6.1 Summary

- Thermal coal spot prices have fallen sharply as the impact of COVID-19 drives a contraction in seaborne trade for only the second time this century. The Newcastle benchmark is forecast to average US$56 a tonne in 2020, before slowly recovering to US$65 a tonne in 2022.
- The bulk of production cuts are expected to come from Indonesia and the US. However, Australia’s exports are forecast to decline from an estimated 213 million tonnes in 2019–20 to 210 million tonnes in 2020–21, as Australian producers come under pressure from low prices.
- Australia’s thermal coal exports are forecast to drop from an estimated $20 billion in 2019–20 to $16 billion in 2020–21, before a partial recovery to $17 billion in 2021–22 driven by higher prices and export volumes.

6.2 Prices

Thermal coal prices remained resilient in early 2020 before falling sharply.

Seaborne thermal coal spot prices weathered the impacts of COVID-19 over the first few months of 2020. The benchmark Australian thermal coal spot price — Newcastle 6,000 kcal/kg NAR (Net As Received) — was relatively stable in a US$60-70 a tonne range until early April (Figure 6.1). On the demand side, prices received support from strong buying from China. While COVID-19 restrictions lowered Chinese power consumption, domestic coal production was curtailed by China’s efforts to control the spread of the virus and Chinese buyers turned to imports to make up the shortfall. Vietnam also lifted imports substantially over the first few months of 2020, and demand from India and Japan remained resilient.

On the supply side, South Africa’s lockdown saw exports from the world’s fourth largest exporter curtailed. COVID-19 also disrupted Colombian output, including at the 27 million tonne per annum Cerrejón coal mine — the largest in the nation — idled from late March until early May.

Against the backdrop of resilient spot prices, the 2020–21 Japanese Fiscal Year contract price (April to March) settled at US$68.75 a tonne, though this still represented a substantial drop from US$95 a tonne for 2019–20.

By mid-April, however, spot prices had begun to decline due to weakening thermal coal import demand as a result of the impacts of COVID-19. The Newcastle 6,000 kcal spot price hovered around US$50 a tonne during May and the first half of June. A combination of developments drove the fall: in China, rising domestic production combined with subdued power demand; in India, a lockdown coupled with government directives that favoured domestic coal over imports; and in North East Asia, weak demand due to lower power consumption and an ongoing shift away from coal in electricity generation. Demand from smaller importers in South East Asia was also affected as the spread of COVID-19 widened. Competition from gas further reduced thermal coal demand, with oil-linked LNG contract prices in Asia near record low levels and LNG spot prices weighed down by an oversupplied market (see the gas chapter).

Figure 6.1: Thermal coal prices, weekly

Notes: Qinhuangdao (QHD) is the largest coal port in China and QHD prices are a key benchmark for coal prices in northeastern China.
Source: IHS (2020)
Thermal coal prices to remain subdued due to weak demand

The Newcastle 6,000 kcal spot price is forecast to remain low for the remainder of 2020, averaging around US$56 a tonne for the year as a whole (Figure 6.2). Lower power demand, as a result of a sharp fall in economic activity, is expected to weigh on seaborne thermal coal demand. The rapid build-up in coal stocks in key importing countries will take some time to rundown, and should prevent any sharp rebound in prices in the short term. The move by the Indian government to encourage the use of domestic coal over imports only adds to demand-side pressures in the world’s second largest thermal coal importer. There also remains the risk of Chinese government intervention to restrict coal imports: the Chinese coal mining industry is pressuring the government to tighten import controls, with seaborne coal prices remaining attractive relative to domestic prices, and local supply continuing to outpace demand.

Figure 6.2: Thermal coal price outlook, annual

On the supply side, further cuts to production are likely to be required to balance the market in 2020. Around a third of production which supplies the seaborne thermal coal market (and for which data is available) is uneconomic at current prices.

Thermal coal prices are expected to rise in 2021, driven by an increase in seaborne thermal coal demand as the global economy recovers. However, longer-term trends will constrain the extent of the rise: Europe and South Korea are looking to reduce thermal coal usage, while the world’s two largest consumers (China and India) have signalled their intention to reduce thermal coal imports by increasing domestic production. Growing demand from South and Southeast Asia should help to offset declining thermal coal imports elsewhere. Competition from LNG is also expected to weigh on thermal coal demand, especially while LNG prices remain near record lows in spot and short-term contract markets (see the gas chapter).

The Japanese Fiscal Year contract price, which serves as a benchmark for the Asian market, is expected to settle at a premium relative to the spot price over the outlook period (Figure 6.2).

6.3 World trade

World thermal coal trade is expected to contract in 2020 for only the second time this century (the first being 2015). World thermal coal imports are forecast to fall by about 100 million tonnes — a decline of close to 9 per cent.

The fall in seaborne thermal coal demand is expected to be led by India and China (Figure 6.3). Europe’s coal imports are expected to continue to decline as a part of its longer-term shift away from coal, while demand in Southeast and South Asia is also being affected by COVID-19’s impact on power demand and economic activity. The largest cuts to production are expected to come from Indonesia and the US, although all suppliers will be affected.

In 2021 and 2022, global thermal coal import demand is expected to recover, as the demand-side impacts of COVID-19 ease.

Notes: JFY is Japanese Fiscal Year (April to March).
Source: IHS (2020); Department of Industry, Science, Energy and Resources (2020)
6.4 World imports

China’s imports to fall in 2020 despite a strong start to the year

As the world’s largest thermal coal consumer and importer, China exerts a profound influence on seaborne markets. China’s thermal coal imports lifted in the first four months of 2020 (Figure 6.4). The initial lift was due to a customs clearance backlog from December (when thermal coal imports reached near zero according to Chinese government customs data), which resulted from China’s efforts to meet its unofficial coal import cap for 2019. The implementation of measures from late January to control the spread of COVID-19 then restricted domestic production, forcing Chinese buyers to turn to the seaborne market. Chinese imports continued to increase year-on-year in April, with low seaborne prices making imports attractive relative to domestic coal.

China’s thermal coal imports are expected to decline over the remainder of 2020, and annual imports are forecast to fall from an estimated 241 million tonnes in 2019 to 230 million tonnes in 2020. China’s coal import policies will be critical in determining China’s thermal coal imports in 2020 and beyond, with ramifications for the seaborne market. China’s government has actively sought to manage coal import levels over the past few years, since its efforts to restructure its domestic coal industry led to concerns from the Chinese coal industry that imports were being favoured over domestic production. Although no official target has been set, China is reportedly seeking to cap total coal imports at 271-281 million tonnes in 2020. Imports increased rapidly in the first few months of 2020 and seaborne prices remain low, making it difficult to achieve this target without intervention. This has increased the likelihood of stricter import measures in the second half of the year.

Figure 6.4: China’s thermal coal imports, year-on-year change

Source: Bloomberg (2020); Department of Industry, Science, Energy and Resources (2020)
Thermal coal import policy has been a key tool for stabilising domestic prices within the ‘green zone’ — a price band of 500 to 570 Renminbi (RMB) (Figure 6.5). Prices in this range are understood to be broadly acceptable to China’s power generators and industrial consumers, while also providing sufficient margins for domestic coal miners. China’s government has tended to ease import restrictions when domestic prices are high, and tighten restrictions when domestic prices go below RMB500. In April, China’s domestic coal price dipped below this target range — a sign of an oversupplied market — but had recovered by June. Any further falls in domestic coal prices would further increase the likelihood of China using thermal coal import policy to restrict imports.

**Figure 6.5: China’s domestic thermal coal price**

Notes: The ‘green zone’ is a price band from 500-570RMB. Qinhuangdao (QHD) prices are a key benchmark for coal prices in northeastern China.
Source: Bloomberg (2020)

In 2021 and 2022, China’s imports should edge down, with domestic production lifting more quickly than consumption. China has been restructuring its coal sector over the past few years and the replacement of smaller, less efficient mines with larger, more efficient mine capacity should allow production to grow. Domestic production will also be supported by infrastructure improvements and expansions, including the 60 million tonne per annum Haoji railway commissioned in October 2019, which are increasingly connecting domestic supplies with demand centres.

Chinese coal demand is expected to lift in 2021 and 2022, as economic activity and power demand recovers. While the bulk of new installed capacity is likely to come from hydro and renewable generation, China has a substantial pipeline of coal-fired power stations. Between September 2014 and March 2016, China’s central government delegated permitting for coal-fired power stations to provincial authorities, which had strong incentives to approve new coal-fired power stations to meet economic targets for their provinces. Given the pipeline of coal generation projects in China, it is possible that the central government will raise the coal power cap in the country’s 14th Five Year Plan (2021-2025) to be released in 2020. China currently has over 1,000 gigawatts (GW) of operational coal-fired power generation capacity, and state planning bodies have recommended lifting the cap from 1,100 GW to somewhere between 1,200 GW and 1,400 GW. Increases in coal consumption in power generation are likely to be partly offset by falls in coal consumption in residential, commercial and small-scale industry sectors, as a result of China’s efforts to reduce air pollution.

India’s imports fall as lockdowns impact the power and industrial sectors

India is the world’s second largest thermal coal consumer and importer, importing an estimated 211 million tonnes of thermal coal in 2019. The Indian government ordered a lockdown in late March, which was subsequently extended until the end of June, although only for key containment zones. India’s imports grew slightly year-on-year in the March quarter (Figure 6.6), but the lockdown saw imports fall in April as buyers deferred shipments from South Africa, Indonesia and Australia scheduled for the coming months.

The fall in India’s imports was the result of a sharp contraction in demand coupled with resilient domestic output. As India went into a COVID-related lockdown in March, power demand plunged as did demand for thermal
coal in electricity generation. The lockdown also affected industrial thermal coal demand, especially in the sponge iron and cement production sectors. India’s sponge iron sector uses an estimated 25-30 million tonnes of imported thermal coal each year, largely from South Africa.

India’s domestic coal output initially withstood the impacts of COVID-19. Production from state-owned Coal India — which accounts for about 80 per cent of India’s coal output — reached a monthly record in March, as the miner sought to reach its production target for Indian fiscal year (April to March) 2019–20. Coal stocks at mines, industrial facilities, ports and power plants climbed to record highs in April. With excess supply mounting, the Indian government urged state-owned generation companies to use domestic coal ahead of imports. India’s Power Ministry issued a directive for power plants to cut their use of imported coal.

India’s thermal coal imports are forecast to decline sharply by over 40 million tonnes to 167 million tonnes in 2020, due to the demand-side impacts of COVID-19. Record high inventories will take some time to run down and will weigh on India’s thermal coal imports in the short term, and India’s domestic coal production has been resilient to the disruptive effects of the virus. Domestic mining operations have been allowed to continue throughout the lockdown and coal producers have been directed to proceed in accordance with their annual production targets. Stated-owned Coal India has a production target of 710 million tonnes in Indian fiscal year (April to March) 2020–21.

India’s thermal coal imports are expected to recover gradually over the next two years to reach 185 million tonnes in 2022, as the country’s electricity demand picks up and industrial activity resumes. However, the bounce back is expected to be constrained by government targets and policy. In February 2020, India’s Minister for Coal and Mines announced India would aim to stop importing thermal coal from Indian fiscal year 2023–24 (instead relying on domestic production). While this has been a long-term goal for India and there are considerable barriers to its achievement, the announcement signals a renewed intent to reduce thermal coal imports.

The Indian government’s strategy to increase domestic production has several elements. The first is to boost production by state-owned companies, particularly Coal India. Coal India has a production target of 1 billion tonnes by Indian fiscal year 2023–24. The second strategy is to increase production by the private sector. The Indian government has introduced a number of reforms to encourage private investment, including opening up the country’s coal sector to foreign direct investment and changing the rules governing coal mine auctions. While India will likely fall short of its production targets, government policy is nevertheless expected to propel Indian coal production higher over the next few years.

**Japan’s imports are being affected by competing influences**

Japan is the world’s third largest thermal coal importer, importing an estimated 135 million tonnes of thermal coal in 2019. The country’s thermal coal imports were broadly stable year-on-year in the four months to April (Figure 6.7). Japan’s imports are forecast to decline by around 2 million tonnes to 133 million tonnes in 2020. Low LNG prices and subdued energy demand due to COVID-19 should weigh on thermal coal imports.
However, imports should also receive support from the shutdown of a number of nuclear power plants (which compete with thermal coal in electricity generation) that need to finish upgrades to comply with counterterrorism measures.

Figure 6.7: Japan, South Korea and Taiwan’s thermal coal imports

Beyond 2020, there are competing trends at work. Japan has new coal-fired capacity under construction. However, energy demand in Japan is on a downward trend, and Japan is planning to shift its power generation mix towards nuclear and renewable energy, and away from gas and coal. The 2011 Fukushima disaster resulted in the closure of Japan’s nuclear fleet. At the time of writing, only nine of Japan’s 42 nuclear reactors had gained approval to restart. More reactors are likely to come back online by 2022, with 18 reactors having submitted applications to Japan’s Nuclear Regulation Authority to restart. The pace of nuclear restarts is the main uncertainty affecting the outlook for Japan’s thermal coal imports. Nuclear energy in Japan continues to face public opposition and legal challenges. There remain significant risks of delays and slippages in nuclear restarts.

South Korea’s imports to decline as energy transition accelerates

South Korea is the world’s fourth largest thermal coal importer, purchasing an estimated 99 million tonnes of thermal coal in 2019. South Korea’s thermal coal imports fell steeply year-on-year in the four months to April 2020 (Figure 6.7), down around 20 per cent, as COVID-19 affected power demand and the country scaled up its temporary closure of coal-fired power stations to curb air pollution. Over the past few years, the South Korean government has introduced regulations that require coal-fired power stations in South Korea to shut down or operate at reduced capacity during certain periods of the year, particularly over winter, or when air pollution reaches certain thresholds. South Korea’s government has also introduced new tax arrangements aimed at encouraging the use of gas over coal.

South Korea’s thermal coal imports are forecast to fall to 93 million tonnes in 2020. In 2021 and 2022, South Korea’s imports are forecast to remain broadly stable at around 93 million tonnes, with increasing power demand offset by the impact of policies to reduce coal use. South Korea’s long-term plan is to shift its energy mix towards renewables and gas, and away from nuclear and coal. Under South Korea’s energy plan, no new coal-fired power or nuclear capacity will be added, aside from that already under construction. Under South Korea’s draft 2020-2034 energy plan, the current target of 36 per cent for coal’s share of power generation in 2034 would be cut to 15 per cent.

Taiwan’s imports to decline under national energy plan

Taiwan’s thermal coal imports were broadly steady in 2019, at an estimated 58 million tonnes. While power demand in Taiwan was resilient to the impacts of COVID-19 in early 2020, thermal coal imports have declined year-on-year due to the government’s energy transition policies. Thermal coal imports are expected to decline in 2020, falling to 55 million tonnes. In 2021 and 2022, Taiwan’s thermal coal imports are expected to decline slightly further. Taiwan is aiming to shift its power generation mix towards gas and renewables, and away from nuclear and coal. Under
Taiwan’s current energy plan, coal’s share of power generation would fall from 46 per cent at present to 27 per cent in 2025.

While government policy is expected to reduce Taiwan’s thermal coal imports, Taiwan does face challenges in achieving a rapid energy transition. Taiwan will need to quickly bring on LNG regasification capacity in order to ramp up LNG imports, and project slippage remains a risk. Taiwan’s energy plan also envisages a 10-fold expansion in solar photovoltaic capacity, but Taiwan is densely populated, and access to land to support the ramp up remains a major challenge. To date, Taiwan’s expansion of offshore wind generation has gone relatively smoothly, with greater government control over offshore development rights.

Southeast and South Asia to be a key source of import growth

In 2019, Southeast and South Asia (excluding India) imported an estimated 153 million tonnes of thermal coal. The largest importers of thermal coal in Southeast Asia were Vietnam, Malaysia, the Philippines and Thailand. In South Asia, Pakistan was the largest thermal coal buyer, followed by Bangladesh. While countries in Southeast and South Asia are relatively small importers individually, collectively, the region is expected to play a substantial role in thermal coal markets going forward.

Vietnam’s thermal coal imports appear to have grown strongly in the first five months of 2020, with total coal imports reaching record high levels in April and May, as power demand climbed. The impacts of COVID-19 in early 2020 were more pronounced in a number of other nations in South and South East Asia. Power generators in the Philippines are reportedly expecting to cut coal imports this year, as measures aimed to contain the COVID-19 pandemic reduce power demand. In 2020, Southeast and South Asia’s imports are forecast to decline to 144 million tonnes.

After 2020, the thermal coal imports of Southeast and South Asia are expected to increase, reaching 178 million tonnes in 2022 (Figure 6.8).

![Figure 6.8: South and South East Asia thermal coal imports](chart.png)

Economic and population growth is driving the demand for electricity, and coal-fired power generation is expected to play a key role in meeting growing usage. While project cancellations appear to have been rising in recent years, the completion of coal-fired power stations currently under construction is expected to drive the region’s demand for thermal coal imports higher over the next few years.

Vietnam is expected to be a key driver of import demand growth. Under Vietnam’s Power Development Plan, coal-fired power will account for 49 per cent of the nation’s electricity generation capacity by 2025. However, there are downside risks to the outlook, with the National Steering Committee for Power Development reportedly recommending that the government scale back the target for coal-fired power to 37 per cent in 2025.
6.5 World exports

Indonesia’s exports to decline sharply from record highs

Indonesia is the world’s largest thermal coal exporter, selling an estimated 466 million tonnes in 2019 — a record high — from production of 610 million tonnes. Indonesian thermal coal exports have come under pressure as thermal coal prices weaken, with prices below the cost of production for some miners. The COVID-related lockdown in India — the main destination for Indonesia’s exports — has reduced demand for Indonesia’s lower calorific coals. Indonesia’s exports are expected to fall sharply from record highs, declining to 420 million tonnes in 2020.

Figure 6.9: Thermal coal exports

![Thermal coal exports chart](chart.png)

Notes: s Estimate f Forecast
Source: IHS (2020); IEA (2019) Coal Information; ABS (2019); Department of Industry, Science, Energy and Resources (2020)

Indonesia’s exports are expected to increase slightly in 2021 and 2022 as prices recover, however, the extent of the rebound will be limited by a more general downward trend in Indonesia’s exports. The Indonesian government has previously flagged plans to limit annual production in order to safeguard coal reserves for future domestic use. The Indonesian government is targeting an output cap of 550 million tonnes for 2020.

Whether this target can be achieved remains to be seen, with output having exceeded the target for the past few years.

South Africa’s exports fall due to a COVID-related lockdown

South Africa exported an estimated 77 million tonnes of thermal coal in 2019, making it the world’s fourth largest exporter. South Africa began a lockdown in late March, which was subsequently extended until the end of April. The lockdown reduced exports from the country’s largest port — Richard’s Bay — although a number of major exporters received exemptions which allowed them to continue operations. The lockdown also affected production for domestic use, with mines which were not supplying South Africa’s power utility Eskom only allowed to operate at 50 per cent of capacity during the second half of April. South Africa’s coal mines were all allowed to restart operations from 1 May. South Africa’s exports are forecast to fall to 65 million tonnes in 2020.

By 2022, South Africa’s exports are expected to recover to 77 million tonnes (Figure 6.9). Developments in India — a major destination for South African exports — will be key to the recovery of the nation’s coal sector. South African exports to India are expected to rise, and miners will increasingly target other Asian markets — such as Pakistan — as European coal consumption declines. A modest decline in domestic consumption should also help free up thermal coal for export. In October 2019, the South African government approved the National Development Plan, which foresees coal-fired power generation capacity falling from 37 GW at present to 33 GW by 2030.

Russia’s exports have been affected by COVID-19

Russia was the world’s third largest thermal coal exporter in 2019, shipping an estimated 181 million tonnes. Russia’s exports fell sharply year-on-year in the March quarter 2020. SUEK, Russia’s largest coal exporter, reported lower exports due to depressed seaborne prices and logistics issues on the eastern rail network. Russia’s exports are forecast to fall to 173 million tonnes in 2020, before rebounding to 184 million tonnes in 2022 as seaborne thermal coal demand recovers.
Export growth will be supported by ongoing government plans to invest in the coal industry and in associated rail and port infrastructure. Russia has been investing heavily in transportation infrastructure to the country’s eastern ports — targeting the Asian premium market, where Japan’s utilities are diversifying their supply sources, and South Korea’s new regulations are lifting demand for Russia’s low sulphur coal. The low Russian ruble has also helped Russian coal miners.

US exports to decline due to cost and infrastructure challenges

The US exported an estimated 34 million tonnes of thermal coal in 2019. The US is considered a price-sensitive swing supplier in the seaborne thermal coal market, with most US producers considered high cost. US exports fell by around 30 per cent year-on-year in the four months to April 2020, and a number of producers have idled mines which will affect exports later in 2020. Lower exports are partly related to the impacts of COVID-19 on the seaborne thermal coal market, but the US coal sector was already under pressure due to low natural gas prices, a strong US dollar, falling demand in Europe (the typical destination for US coal), and a lack of infrastructure on the US west coast (near Asian markets). These challenges are expected to result in US thermal coal exports falling to 20 million tonnes in 2020, before rebounding to 24 million tonnes in 2022.

Colombia’s thermal coal exports impacted by COVID-19

Colombia exported an estimated 75 million tonnes in 2019. Exports increased solidly year-on-year in January and February, but declined in March and April as COVID-19 disrupted output. With Glencore’s Prodeco mine still offline at the time of writing, Colombia’s exports are forecast to fall to 65 million tonnes in 2020, before recovering over the next two years.

The low level of investment in Colombia’s coal sector in recent years, and falling coal consumption in Europe — where Colombian miners have historically sold their coal — are expected to limit the prospects for growth in Colombia’s exports. Most of Colombia’s coal mines are on the Caribbean coast, and its miners face high shipping costs to growing demand centres in Asia.

6.6 Australia

Export earnings impacted by bushfires, rainfall and COVID-19 in 2019–20

The value of Australia’s thermal coal exports declined from $26 billion in 2018–19 to an estimated $20 billion in 2019–20: the impact of price falls were only partly offset by an estimated 3 million tonne increase in export volumes. A number of miners reported lower output as a result of bad weather and/or bushfires in the March quarter 2020, including BHP, Yancoal and Whitehaven.

Australia’s thermal coal exports have been relatively resilient to the impacts of COVID-19 to date. Exports increased year-on-year in February and March and, while falling back in April by around 7 per cent, (Figures 6.10), look to have only weakened slightly in May based on New South Wales ports data.

Figure 6.10: Australia’s thermal coal exports, monthly

Source: ABS (2020)
Thermal coal export earnings to decline driven by lower prices

Thermal coal export earnings are forecast to decline by around $4 billion to $16 billion in 2020–21, due to lower prices and slightly lower export volumes (Figure 6.11). The benchmark Newcastle 6,000 kcal spot price has fallen to around US$50 a tonne, down from the US$60-70 a tonne range, and is expected to take some time to recover.

Australia’s thermal coal export volumes are forecast to edge down from an estimated 213 million tonnes in 2019–20 to 210 million tonnes in 2020–21. Forecast low prices over the next 12 months are expected to result in lower production at higher cost mines. However, the low Australian dollar and recent falls in oil prices (and resultant low diesel prices) should partly offset pressures from low seaborne prices.

Figure 6.11: Australia’s thermal coal exports

In late May, Peabody announced the temporary closure of its 2.5 million tonne per annum Wambo underground thermal and semi-soft coking coal mine in New South Wales. Production will be halted at the mine for around 2 months from 19 June. Earlier in the month, Terracom Resources announced that it would target coal sales of 2 million tonnes in 2020–21 from its Blair Athol mine in Queensland (down from an expected 2.5-2.6 million tonnes in 2019–20), due to the impacts of COVID-19. Glencore’s Rolleston mine in Queensland, which produces around 16 million tonnes per annum, was reported to have stopped production for two weeks in early June, due to low prices. A number of mines which predominantly produce metallurgical coal have also announced cutbacks to output. Further such announcements are expected.

A significant proportion of Australian thermal coal production is loss-making at current spot prices. On a calorific-value-adjusted basis, an estimated one third of Australian thermal coal exports are cash negative at prices of US$50 a tonne for Newcastle 6,000 kcal coal (Figure 6.12). However, a number of factors should see Australian supply remain relatively resilient and minimise the risk of widespread mine closures:

- Some Australian thermal coal is exported on contracts which provide Australian miners with some protection from lower spot prices, at least until these contracts expire. The 2020–21 Japanese fiscal year (April to March) contract price settled at US$68.75 a tonne, well above the forecast for average spot prices of US$54 a tonne for the same period (see Section 6.2 Prices).
- Mines may run at loss for a time — given the costs associated with shutting down production — until prices recover. The costs associated with placing a mine on care and maintenance are relatively high in Australia, compared with nations like Indonesia.
- Mines may have ‘take-or-pay’ clauses in contracts with rail and port facilities, under which they incur costs whether or not they produce. Mines may continue to produce even if their costs are above prices, because take-or-pay costs are greater than losses from producing.
- Some of the mines that are uneconomic at current thermal coal prices do not rely on their thermal coal sales for the bulk of their revenue, because they mainly produce metallurgical coal (Figure 6.12). However, low metallurgical coal prices could threaten the viability of some of these mines (see the metallurgical coal chapter).
Notes: The margin curve incorporates the following assumptions: a price of US$50 a tonne for Newcastle 6,000 kcal coal; an adjustment to mine costs based on this calorific content; an exchange rate of 1 AUD = US$0.65; ‘Thermal’ refers to mines that produce 100 per cent thermal coal; ‘Mostly thermal’ more than 70 per cent; ‘Thermal/met 30–70 per cent; ‘Mostly met’ 1–30 per cent.

Source: AME Group (2020); Department of Industry, Science, Energy and Resources (2020)

Australian thermal coal export earnings are forecast to edge up by around $1 billion to $17 billion in 2021–22, driven by higher prices and a partial recovery in export volumes.

Revisions to the outlook for Australian thermal coal exports

Australia’s forecast thermal coal export earnings have been revised down by about $2 billion in both 2020–21 and 2021–22, due to both forecast low prices and lower export volumes. Forecast export volumes have been revised down by 9-11 million tonnes in 2020–21 and 2021–22. With global thermal coal demand expected to contract sharply in 2020 — and to take some time to recover — the ramp up in Australian thermal coal export volumes projected in the March 2020 Resources and Energy Quarterly is no longer expected during the outlook period. Higher-cost operations are under pressure, and other miners may defer both capital investment and the ramp up of production until market conditions become more favourable.
### Table 6.1: World trade in thermal coal

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<td>65</td>
<td>70</td>
<td>77</td>
<td>-15.6</td>
</tr>
<tr>
<td>United States</td>
<td>Mt</td>
<td>34</td>
<td>20</td>
<td>22</td>
<td>24</td>
<td>-41.7</td>
</tr>
</tbody>
</table>

Notes: <sup>f</sup> Forecast; <sup>s</sup> Estimate.
### Table 6.2: Thermal coal outlook

<table>
<thead>
<tr>
<th>World</th>
<th>Unit</th>
<th>2019</th>
<th>2020¹</th>
<th>2021¹</th>
<th>2022¹</th>
<th>2020¹</th>
<th>2021¹</th>
<th>2022¹</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contract prices</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>– nominal</td>
<td>US$/t</td>
<td>95</td>
<td>69</td>
<td>66</td>
<td>71</td>
<td>-27.4</td>
<td>-3.7</td>
<td>6.6</td>
</tr>
<tr>
<td>– real&lt;sup&gt;d&lt;/sup&gt;</td>
<td>US$/t</td>
<td>97</td>
<td>69</td>
<td>65</td>
<td>68</td>
<td>-28.9</td>
<td>-5.7</td>
<td>4.2</td>
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<tr>
<td><strong>Spot prices</strong>&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>– nominal</td>
<td>US$/t</td>
<td>74</td>
<td>56</td>
<td>61</td>
<td>65</td>
<td>-24.5</td>
<td>9.4</td>
<td>6.5</td>
</tr>
<tr>
<td>– real&lt;sup&gt;e&lt;/sup&gt;</td>
<td>US$/t</td>
<td>76</td>
<td>56</td>
<td>60</td>
<td>62</td>
<td>-26.1</td>
<td>7.1</td>
<td>4.1</td>
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<tr>
<td><strong>Australia</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Production</td>
<td>Mt</td>
<td>271</td>
<td>265</td>
<td>273</td>
<td>278</td>
<td>-2.2</td>
<td>2.7</td>
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<td>Export volume</td>
<td>Mt</td>
<td>210</td>
<td>213</td>
<td>210</td>
<td>216</td>
<td>1.3</td>
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<tr>
<td>– nominal value</td>
<td>A$m</td>
<td>25,958</td>
<td>19,806</td>
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<tr>
<td>– real value&lt;sup&gt;h&lt;/sup&gt;</td>
<td>A$m</td>
<td>26,446</td>
<td>19,806</td>
<td>15,662</td>
<td>16,525</td>
<td>-25.1</td>
<td>-20.9</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Annual percentage change**

<sup>b</sup> Japanese Fiscal Year (JFY), starting April 1, fob Australia basis. Australia–Japan average contract price assessment for steaming coal with a calorific value of 6700 kcal/kg gross air dried; <sup>c</sup> In current JFY US dollars; <sup>d</sup> fob Newcastle 6000 kcal net as received; <sup>e</sup> In 2020 US dollars; <sup>f</sup> Forecast; <sup>h</sup> In 2019–20 Australian dollars.

Source: ABS (2020) International Trade in Goods and Services, Australia, Cat. No. 5368.0; IHS (2020); NSW Coal Services (2020); Queensland Department of Natural Resources and Mines (2020); Company Reports; Department of Industry, Science, Energy and Resources (2020)