Australia exported 208 million tonnes in 2018, valued at $26 billion.

Australia is the second largest thermal coal exporter in the world.

Around 80% of Australia's thermal coal is exported.

1 tonne of coal powers the average Australian household for approximately 4 months.

Australia's thermal coal export earnings by destination, 2018:

- 39% Japan
- 21% China
- 15% South Korea
- 11% Taiwan
- 2% India
- 9% Rest of the world

Global share of thermal coal exports in 2017:

- 37% Indonesia
- 20% Australia
- 14% Russia
- 8% Columbia
- 7% South Africa
- 2% USA
- 11% Rest of the world

Global share of thermal coal imports in 2017:

- 19% China
- 18% European Union
- 14% India
- 13% Japan
- 10% South Korea
- 6% Taiwan
- 20% Rest of the world
6.1 Summary

- The Newcastle benchmark spot price is forecast to decline from an average of US$108 a tonne in 2018 to US$76 a tonne in 2021, in real terms, as supply growth outpaces demand. The price is then expected to recover modestly to reach US$82 a tonne by 2024, as a lack of new projects constrains world supply.
- Ongoing policy uncertainty in China remains the key risk to the outlook for thermal coal prices.
- Australia’s export volumes are forecast to grow from 203 million tonnes in 2017–18 to 225 million tonnes by 2023–24, reflecting production growth from new capacity and expansions, recovery from production disruptions, and productivity improvements.
- Australia’s thermal coal export earnings are forecast to reach a new record of $27 billion in 2018–19, up from an existing record $23 billion in 2017–18, driven by strong prices. Export earnings are forecast to decline (in real terms) to $20 billion by 2023–24, as the impact of lower prices offsets higher export volumes.

6.2 Prices

Prices have declined on weaker demand

The benchmark thermal coal spot price (Newcastle 6000kcal/kg NAR) averaged an estimated US$96 a tonne in the March 2019 quarter, down by 3.4 per cent and 2.6 per cent on the quarter and year, respectively. The benchmark spot price has steadily declined from 7-year highs in July 2018, when it reached US$120 a tonne. The decline primarily reflects weaker demand from China, as domestic production recovers and changes to import policies take effect, and from the rest of east Asia, with a mild winter reducing heating demand.

The price difference between higher and lower quality thermal coal has remained relatively high, averaging US$40 a tonne between Newcastle 6000kcal and Indonesian 4700kcal in the March quarter (Figure 6.1). The divergence in prices has been driven by a tighter market for higher energy coal, as demand increases in east Asia due to air quality concerns.

Figure 6.1: Thermal coal prices

Notes: Price difference refers to Newcastle 6000kcal and Indonesian 4700kcal prices
Source: IHS (2019)

Weaker demand to weigh on prices in short term

The benchmark thermal coal spot price is forecast to steadily ease in the short-term, from an average of US$108 a tonne in 2018 to US$76 a tonne in 2021, in real terms (Figure 6.2). This reflects an expected increase in supply, predominantly from Australia and Russia, and an expected decline in demand, predominantly from China. The Japanese Fiscal Year (JFY) contract price, which serves as a benchmark for the Asian market, is also forecast to decline, but settle at a premium relative to the spot price. At the time of writing, the 2019–20 (April 2019 to March 2020) contract price had not yet been settled, although negotiations between Glencore and Japanese power utilities are reportedly underway.

Developments in China’s thermal coal market remain the key risk to the outlook for thermal coal prices, due to the sheer size of its domestic coal market and ongoing uncertainty over its import policy (see Box 6.1). Lower Chinese imports could potentially push prices even lower. Countering this, import demand from developing Asia, particularly India and Vietnam, has been stronger than expected, and could provide price support.
Lack of investment to provide price support over the medium term

In the medium term, the benchmark thermal coal price is projected to modestly recover in real terms to US$82 a tonne in 2024. A lack of substantial investment around the world is expected to constrain supply growth, providing price support.

Although there is a large pipeline of potential projects in Australia and around the world, there is a growing reluctance to commit to new greenfield projects. This is despite the recent strength in market conditions, and an expectation that demand for thermal coal will grow rapidly in developing countries. Projects have struggled to attract financing, with a growing list of lenders announcing they will no longer finance thermal coal projects, and pension and equity funds divesting from coal. There is also growing public opposition to thermal coal usage and coal projects, and more challenging regulatory conditions in most mining jurisdictions.

**Figure 6.2: Thermal coal price outlook**

![Thermal coal price outlook graph](image)

**Notes:** JFY is Japanese Fiscal Year (April to March).
**Source:** IHS (2019), Department of Industry, Innovation and Science (2019)

6.3 World trade

World trade in thermal coal is projected to decline marginally over the outlook period, but remain at around 1.1 billion tonnes. However, this masks stark regional variations in the outlook for thermal coal demand.

China’s thermal coal imports are projected to decline as domestic production recovers after several years of industry reforms. While China is still projected to be the largest thermal coal importer in 2024, its share of world imports is projected to decline from an estimated 19 per cent in 2018 to 15 per cent in 2024. Coal imports from most developed countries are projected to decline, as governments accelerate their energy transition and phase out coal-fired power generation.

Countering these trends, countries in south and southeast Asia, are expanding their coal-fired power generation and are expected to be the key sources of import growth (Figure 6.3).

**Figure 6.3: Thermal coal imports**

![Thermal coal imports graph](image)

**Notes:** s Estimate f Forecast z Projection
**Source:** IHS (2019); IEA (2018) Coal Market Report; Department of Industry, Innovation and Science (2019)
Australia and Russia are expected to be the key sources of export growth (Figure 6.4), and increase their share of the seaborne market from 19 and 15 per cent in 2018 to 21 and 18 per cent in 2024, respectively. Exports from Indonesia and South Africa, the first and fourth largest exporters, respectively, are projected to remain subdued or even decline, as more coal is directed towards domestic requirements in both countries.

**Figure 6.4: Thermal coal exports**

![Thermal coal exports graph](image)

Notes: s Estimate f Forecast z Projection

**World imports**

China's coal imports will continue to be driven by government policy

China imported around 216 million tonnes of thermal coal in 2018, broadly steady from 2017. Imports declined sharply in November and December 2018, as the authorities tightened import restrictions to cap total coal imports at the same level as 2017, and rebounded in January 2019, as the annual import quota was reset (Figure 6.5). There have also been reports of extended customs clearance times at major ports. There remains substantial uncertainty regarding China’s coal import policies, which are discussed further in Box 6.1.

**Figure 6.5: China’s monthly thermal coal imports**

![China’s monthly thermal coal imports graph](image)


There are several factors that are expected to influence China’s imports of thermal coal going forward:

- Thermal coal consumption is projected to increase marginally. While the government is seeking to reduce the share of coal in the energy mix — in favour of gas and renewables to improve air quality — an increase in electricity demand is expected to drive an overall increase in thermal coal demand in the short-term.

- Chinese thermal coal production (which accounts for almost half of total world production) is projected to recover, following three years of industry reforms, with the bulk of capacity closures largely concluded.

- China’s domestic thermal coal prices are likely to come under pressure in an oversupplied domestic market, and the government is expected to continue to carefully manage the balance of domestic consumption and production.

On balance, China’s imports of thermal coal are projected to decline at an average rate of 5.2 per cent, reaching 157 million tonnes in 2024 (Figure 6.7). As always, and as highlighted in the last few months, forecasting China’s thermal coal imports is underpinned by considerable risks, due to the sheer size of its domestic coal industry and ongoing policy uncertainty.
**Box 6.1 China’s coal imports: Key statistics and recent developments**

Small changes, large impacts

The sheer size of China’s coal consumption and production means that even relatively small changes in domestic output and policy can have large impacts on the internationally traded metallurgical and thermal coal markets. China is the world’s largest coal consumer and producer, with imports used to balance domestic consumption and production.

**Table 6.1: China’s coal production, consumption and imports in 2017**

<table>
<thead>
<tr>
<th></th>
<th>Consumption (mt)</th>
<th>Production (mt)</th>
<th>Imports (mt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metallurgical coal</td>
<td>607</td>
<td>540</td>
<td>70</td>
</tr>
<tr>
<td>— Share of world (%)</td>
<td>61</td>
<td>52</td>
<td>24</td>
</tr>
<tr>
<td>Thermal coal</td>
<td>3,046</td>
<td>2,836</td>
<td>201</td>
</tr>
<tr>
<td>— Share of world (%)</td>
<td>53</td>
<td>50</td>
<td>18</td>
</tr>
<tr>
<td>Total coal</td>
<td>3,654</td>
<td>3,376</td>
<td>271</td>
</tr>
<tr>
<td>— Share of world (%)</td>
<td>54</td>
<td>50</td>
<td>20</td>
</tr>
</tbody>
</table>

Notes: Production and imports will not sum to consumption, due to stock changes and small volumes of exports from China.

Source: IEA Coal Information 2018, accessed through the 20/20 Professional Browser

While imports only accounted for around 12 and 7 per cent of China’s total metallurgical and thermal coal consumption in 2017, respectively, they accounted for much larger shares of the internationally traded market, at 24 and 18 per cent (Table 6.1). China accounted for similar shares of Australia’s coal exports in 2018 (Table 6.2), and was Australia’s second largest market for both thermal and metallurgical coal exports, after Japan and India, respectively.

In 2018, about half of China’s metallurgical coal imports were sourced from Australia, with the remainder predominantly sourced from Mongolia, Russia and Canada (Table 6.3). More than half of China’s thermal coal imports were from Indonesia, a quarter were from Australia, with the remainder from Russia, Mongolia, and other smaller exporters.

**Table 6.2: Australia’s coal exports to China in 2018**

<table>
<thead>
<tr>
<th></th>
<th>Volume (mt)</th>
<th>Share (%)</th>
<th>Value (A$ billion)</th>
<th>Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metallurgical coal</td>
<td>39</td>
<td>22</td>
<td>9.2</td>
<td>23</td>
</tr>
<tr>
<td>Thermal coal</td>
<td>50</td>
<td>24</td>
<td>4.9</td>
<td>19</td>
</tr>
<tr>
<td>Total coal</td>
<td>89</td>
<td>23</td>
<td>14</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: ABS (2019) International Trade, Australia, cat. no. 5454.0

**Table 6.3: China’s coal imports in 2018**

<table>
<thead>
<tr>
<th>Metallurgical coal</th>
<th>Country</th>
<th>Imports (million tonnes)</th>
<th>Share (per cent)</th>
<th>Thermal coal</th>
<th>Country</th>
<th>Imports (million tonnes)</th>
<th>Share (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Australia</td>
<td>28.3</td>
<td>44</td>
<td>Indonesia</td>
<td>125.7</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mongolia</td>
<td>27.7</td>
<td>43</td>
<td>Australia</td>
<td>52.6</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Russia</td>
<td>4.4</td>
<td>6.8</td>
<td>Russia</td>
<td>21.8</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Canada</td>
<td>2.2</td>
<td>3.4</td>
<td>Mongolia</td>
<td>8.1</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>United States</td>
<td>2.0</td>
<td>3.0</td>
<td>Canada</td>
<td>0.7</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>New Zealand</td>
<td>0.1</td>
<td>0.2</td>
<td>United States</td>
<td>0.4</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>64.9</strong></td>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>215.9</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vietnam</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: China’s coal import data does not match with Australia’s export data due to differences in customs classifications at origin and destination ports.


The scale of China’s coal demand relative to the size of global coal markets, coupled with ongoing policy uncertainty, makes developments in China a key risk to the outlook for coal prices and Australian coal exports.
China’s coal imports are influenced by both market and policy drivers. There are several dynamics that determine China’s coal imports. Price arbitrage opportunities play a key role, with buyers purchasing on the seaborne market when international prices (adjusted for freight costs) are lower than domestic coal prices.

Domestic coal production has been a major factor impacting imports over the last three years and is expected to remain so, with China’s coal sector recently undergoing substantial structural reforms.

In 2016, the National Development and Reform Commission (NDRC) released a five year plan for the coal industry, which aimed to address overcapacity in the sector by cutting capacity that did not meet efficiency, safety, environmental, quality and other regulatory standards. The NDRC targeted a reduction in coal capacity of 500 million tonnes between 2016 and 2020. For a brief period in 2016, the State Council also mandated a reduction in working days at coal mines from 330 to 276 days, to reduce actual coal output. The impact of these policies resulted in a decline in China’s coal output and an increase in domestic prices, and subsequently a rise in coal imports.

With the bulk of the capacity cuts now completed, and a large pipeline of low-cost, safer and cleaner additions to thermal coal capacity, China’s coal output is expected to grow, reducing the need for imports. An estimated 200 million tonnes of capacity is ready to start production in 2019, more than offsetting an estimated 100 million tonnes of capacity closures. Another 400 million tonnes of approved capacity is under construction, in addition to substantial increases in coal rail freight capacity. With thermal coal accounting for much of the new capacity, thermal coal imports are expected to be more affected than metallurgical coal imports.

China’s coal imports are also affected by a range of policies aimed at achieving various outcomes. The sharp rise in coal imports in 2016 led to concerns regarding the high level of imports displacing domestic production, and capping annual coal imports became a policy target from 2017 onwards. The effects of this policy can be observed by looking at China’s import data from November 2018 to January 2019 (Figure 6.5).

Policies to influence thermal coal imports have also been increasingly used (alongside other policies) to stabilise domestic thermal coal prices within the ‘green zone’ — a price band of 500 to 570 RMB in which the domestic benchmark thermal coal price is allowed to range before the government intervenes (Figure 6.6).

Figure 6.6: China’s domestic thermal coal price

Source: Bloomberg (2019)

The Chinese government has also occasionally implemented measures that resulted in extended customs clearance times at major ports for both metallurgical and thermal coal. Media reports in early 2019 alluded to new measures impacting Australian coal shipments. In February, the Chinese Government reported that its Customs authority had enhanced quality and safety inspections for coal imports. There remains substantial uncertainty around restrictions of coal imports at Chinese ports. The impacts on Australian coal producers depend on how the measures are implemented, and whether Australian coal is disproportionately affected. If there is a prolonged decline in Chinese imports of Australian coal, some of the impacts on Australian producers could be lessened by a redirection of trade flows, but prices for Australian coal could also come under pressure.

With authorities expected to continue adjusting policy levers to achieve various goals, ongoing policy uncertainty is expected to remain a key risk to the outlook for China’s coal imports in the coming years, and consequently coal prices and Australian coal exports.
Japanese thermal coal imports to gradually decline

In 2018, Japan’s imports of thermal coal declined by 2.8 per cent to 140 million tonnes. The decline was a result of an overall drop in energy consumption, in addition to outages at coal-fired power plants due to an earthquake and increases in both nuclear and gas-fired power generation.

Over the same period, imports of thermal coal from Australia decreased by 4.1 per cent, while imports from the US, Russia and South Africa all increased. After three years of power sector reforms — which aimed to boost competition and energy security — the purchasing patterns of Japanese power utilities have shifted, with utilities increasingly diversifying their sources of supply and purchasing more coal on short term contracts and on spot markets to minimise costs.

Japan’s imports of thermal coal are forecast to contract at an annual average rate of 1.1 per cent, reaching 131 million tonnes in 2024. A gradual decline in coal-fired power generation is expected to be driven by nuclear restarts.

South Korea’s coal imports to decline as energy transition accelerates

South Korea’s thermal coal imports increased marginally in 2018 to 115 million tonnes. The trial introduction of a cap on the sulphur content of coal burned has likely resulted in a minor substitution towards lower sulphur coal. Imports of Indonesian coal were down by 8.6 per cent (or 3.5 million tonnes), while imports from Australia fell by 3.5 per cent (or 1.2 million tonnes). Imports from Canada, Russia and Colombia — all countries with lower sulphur content coal — increased by a combined 20 per cent, or 7.6 million tonnes. The cap will be imposed again from March to May this year.

Since the inauguration of the new government in 2017, there have been a range of measures to reduce coal consumption in the power sector. These include the cancellation of new coal-fired power plant capacity, the shutdown of older plants when the air quality is poor, and increased taxes on coal and reduced taxes on gas to reduce the price gap between the two fuels.

Policies to support the energy transition are expected to continue over the outlook period, which are expected to reduce coal imports to 111 million tonnes by 2024.

Taiwan’s coal imports projected to grow marginally

Taiwan’s thermal coal imports remained broadly steady in 2018, at an estimated 60 million tonnes. Taiwan’s thermal coal imports are projected to grow very marginally — at an average annual rate of 0.8 per cent over the outlook period — in line with rising power demand. A referendum was held in November 2018, where Taiwanese voters endorsed the government’s stance that there should be no further coal-fired power development.
India’s consumption of thermal coal has outpaced production growth

After two consecutive years of decline, India’s thermal coal imports grew by 15 per cent to 168 million tonnes in 2018. Domestic production of thermal coal grew by an estimated 6.2 per cent to 645 million tonnes, but still failed to keep pace with rapid growth in coal consumption. Strong growth in coal demand has been driven by the expanding manufacturing sector and growing demand for grid power. In late February 2019, the power minister announced that India was on track to achieve 100 per cent household electrification by March 2019, with the next target to be 24 hour power supply to all households.

Throughout 2018, domestic production from the state-owned Coal India — which accounts for over 80 per cent of India’s total coal production — was diverted to state-owned power plants, driving private industries and utilities to the seaborne market.

Despite government ambitions for self-sufficiency, efforts to ramp up domestic production have been constrained by a range of challenges, including domestic rail and other infrastructure bottlenecks, land acquisition and regulatory issues. With strong demand growth expected to continue, and these challenges unlikely to be resolved in the short-term, India’s thermal coal imports are forecast to increase over the next two years, peaking at 185 million tonnes in 2020.

In the medium term, India’s thermal coal imports are projected to fall back to 153 million tonnes by 2024, as some of these production constraints ease. However, this outlook is underpinned by considerable uncertainty, and primarily depends on the success of ongoing government efforts to reduce import dependency. In addition to introducing measures to reduce the current infrastructure bottlenecks, the government has implemented policy changes to support private ownership of mines, and has plans to increase spending on coal exploration.

Emerging Asia expected to be a key source of thermal coal import growth

There has been strong growth in thermal coal imports into emerging Asia, where coal-fired power generation is expanding in line with rapidly growing power demand. In Vietnam, imports were driven by coal-fired power generation, which grew by around 10 per cent to 209 terawatt hours in 2018. While Vietnam also produces coal (around 42 million tonnes in 2018) in the north, most of the newer coal-fired power plants are in the south of the country, and are predominantly fueled by imported coal.

Strong import growth into the south and south east Asian region is expected to continue over the outlook period, with thermal coal imports projected to grow at an annual average rate of 7.8 per cent between 2018 and 2024, or almost 70 million tonnes (Figure 6.8). Vietnam, the Philippines, Pakistan and Bangladesh are expected to be the key sources of import growth, as new coal-fired power plants come online.

However, thermal coal import growth is forecast to remain subdued in several countries in the region, where there has been a lack of public or government support for new coal-fired power capacity. For example, in Thailand, plans to build two new coal-fired power plants have been cancelled due to public opposition.

**Figure 6.8: South and South East Asia thermal coal imports**

World exports

Indonesia’s thermal coal exports projected to decrease from current levels

Indonesia’s thermal coal exports grew by 10 per cent to 429 million tonnes in 2018 — a record high — while 115 million tonnes of Indonesian production was sold on the domestic market. The Indonesian government raised the production target to boost exports, in order to help reduce the country’s trade deficit. Indonesia’s thermal coal exports are forecast to continue to grow to 433 million tonnes in 2019, with the government expected to remain supportive of strong exports figures ahead of the 2019 election.

In the longer term, the government is expected to limit annual production to lower levels, in order to safeguard coal reserves for future use. While Indonesia is the largest exporter of thermal coal, it’s recoverable coal reserves total 27 billion tonnes, around 2 per cent of the world total, which should last for 60 years at current production rates. The government is also expected to continue to increase the Domestic Market Obligation (DMO), under which Indonesian producers are obliged to sell at least 25 per cent of production into the domestic market at capped prices.

With constrained production and supply being increasingly diverted to domestic consumption, Indonesia’s thermal coal exports are projected to decline to around 366 million tonnes by 2024.

South Africa’s coal exports likely to remain subdued

South Africa exported an estimated 79 million tonnes of thermal coal in 2018, marginally lower than in 2017. Exports have been weighed down by a range of factors, including weather-related delays at the Richards Bay terminal, higher prices dampening demand from price-sensitive India (which accounts for over half of South Africa’s thermal coal exports), ongoing infrastructure bottlenecks and subdued mining investment.

Thermal coal exports from South Africa are forecast to remain subdued in the short term due to minimal investment in the industry and ongoing infrastructure constraints. In addition, Eskom, the national electricity utility, has been experiencing severe coal shortages, which may result in more thermal coal being diverted to the domestic market.

In the medium term, South Africa’s thermal coal exports are projected to rise modestly, to reach around 87 million tonnes by 2024. However, there are considerable risks to this forecast. While the government is expected to improve the investment environment by changing mining regulations, addressing the ongoing problems at Eskom, and boosting rail capacity, it is uncertain whether these measures will translate to higher production.

Russia’s thermal coal exports forecast to grow

Russia’s thermal coal exports grew by 8.7 per cent to a record high 172 million tonnes in 2018, predominantly driven by infrastructure developments at its eastern port — which exports coal to Asia. Russia has increased its market share of the Asian premium market, where Japan’s utilities are diversifying their sources of supply and South Korea’s new regulations are increasing demand for Russia’s low sulphur coal.

Russia’s thermal coal exports are projected to grow at an average annual rate of 2.1 per cent over the outlook period, to reach 195 million tonnes by 2024. Export growth will be supported by ongoing government plans to invest in its coal industry and rail and port infrastructure.

Exports from the United States to remain subdued

Thermal coal exports from the US grew by more than 13 million tonnes to over 50 million tonnes in 2018, driven by high prices. Thermal coal exports are expected to decline from current levels in the short-term, as prices decline. The US is a swing supplier to the seaborne market, with exports largely determined by prices. Exports from the United States are projected to modestly recover in the medium term, driven by an expected price recovery and declining domestic demand.

Colombia’s thermal coal exports to decline

Colombia’s thermal coal exports declined by 3.8 per cent to 80 million tonnes in 2018, and are projected to decline at an average annual rate of 0.9 per cent over the outlook period to reach 76 million tonnes in 2024, driven by an ongoing lack of investment in the country’s coal sector.
6.4 Australia

Thermal coal exports earnings forecast to reach a record $27 billion

Australia’s thermal coal export earnings are forecast to grow by 16 per cent to reach a record $27 billion in 2018–19, driven by strong spot and contract prices. Export earnings are projected to decline and then plateau over the remainder of the outlook period, finishing at $20 billion in real terms in 2023–24 (Figures 6.9 and 6.10).

Australia’s thermal coal export volumes projected to grow

Australia’s thermal coal export volumes are forecast to grow from 203 million tonnes in 2017–18 to 225 million tonnes in 2023–24. The trajectory of Australia’s thermal coal export volumes growth reflects several factors, including:

- Ongoing productivity improvements and expansions across several operations, as announced in company reports.
- The ramp up of several new projects, including the Mount Pleasant, Orion Downs, Byerwen and Carmichael mines, and several metallurgical coal mines in Queensland that also produce thermal coal.
- The closure of several mines due to resource depletion, partially offsetting some production growth.

Adani’s Carmichael project has been included in the thermal coal export projections in the Resources and Energy Quarterly for the first time. In November 2018, Adani announced that a scaled-down version of the project would proceed, and be entirely self-funded. However, as with all mining projects, there remains a range of regulatory, financial and technical risks that could result in further delays.

There is a large pipeline of thermal coal projects in both New South Wales and Queensland that have not been included in the forecasts (see the Major Projects chapter of the December 2018 Resources and Energy Quarterly). Final investment decisions have not yet been undertaken for these projects, so there is less certainty that they will proceed.
Table 6.4: World trade in thermal coal

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>2018</th>
<th>2019f</th>
<th>2020f</th>
<th>2021f</th>
<th>2022f</th>
<th>2023f</th>
<th>2024f</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>World trade</td>
<td>Mt</td>
<td>1,141</td>
<td>1,152</td>
<td>1,140</td>
<td>1,118</td>
<td>1,105</td>
<td>1,091</td>
<td>1,091</td>
<td>-0.7</td>
</tr>
<tr>
<td>Thermal coal imports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td>Mt</td>
<td>833</td>
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<td>846</td>
<td>827</td>
<td>819</td>
<td>808</td>
<td>797</td>
<td>-0.7</td>
</tr>
<tr>
<td>China</td>
<td>Mt</td>
<td>216</td>
<td>209</td>
<td>194</td>
<td>179</td>
<td>172</td>
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<td>157</td>
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<td>Indonesia</td>
<td>Mt</td>
<td>429</td>
<td>433</td>
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<td>389</td>
<td>381</td>
<td>374</td>
<td>366</td>
<td>-2.6</td>
</tr>
<tr>
<td>Australia</td>
<td>Mt</td>
<td>208</td>
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<td>182</td>
<td>186</td>
<td>191</td>
<td>195</td>
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<td>Mt</td>
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<td>85</td>
<td>87</td>
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<td>Mt</td>
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<td>46</td>
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Notes: s Estimate; f forecast; z Projection.
Table 6.5: Thermal coal outlook

<table>
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<tr>
<th>World</th>
<th>Unit</th>
<th>2018</th>
<th>2019(^f)</th>
<th>2020(^f)</th>
<th>2021(^f)</th>
<th>2022(^e)</th>
<th>2023(^c)</th>
<th>2024(^c)</th>
<th>CAGR(^r)</th>
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<tr>
<td><strong>Contract prices(^b)</strong></td>
<td></td>
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<td>– nominal</td>
<td>US$/t</td>
<td>110</td>
<td>99</td>
<td>90</td>
<td>86</td>
<td>83</td>
<td>87</td>
<td>94</td>
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<tr>
<td>– real(^c)</td>
<td>US$/t</td>
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<td>97</td>
<td>86</td>
<td>80</td>
<td>76</td>
<td>78</td>
<td>82</td>
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<tr>
<td><strong>Spot prices(^d)</strong></td>
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<tr>
<td>– nominal</td>
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<td>105</td>
<td>92</td>
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<td>20,941</td>
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</table>

Notes: \(b\) 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; \(c\) In current JFY US dollars; \(d\) fob Newcastle 6000Kcal net as received; \(e\) In 2019 US dollars; \(f\) Forecast; \(h\) In 2018–19 Australian dollars; \(r\) Compound annual growth rate from 2018 to 2024, and 2017–18 to 2023–24.

Source: ABS (2019) International Trade in Goods and Services, Australia, Cat. No. 5368.0; IHS (2019); NSW Coal Services (2019); Queensland Department of Natural Resources and Mines (2019); Company Reports; Department of Industry, Innovation and Science (2019)