

Thermal Coal

Resources and Energy Quarterly June 2018

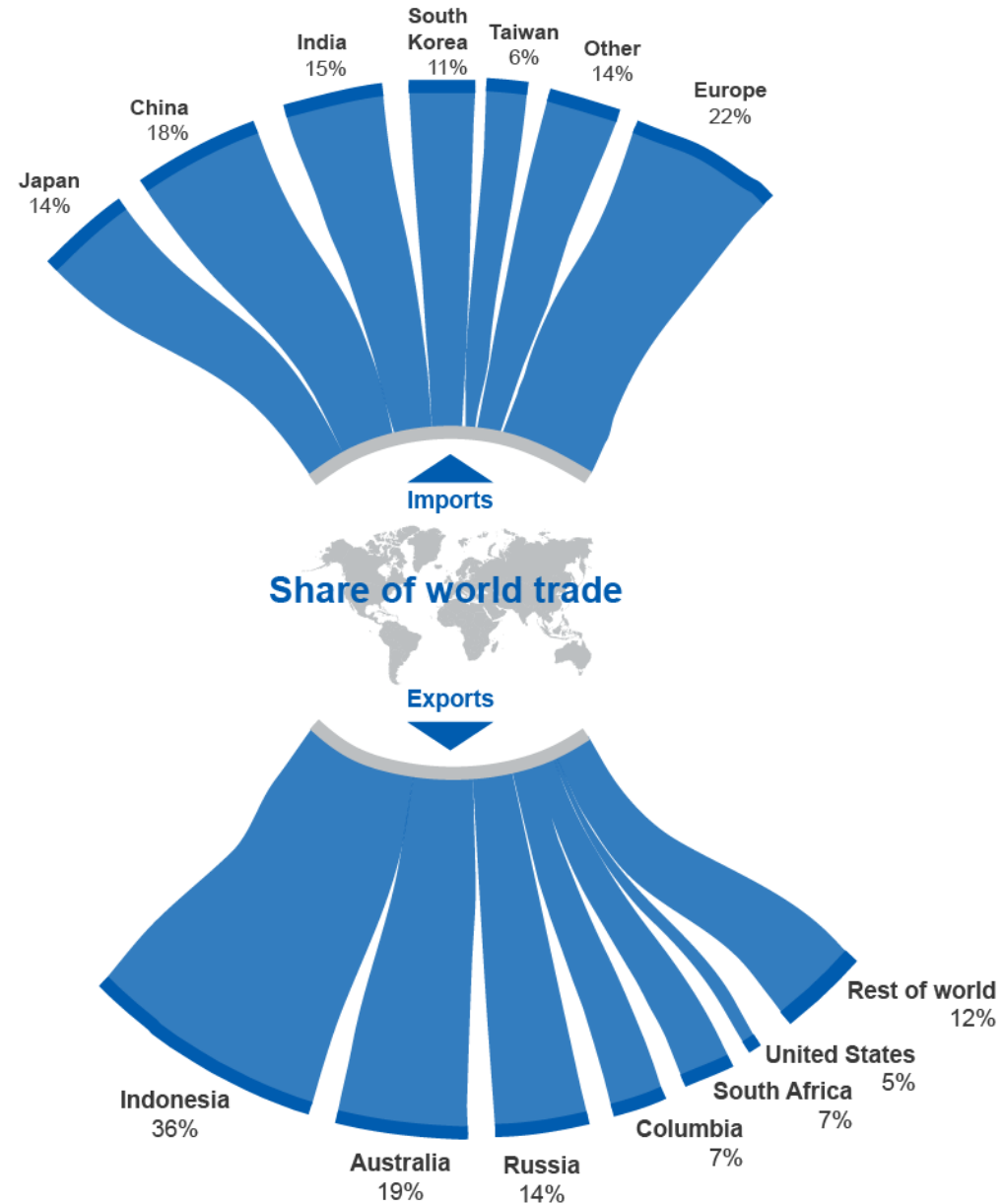
Australia is the second largest thermal coal exporter in the world.



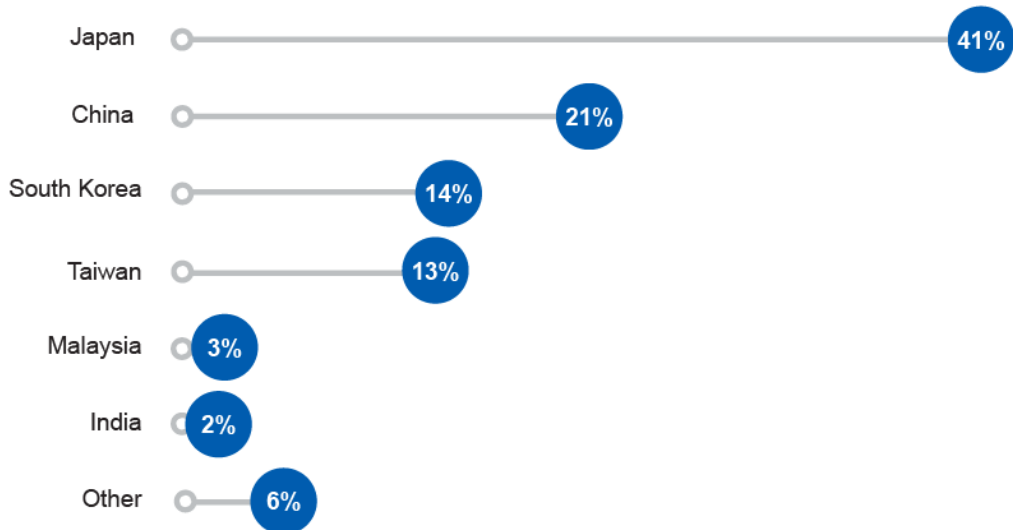
Australia exported **202 million tonnes** of thermal coal in 2016–17, valued at **\$19 billion**

79% of Australia's thermal coal is exported

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



Australian thermal coal (key export destinations), 2016–17



6.1 Summary

- Thermal coal prices have been supported by strong demand from Asia and constrained supply. However with the recent market tightness coming from largely transitory factors, the spot price is forecast to fall from an average of US\$99 a tonne in 2018 to US\$74 a tonne in 2020.
- Australia's thermal coal export earnings are estimated to have reached a record \$23 billion in 2017–18, driven by high prices. Export values are forecast to decline to \$19 billion in 2019–20, as a result of lower prices and broadly flat export volumes, at around 200 million tonnes.

6.2 Prices

Strong demand pushes prices higher

The Newcastle benchmark spot price averaged US\$104 a tonne in the June quarter, retracing the sharp fall in March with a strong rally throughout April to June. The spot price has been buoyed by a tighter market, with limited growth in supply combining with strong demand from Asia. Import demand from China has been supported by hotter than average temperatures, weak hydro power output, and limited growth in domestic supply. South Korea's imports have also increased as a result of a substantial drop in nuclear power output. Supply in South Africa has been diverted to domestic power-generating facilities, impacting exports.

The spot price is forecast to remain well supported over the next few months, as a result of a relatively tight market. However, with most of the contributing factors expected to be temporary, the price is forecast to decline from late 2018, to average US\$74 a tonne in 2020 as import demand growth slows relative to supply. Both China and India are expected to increase domestic thermal coal output.

Negotiations between Glencore and Japan's Tohoku Electric to set the price for a thermal coal supply contract for the 2018–19 Japanese financial year (JFY April 2018 to March 2019) have ended without a settlement, 3 months after the official deadline of 1 April. Prices may now need to be settled by an alternative method, such as an index basis (as for metallurgical coal for the past year).

Figure 6.1: Thermal coal spot prices, weekly



Notes: NAR is 'net as received'.

Source: IHS (2018)

Figure 1.2: Quarterly Australian thermal coal prices



Source: IHS (2018); Department of Industry, Innovation and Science (2018)

6.3 World trade

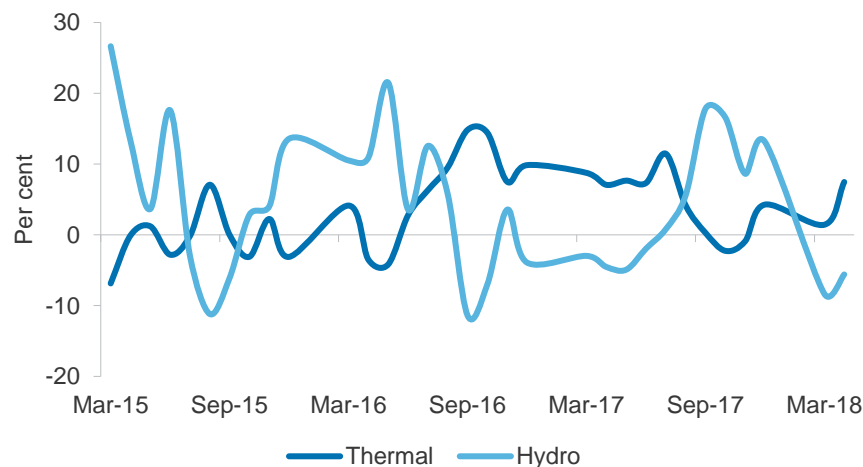
World thermal coal markets have tightened in recent months on a combination of factors, including strong demand across Asia and constrained supply growth. World trade in thermal coal is forecast to remain broadly steady in 2018 at 1.06 billion tonnes, before modestly declining to 1.04 billion tonnes in 2020, underpinned by growing domestic supply in both China and India, and a gradual shift away from coal-fired power generation in most industrialised countries.

World imports

Government policy continues to drive the outlook for China's coal markets

China's imports of thermal coal surged in the first three months of the year, to be up 26 per cent year-on-year. There has been strong demand for coal-fired power, due to hotter than usual weather and low reservoir levels, which have constrained hydro power output. Coal output has also been subdued as a result of environmental checks and rail maintenance.

Figure 6.3: China's power output, year-on-year change



Source: Bloomberg (2018) National Bureau of Statistics of China

China's imports of thermal coal are forecast to remain solid over the next few months, before declining over the rest of the outlook period, easing from 188 million tonnes in 2017 to 171 million tonnes in 2020. Higher domestic coal output is expected to substitute for imports. Despite ongoing capacity cuts, the addition of new capacity is expected to result in a net increase in output.

Policy changes have continued to drive China's coal markets, and remain the key risk underpinning the outlook for thermal coal imports. Recent policies include the sporadic banning of imports of coal to certain ports, and a suite of measures to cool domestic thermal coal markets, which could drive a gradual shift away from imports. These measures include targeting domestic spot prices at below RMB570 (around US\$90) a tonne, boosting supply under long-term contracts to 200–300 million tonnes, and increasing supply from the key thermal coal-producing provinces of Shanxi, Inner Mongolia and Shaanxi by 250 million tonnes this year.

India's thermal coal imports forecast to grow modestly

India's thermal coal imports grew by 22 per cent year-on-year in the first three months of 2018, before declining by 6.5 per cent in April as a result of a government directive to divert Coal India's supply to utilities. India's imports of thermal coal are forecast to grow marginally over the outlook period, as growth in consumption outpaces domestic supply growth. The expansion of the domestic coal industry still faces a range of infrastructure, regulatory and environmental challenges. However, government policy remains focused on self-sufficiency, with recent policy changes allowing private companies (rather than only state-owned mines) to commercially mine coal. Higher than expected production from the domestic coal industry and the possibility of further measures to encourage higher domestic production could weigh on import demand.

Coal will continue to be a key source of power in Japan

Japan's imports of thermal coal remained broadly steady year-on-year over the first four months of 2018. Japan's thermal coal imports are forecast to rise slightly in the second half of 2018, but fall modestly in 2019 and 2020 as nuclear reactors restart.

Japan's Ministry of Economy, Trade and Industry (METI) released a draft update to the Basic Energy Plan in May 2018. The plan has retained the 2030 target energy mix from the previous plan (released in 2014), with coal to account for 26 per cent of power generation in 2030. The target implies a small reduction in coal's share of power generation from 2017 levels of 31 per cent, but nevertheless, reflects an ongoing dependence on coal as a key source of low-cost, stable base-load power in Japan.

South Korea's proposed cap on sulphur may change sources of imports

South Korea's thermal coal imports declined by 3.5 per cent year-on-year in the March quarter of 2018, before a 22 per cent year-on-year jump in April. There has been a substantial rise in coal-fired power generation as a result of a drop in nuclear power output, with 11 of 24 of South Korea's nuclear reactors offline due to outages and maintenance. South Korea's imports of thermal coal are forecast to gradually decline over the outlook period, as a result of broader government efforts to shift away from coal-fired power generation.

There has been a proposed restriction on the sulphur content of coal imports of 0.4 per cent, which has the potential to change market dynamics. However, there remains some uncertainty regarding the details of the policy. The new restriction may result in a shift away from Australian thermal coal, which is high energy, but has higher average sulphur content than coal from Russia, Indonesia and South Africa.

World exports

Indonesia's coal exports forecast to remain broadly steady

Indonesia's coal exports have been affected by adverse weather conditions affecting loading and production. Exports are forecast to remain broadly steady over the outlook period, with production growth constrained by a shortage of equipment. The outlook for Indonesia's coal exports is subject to some uncertainty, as the government seeks to balance security of supply for its growing coal-fired power generation fleet (from example, through setting a domestic price cap) against the risk of dampening incentives for further growth in exploration and investment activity.

Russian exports are set to continue their recent strength

Russia's thermal coal exports grew by 13 per cent year-on-year in the March quarter of 2018. Thermal coal export growth is set to continue, supported by growing sales to the Asian market and the weak Ruble.

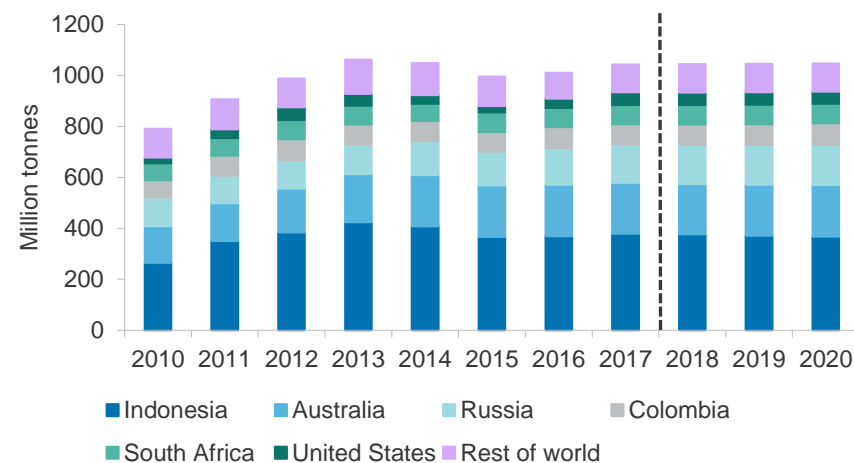
South Africa's export growth constrained by a range of issues

South Africa's exports of thermal coal have declined in recent months, as a result of strong domestic demand, shortages at Eskom (the state-owned major power utility), and a range of production, transport, equipment and weather issues. South Africa's thermal coal exports are forecast to be flat over the forecast period, as some of these issues continue to constrain supply growth.

Thermal coal exports from the United States are forecast to drift lower

Thermal coal exports from the United States increased by 22 per cent in the first three months of 2018, driven by higher prices and strong demand. The US Energy Information Administration is forecasting a decline in thermal coal exports over the next two years, as prices decline.

Figure 6.4: Thermal coal exports



Source: IEA (2017); Department of Industry, Innovation and Science (2018)

6.4 Australia

Thermal coal export earnings likely to reach a record high in 2017–18

In the March quarter 2018, thermal coal export earnings increased by 13 per cent year-on-year to \$5.5 billion, as higher prices more than offset a minor decline in production and export volumes — which were temporarily affected by weather and transport issues.

High prices are estimated to have driven Australia’s thermal coal export earnings to a record high \$23 billion in 2017–18 — an increase of 20 per cent from the previous financial year.

The outlook for Australia’s thermal coal exports is broadly unchanged from the March 2018 *Resources and Energy Quarterly*. Australia’s export earnings are forecast to remain broadly steady at \$23 billion in 2018–19, and then decline by 14 per cent to \$19 billion in 2019–20.

The sharp decline in 2019–20 export earnings will be the result of a forecast decline in prices, which is expected to more than offset the impact of minor growth in the volume of thermal coal exports.

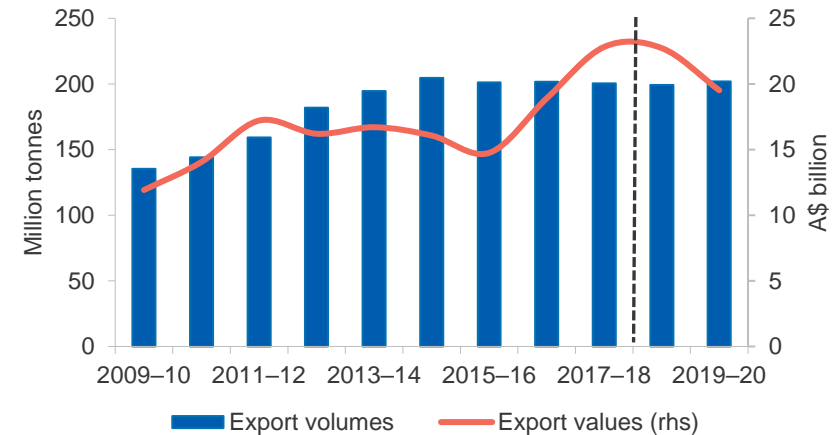
The only substantial addition to production over the outlook period is MACH Energy’s Mount Pleasant mine, which is expected to commence operations later in 2018 and gradually ramp up to 7.5 million tonnes of output annually.

Coal exploration expenditure may have bottomed out

Australia’s coal exploration expenditure was \$36 million in the March quarter of 2018, a decrease of 6.7 per cent from the December quarter of 2017, but an increase of 52 per cent year-on-year.

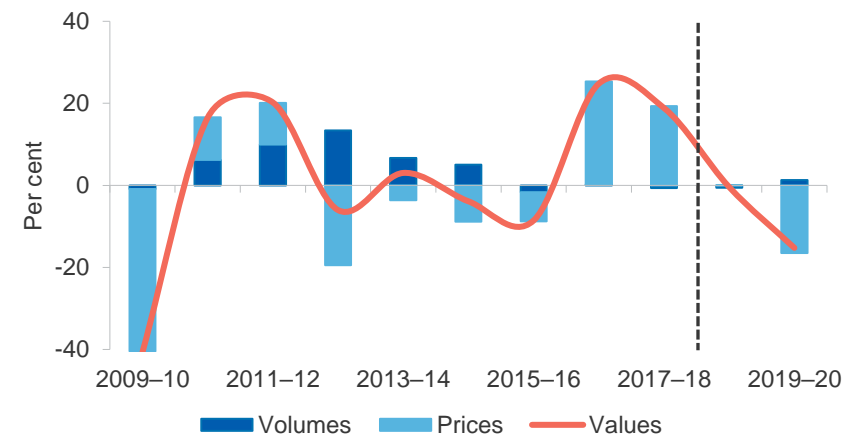
There are firmer prospects for a modest recovery in coal exploration, on the back of the recent improvement in market conditions. In May 2018, the Queensland Government called for tenders to explore more than 540 square kilometres in the Bowen, Surat and Galilee Basins for coal, which is likely to support further growth in exploration activity.

Figure 6.5: Australia’s thermal coal production and exports



Source: ABS (2018) International Trade, Australia, 5454.0; Department of Industry, Innovation and Science (2018)

Figure 6.6: Annual growth in Australia’s thermal coal exports values, and contributions from export volumes and prices



Notes: Prices based on export unit values

Source: ABS (2018) International Trade, Australia, 5454.0; Department of Industry, Innovation and Science (2018)

Table 6.1: World trade in thermal coal

	Unit	2017 ^s	2018 ^f	2019 ^f	2020 ^f	Annual percentage change		
						2018 ^f	2019 ^f	2020 ^f
World trade	Mt	1,058	1,058	1,046	1,036	-0.1	-1.1	-1.0
Thermal coal imports								
Asia	Mt	761	790	785	774	3.9	-0.7	-1.4
China	Mt	188	186	178	171	-1.2	-4.0	-4.0
India	Mt	152	160	162	164	5.1	1.5	1.0
Japan	Mt	142	146	144	143	2.8	-1.0	-1.0
South Korea	Mt	110	116	110	105	5.5	-5.0	-5.0
Thermal coal exports								
Australia	Mt	200	197	200	202	-1.8	1.7	0.8
Colombia	Mt	82	80	81	83	-3.0	2.0	2.0
Indonesia	Mt	374	377	371	367	0.6	-1.5	-1.0
Russia	Mt	151	154	156	160	1.8	1.3	2.6
South Africa	Mt	76	76	77	77	-0.2	1.3	0.0
United States	Mt	33	50	49	47	50.3	-2.9	-3.0

Notes: **f** forecast; **s** estimate

Source: IHS (2018); Department of Industry, Innovation and Science (2018)

Table 6.2: Thermal coal outlook

World	Unit	2017	2018 ^f	2019 ^f	2020 ^f	Annual percentage change		
						2018 ^f	2019 ^f	2020 ^f
Contract prices ^b								
– nominal	US\$/t	84	97	84	74	15.5	–13.4	–11.9
– real ^c	US\$/t	86	97	82	71	13.3	–15.4	–13.9
Spot prices ^d								
– nominal	US\$/t	88	99	84	74	13.6	–16.1	–11.4
– real ^e	US\$/t	90	99	82	71	11.0	–17.9	–13.0
Australia	Unit	2016–17	2017–18 ^f	2018–19 ^f	2019–20 ^f	2017–18 ^f	2018–19 ^f	2019–20 ^f
Production	Mt	254.2	254.8	251.4	254.6	0.2	–1.3	1.3
Export volume	Mt	201.7	200.5	198.7	201.2	–0.6	–0.9	1.3
– nominal value	A\$m	18,902	22,710	22,667	19,465	20.2	–0.2	–14.1
– real value ^h	A\$m	19,272	22,710	22,147	18,581	17.8	–2.5	–16.1

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; **e** In 2018 US dollars; **f** forecast; **h** In 2017–18 Australian dollars

Source: ABS (2018) International Trade in Goods and Services, Australia, Cat. No. 5368.0; IHS (2018); NSW Coal Services (2018); Queensland Department of Natural Resources and Mines (2018); Company Reports; Department of Industry, Innovation and Science (2018)