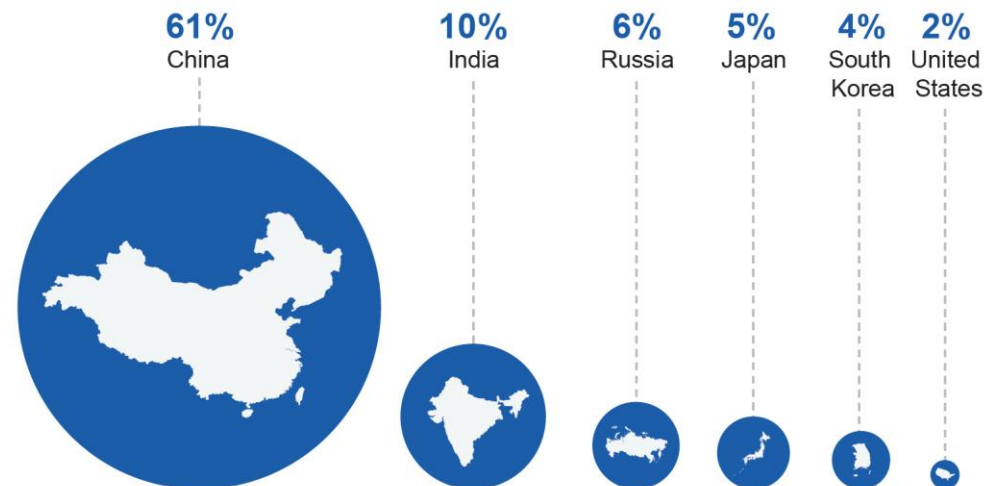
Major metallurgical coal exporters (million tonnes), 2016



Australian metallurgical coal importers (million tonnes), 2016



Largest consumers, 2016



5.1 Summary

- Metallurgical coal prices have been relatively steady in recent months, after a year of wild swings due to supply problems and strong demand.
- Chinese demand has held up in the face of the high prices of recent months, as some steel mills bought ahead of the winter curtailment.
- Supply is steadily recovering, and expansions are expected in 2018.
- In 2017–18, Australian metallurgical coal exports are forecast to be 192 million tonnes, and then rise to 192.5 million tonnes in 2018–19.

5.2 Prices

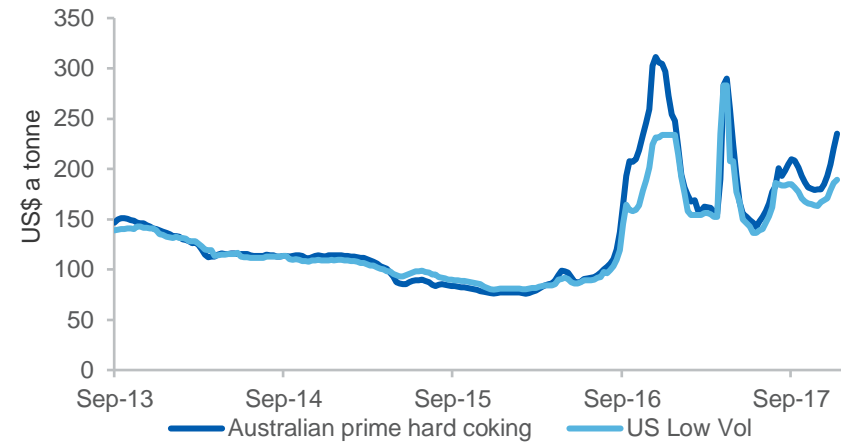
Prices stopped declining, as high demand added to new supply concerns

After a September quarter rally, the Australian Prime Hard Coking Coal (HCC) FOB spot price steadied in a relatively narrow (US\$178–242 a tonne) range as 2017 ended. Australian Prime HCC is estimated to have averaged US\$186 a tonne in 2017, up 29 per cent. Price strength derived from strong demand and concerns over supply (arising mainly from bottlenecks in the Australian export system). US metallurgical coal prices stayed below Australian prices, helping to cap the latter.

The winter curtailment of a significant amount of Chinese steel capacity is expected to take its toll on metallurgical coal prices as the year turns. Rising supply — due to the return of previously idled capacity and new project supply — is forecast to see prices fall as 2018 matures. However, spot metallurgical coal prices are expected to hold above the US\$77–135 a tonne range experienced during from the start of 2014 until mid 2016.

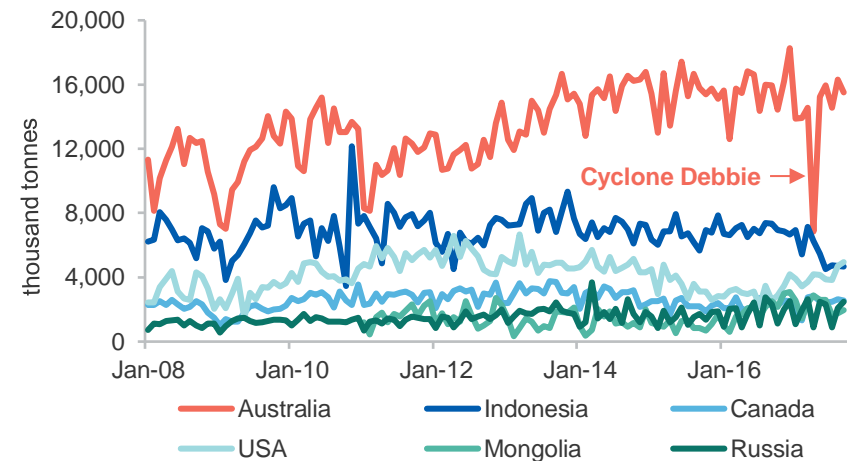
Carrying on the practice recently adopted, quarterly contract pricing for Prime HCC continues to use the prior three-month average of three independent prime HCC spot assessments. The December quarter 2017 price equated to a benchmark price of US\$192 a tonne. The Australian benchmark contract price is forecast to drift lower in the next eighteen months (to end 2018–19), as the impact of rising supply more than offsets firm demand.

Figure 5.1: Metallurgical Coal Prices — Australian Prime Hard vs US Low Vol, FOB



Source: IHS Markit (2017)

Figure 5.2: Major metallurgical coal exporters



Source: IHS Markit (2017)

5.3 World trade

World metallurgical coal trade is estimated to grow noticeably in 2018, as the market recovers from the supply disruptions of 2017. In 2019, trade is expected to expand further, but not at the same rate as in 2018. Australian exports should recover from the impacts of Cyclone Debbie and seismic events at the Appin mine, which together appears to have caused the loss of around 10 million tonnes of exports in 2017. A weak La Niña episode is assumed to leave Australian output/exports (which account for over half world exports) largely unscathed in 2018, though there are high risks. China, India, South Korea and Europe will account for the bulk of the rise in metallurgical coal imports, on the back of healthy gains in steel output.

5.4 World imports

Chinese imports expected to be steady at high levels

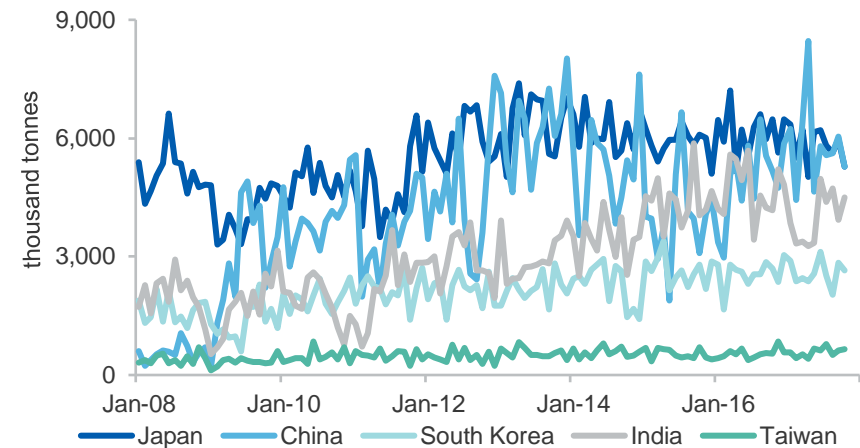
In 2017, China is estimated to have imported around 71 million tonnes of metallurgical coal, up from less than 60 million tonnes in 2016. Imports rose as both strong demand from Chinese steel mills and constraints on domestic coal production forced buyers into offshore markets. In mid 2017, four of China's largest metallurgical coal producers voluntarily cut output by one tenth, or about 13–14 million tonnes. Debt levels at major Chinese metallurgical coal miners remain high, and prices need to stay above US\$140 a tonne for these miners to clear their way out of trouble.

The curtailment of a significant amount of Chinese steel-making capacity during winter will see some significant seasonal swings in import demand over the forecast period. In 2018, Chinese production of metallurgical coal will (still) be constrained by the impact of ongoing mine safety inspections across Shanxi province. With Chinese metallurgical coal production held down and the price of metallurgical coal in gradual decline (as ex-China supply improves), Chinese steel mills are likely to use any sharp import price dips as an opportunity to re-stock metallurgical coal.

Chinese steel mills ran down metallurgical coal inventories heavily during 2017, and they will be keen to rebuild those inventories, especially if they

believe that the current La Niña event weather might hurt Australian metallurgical coal production again.

Figure 5.3: Major Asian metallurgical coal importers



Source: IHS Markit (2017)

Chinese imports of metallurgical coal are thus expected to remain relatively high in 2018 and 2019, with the possibility that China could overtake Japan as the world's largest metallurgical coal importer during that period.

Indian imports to continue their strong rise

Indian imports of metallurgical coal recovered in the second half of 2017, after the price spike brought on by Cyclone Debbie forced Indian steel mills to run down inventories in April-May. Indian steel mills turned to US miners as problems in Australian supply and the price advantage persisted. For the year as a whole, imports are estimated to have risen modestly from 2016.

India continues to ramp up its steel production capacity towards its target of 300 million tonnes per annum by 2025, helping underpin metallurgical coal demand. As part of this plan, India has continued to impose import duties of as much as 20 per cent on a range of steel products.

Indian imports of metallurgical coal are expected to grow significantly in 2018 and 2019, as the domestic coal industry struggles to keep up with strong demand for metallurgical coal from Indian steel mills. Lower metallurgical coal prices will encourage the rise in Indian imports.

[South Korean importers have diversified their supply sources](#)

South Korean imports of metallurgical coal are expected to grow in 2018, after a minor gain in 2017. South Korean steel mills were forced to look to Canada, Russia and United States for supply after Cyclone Debbie impacted on Australian exports. South Korean metallurgical coal demand will be boosted by firm growth in domestic steel production. Korean steel production will remain firm, as motor vehicle manufacturers and ship builders look to satisfy firm demand.

[Japanese imports declined as prices spiked](#)

Metallurgical coal imports are estimated to have declined modestly in 2017. The decrease in imports came despite some levelling out of the last few years' decline in Japanese steel output. It appears that Japanese steel mills ran down their inventories of inputs as metallurgical coal prices spiked in the wake of Cyclone Debbie.

Japanese steel producers seem to have benefited from the pick-up in domestic economic activity and the broader world economy, as the demand for manufactured goods rises. Business confidence has been strong; a consequent rise in capital spending has been supported by surging corporate profits as well as preparations for the Tokyo Olympics.

Imports of metallurgical coal to Japan are expected to grow modestly in 2018 and 2019. Japanese output of crude steel is expected to continue to recover, as the demand for Japanese motor vehicles picks up further.

5.5 World exports

[US exports have surged](#)

It is estimated that seaborne exports of US metallurgical coal reached almost 46 million tonnes in 2017, about 11–12 million tonnes above levels of 2016. But further gains seem unlikely in 2018 and 2019: after years of heavy cost-cutting and widespread bankruptcies, US miners' ability to access finance to fund a further sharp rise in output is in doubt, particularly when their (potential) financiers know that the price spikes of 2016–17 were overwhelmingly the result of temporary, not structural, forces.

[Canadian mines re-starting](#)

Canadian exports are estimated to be marginally higher in 2017, but significant gains are likely in 2018 and 2019. Conuma Coal is restarting production at its Wolverine and Willow Creek mines, and Cline Mining's 2.8 million tonnes per annum Donkin project continues to ramp up production from its start in March. In 2018, Jameson Resources' 2 million tonnes per annum Crown Mountain project commences production. As arguably the lowest cost producer among the major exporting nations, Canada is set to remain a significant competitor to Australian producers.

[Mongolia exports to China have surged over the past year](#)

Mongolia's January–October metallurgical coal exports to China have increased by almost 30 per cent year-on-year, and accounted for over 37 per cent of China's metallurgical coal imports. Chinese importers stepped up their purchases after Australian metallurgical coal supply was disrupted by Cyclone Debbie. Mongolia is likely to have exported around 25 million tonnes of metallurgical coal in 2017, virtually all of it going to China. With plenty of high quality metallurgical coal reserves, high prices should see exports to China remain strong in 2018 and 2019.

Russian production set to expand strongly

Russian exports of metallurgical coal rose modestly in 2017, as miners struggled to react to the price surge brought on by Australian shortages.

Exports are likely to pick up in strongly in 2018 and 2019, as production at Mechel's Elga operations ramp up to nameplate capacity.

Mozambique becoming a significant exporter

Brazilian miner Vale continued to ramp up output at the Moatize mine in Mozambique in 2017, and is now expected to produce almost 8 million

tonnes in 2017. The development of the 18 million tonne per annum Nacala transport corridor has reduced supply chain bottlenecks and been a crucial factor in raising economies of scale and thus reducing costs. Exports from Mozambique are forecast to show strong growth in the forecast period. The ramp up of operations at the Songa and the re-start at the Benga operations will make a significant contribution to this growth, particularly in 2019. However, Mozambique's exports will remain more than half those of Canada, Russia, the United States and Mongolia.

Table 5.1: World metallurgical coal trade

World	Unit	2016s	2017 f	2018 f	2019 f	Annual percentage change		
						2017 f	2018 f	2019 f
Metallurgical coal imports								
– European Union 28	Mt	40	41	41	42	1.0	1.0	1.0
– Japan	Mt	51	51	53	53	-0.3	3.0	1.0
– China	Mt	59	71	59	53	19.9	-16.6	-10.0
– South Korea	Mt	35	36	37	37	4.0	2.0	1.0
– India	Mt	48	49	50	53	1.5	3.5	5.0
Metallurgical coal exports								
– Australia	Mt	188	177	194	194	-6.4	9.9	-0.4
– Canada	Mt	28	28	29	29	0.9	1.2	1.2
– United States	Mt	34	46	36	35	24.9	-22.0	-3.0
– Russia	Mt	22	24	25	26	9.8	5.0	3.0
World trade	Mt	314	308	315	321	-2.0	2.3	4.5

Notes: **s** Estimate. **f** Forecast.

Source: IEA (2017) Coal Information 2017; Department of Industry, Innovation and Science (2017)

5.6 Australia's production and exports

Australian producers trying to catch up

Australian metallurgical coal production is estimated to have declined modestly in 2017, largely as a result of the impact of Cyclone Debbie in the last days of March. Ongoing operating problems at South32's Appin mine also impacted on Australian metallurgical coal output. Longwall production recommenced at South32's Appin mine in the middle of October, following the completion of extensive remediation work. The company has guided its saleable metallurgical coal output for FY2018 to 3.35 million tonnes, down 41 per cent on FY2017.

There is the potential for fresh disruptions to NSW production of metallurgical coal in the forecast period. While Glencore enterprise agreements covering its Hunter Valley operations have been settled, the threat of industrial action by miners at the Appin mine and rail workers in the Hunter Valley (where some semi-soft coking coal is also produced) remains.

Another threat to production (and thus exports) as 2018 begins is the possibility of wet conditions on the Queensland coast. Late in 2017, meteorologists declared a La Niña weather event. La Niña weather conditions typically bring above-average rainfall to eastern Australia during late spring and summer. However, sea surface temperature patterns in the Indian Ocean and closer to Australia are not typical of a La Niña event, suggesting that it will be weaker than the strong La Niña episode of 2012, and thus there will be a reduced likelihood of widespread above-average summer rainfall.

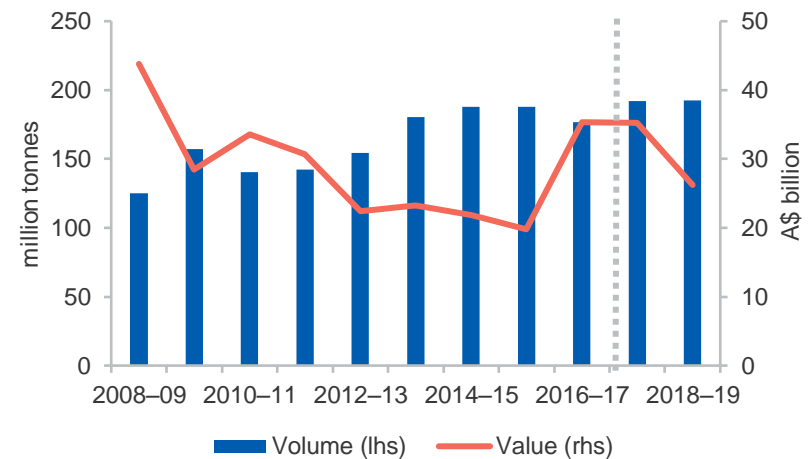
These risks aside, production is expected to grow strongly in 2018 and 2019, as miners respond to high prices and the impact of some of the operational problems (man-made and weather-related) of 2017 fades. Metallurgical coal output should rise from 190 million tonnes in 2017 to 196 million tonnes in 2018 and 2019.

Australian export earnings to hit record high

Australia's metallurgical export volumes are estimated to have declined by 11–12 million tonnes (5–6 per cent) in 2017, to 177 million tonnes. The decline was largely due to export delays associated with the impact (on rail lines) of Cyclone Debbie in late March.

In 2018 and 2019, assuming no major weather-related disruptions, metallurgical coal exports should rebound to around 193 million tonnes, as supply responds to the high prices of the past twelve months or so. Export earnings are set to be unchanged at around \$35.3 billion in 2017–18, but then drop by about \$10 billion in 2018–19 as metallurgical coal prices fall back.

Figure 5.4: Australia's metallurgical coal export volumes and values



Source: ABS, Department of Industry, Innovation and Science (2017)

Table 5.2: Australia's metallurgical coal outlook

World	Unit	2016	2017 s	2018 f	2019 f	Annual percentage change		
						2017 s	2018 f	2019 f
Contract prices e								
– nominal	US\$/t	114.4	209.6	154.5	125.5	83.2	-26.3	-18.8
– real d	US\$/t	116.7	209.6	151.3	120.2	79.5	-27.8	-20.5
Spot prices g								
– nominal	US\$/t	143.5	185.9	151.1	119.0	29.5	-18.7	-21.3
– real d	US\$/t	146.5	185.9	148.0	114.0	26.8	-20.4	-23.0
Australia	Unit	2015–16	2016–17	2017–18 f	2018–19 f	2016–17 s	2017–18 f	2018–19 f
Production		189.3	190.0	195.7	196.4	0.4	3.0	0.4
Export volume	Mt	188.0	177.2	192.1	192.5	-5.8	8.4	0.2
– nominal value	A\$m	19,790	35,363	35,266	26,213	78.7	-0.3	-25.7
– real value i	A\$m	20,566	36,091	35,266	25,602	75.7	-2.3	-27.4

Notes: **d** In 2017 US dollars. **e** Contract price assessment for high-quality hard coking coal. **i** In 2017–18 Australian dollars. **f** forecast. **g** Hard coking coal fob Australia east coast ports. **s** estimate
Source: ABS (2017) International Trade in Goods and Services, Australia, 5368.0; Department of Industry, Innovation and Science (2017); Platts Steel Analyzer (2017)