

Government of Western Australia Department of State Development

Western Australia Iron Ore Industry Profile July 2016

- Western Australia is the largest iron ore producer in the world, accounting for 37% of global production and 49% of global
 iron ore exports in 2014. The Pilbara region accounted for 94% of Australia's iron ore production in 2015. Iron ore is used
 almost exclusively for steel making and with no major steel production in Australia, Western Australia exports all of its iron
 ore production.
- China is the world's largest steel producer and iron ore consumer and Western Australia's largest export market. In response to growth in Chinese steel production over the past decade, Western Australia's iron ore producers invested in the construction of new mines and associated infrastructure. As construction on these projects has completed, production and exports have increased, mainly from the major iron ore miners: Rio Tinto, BHP Billiton and Fortescue Metals Group.
- China's increasing demand for iron ore resulted in the iron ore price rising from around US\$30 a tonne in 2002-03 to around US\$150 a tonne in 2011-12. The increase in iron ore production in Western Australia displaced higher cost production in China and, combined with lower demand from Chinese steel makers, led to the iron ore price falling by 42% in 2014-15 with a further fall of 28% in 2015-16.
- Lower iron ore prices have reduced the profitability of Western Australia's iron ore producers and the Western Australian Government's royalty revenue. However, Western Australia's iron ore industry remains globally competitive with high quality reserves, low cost production and established, long-term markets in China, Japan, Korea and Taiwan.



Note – Forecasts start in 2015-16.

Source: WA Department of Mines and Petroleum, Resource Data Files; and WA 2016-17 Budget Economic and Fiscal Outlook.



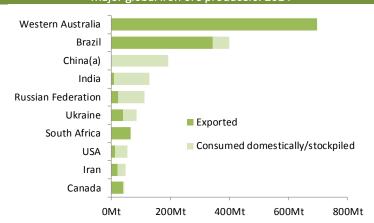
Source: ABS 5368.0 International Trade in Goods and Services.

- Western Australia's iron ore sales rose from 233 million tonnes to 719 million tonnes between 2004-05 and 2014-15, at an annual average rate of 11.9%.
- Western Australia's sales of iron ore are expected to rise as mine construction and expansions are completed, but the rate of increase will be slower than the past ten years.
- The WA Government's 2016-17 Budget forecasts Western Australia's iron ore sales to rise by an annual average of 2.6% to 817 million tonnes between 2014-15 and 2019-20.
- Western Australia exports nearly all the iron ore it produces to China, Japan, Korea and Taiwan.
- China accounted for 81% of Western Australia's iron ore exports in 2015, followed by Japan (9%), Korea (7%) and Taiwan (2%).
- Western Australia's iron ore exports to China rose 11% to 612 million tonnes in 2015, below annual average growth of 18% over the past ten years.
- Western Australia's iron ore exports to Japan fell 7% to 71 million tonnes in 2015.
- Western Australia's iron ore exports to Korea rose 1% to 52 million tonnes in 2015.
- Western Australia's iron ore exports to Taiwan rose 1% to 15 million tonnes in 2015.



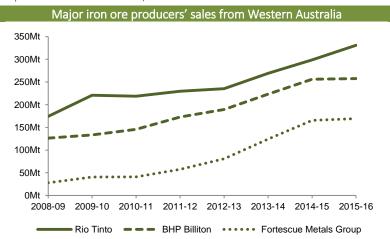
Government of Western Australia Department of State Development

Major global iron ore producers: 2014

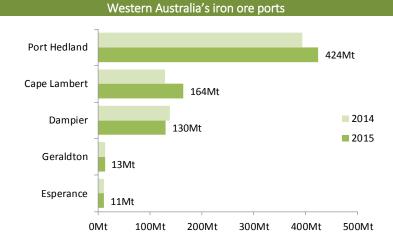


(a) Iron ore production is converted so that its iron content is about equal to the global average.

Source: United Nations Conference on Trade and Development, The Iron Ore Market 2015; and WA Department of Mines and Petroleum. Resource Data Files.



Note – Wet tonnes and inclusive of third party tonnes. Source: Company quarterly production reports.



Source: ABS 5368.0 International Trade in Goods and Services.

Western Australia Iron Ore Industry Profile July 2016

- Western Australia is the largest iron ore producer in the world, accounting for 37% (697 million tonnes) of global iron ore production and 49% of world exports in 2014. Western Australia exported all of its iron ore production in 2014.
- Brazil accounted for 21% (399 million tonnes) of global iron ore production and 24% (344 million tonnes) of world iron ore exports in 2014. Brazil exported 86% of its iron ore production in 2014.
- China accounted for 10% (193 million tonnes) of global iron ore production in 2014. China used or stockpiled all of its iron ore production in 2014.
- Rio Tinto, BHP Billiton and Fortescue Metals Group are the largest iron ore producers in Western Australia.
- Brazilian company, Vale, is the world's largest iron ore producer, followed by Rio Tinto, BHP Billiton and Fortescue Metals Group.
- Rio Tinto's iron ore sales from Western Australia rose 11% to 331 million tonnes in 2015-16.
- BHP Billiton's iron ore sales from Western Australia rose 1% to 257 million tonnes in 2015-16.
- Fortescue Metals Group's iron ore sales from Western Australia rose 2% to 169 million tonnes in 2015-16.
- Port Hedland, Cape Lambert and Dampier are the largest iron ore export ports in Western Australia. Port Hedland is the world's largest bulk export port.
- Iron ore exports from Port Hedland rose 8% to 424 million tonnes in 2015, accounting for 56% of Western Australia's iron ore exports.
- Iron ore exports from Cape Lambert rose 27.5% to 164 million tonnes in 2015, accounting for 22% of Western Australia's iron ore exports.
- Iron ore exports from Dampier fell 6% to 130 million tonnes in 2015, accounting for 17% of Western Australia's iron ore exports.
- In 2015, Rio Tinto completed expansions at Cape Lambert and Dampier, raising capacity to 210 and 150 million tonnes respectively. By 2018 capacity at Port Hedland could reach 495 million tonnes.



1994-95

\$140b

\$120b

\$100b

\$80b

\$60b

\$40b

\$20h

\$0b

1999-00

Government of Western Australia Department of State Development

Iron ore price US\$180/t US\$160/t US\$140/t US\$120/t US\$100/t US\$80/t US\$60/t US\$40/t US\$20/t US\$0/t 2019-20

Note - Forecasts start in 2016-17. Source: World Bank, Commodity Markets; and WA 2016-17 Budget Economic and Fiscal Outlook

Value of iron ore sales and royalty receipts

2004-05

\$7b \$6b \$5b \$4b \$3b \$2b \$1h

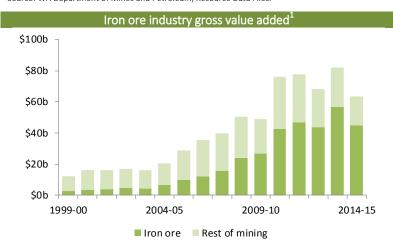
2009-10

2014-15

Source: WA Department of Mines and Petroleum, Resource Data Files.

2000

Iron ore(left axis)



2005

Rest of mining (left axis)

2010

¹ Gross industry value added = Gross industry sales or production values less intermediate inputs. Source: ABS 5204.0 Australian National Accounts: and 5220.0 State Accounts

Western Australia Iron Ore Industry Profile July 2016

- The monthly average spot price for iron ore imports to China (including shipping costs) fell 5.5% to US\$52.0 a tonne in June 2016. The annual average price fell 28% to US\$51.6 a tonne in 2015-16 (down 42% to US\$55.8 a tonne in 2015).
- The WA Government's 2016-17 Budget forecasts the average spot price for iron ore imports to China will fall from US\$71.5 a tonne in 2014-15 to US\$50.9 a tonne in 2015-16 and to US\$47.7 a tonne in 2016-17, before recovering to US\$54.0 a tonne by 2019-20.
- The decrease in the iron ore price is due to lower growth in steel demand in China and large increases in supply from major iron ore producers.
- Iron ore accounted for 47% of the value of Western Australia's merchandise exports and 55% of the value of total minerals and petroleum sales in 2015.
- The value of Western Australia's iron ore sales fell 23.5% to \$49.8 billion in 2015, compared with annual average growth of 16% over the past ten years.
- Iron ore royalty income was the WA Government's third largest source of revenue in 2014-15, accounting for 14% of total revenue.
- In 2015 iron ore accounted for 75% of total royalty income.
- Western Australia's iron ore royalties fell 26% to \$3.9 billion in 2015, due to the fall in the iron ore price, partially offset by higher production and a lower \$A/\$US exchange rate.
- The iron ore industry accounted for 71% of the value added by Western Australia's mining industry and 18% of Western Australia's gross state product in 2014-15. It also accounted for 41% of the value added by Australia's mining industry in 2014-15.
- Iron ore's share of the value added by Western Australia's mining industry rose from 32% to 71% between 2004-05 and 2014-15.
- Iron ore's share of the value added by Western Australia's gross state product rose from 7% to 18% between 2004-05 and 2014-15.
- The value added by Western Australia's iron ore industry fell 21% to \$45.1 billion in 2014-15.

\$0b

2015

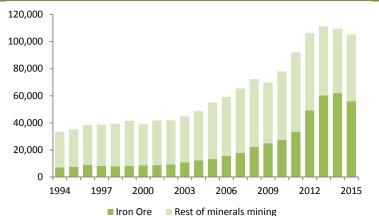
Royalties (right axis)



Government of Western Australia Department of State Development

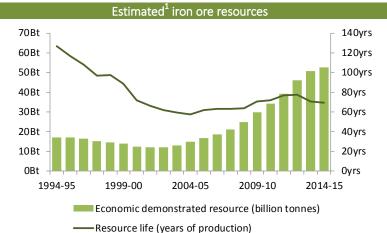
Western Australia Iron Ore Industry Profile July 2016

Direct employment in the iron ore industry



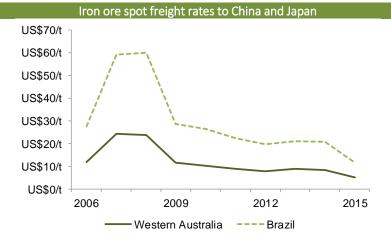
- Iron ore accounted for 53% of direct employment in Western Australia's minerals mining industry in 2015.
- Iron ore's share of Western Australia's direct minerals mining employment rose from 24% to 53% between 2005 and 2015.
- Direct employment in Western Australia's iron ore industry fell 9.6% to 55,990 in 2015, the first annual decline since 1998.

Source: WA Department of Mines and Petroleum, Resource Data Files.



 $^{^1}$ Estimated based on Western Australia's 95% share of Australia's iron ore resources and 98% share of Australia's iron ore production.

Source: ABS 5204.0 Australian National Accounts.



 $Source: United \ Nations \ Conference \ on \ Trade \ and \ Development, \ The \ Iron \ Ore \ Market \ 2015 \ and \ AMEDICAL \ AMED$

- Western Australia accounted for 27% of global crude iron ore reserves in 2015 based on the United States Geological Survey.
- Western Australia had an estimated 53 billion tonnes of iron ore resources in 2014-15. At current production rates, this resource could sustain production for another 69 years.
- Hematite is the main type of iron ore mined in Western Australia. Most of the hematite exported from the State contains between 56 and 62% iron.
- The average iron content of Brazil's production is 65%. Iron ore produced in India and South Africa is of a similar quality to Western Australian iron ore. China's crude iron ore production contains an average iron content of 22%.
- Western Australia's major iron ore ports are relatively close to the largest iron ore importers in Asia, reducing shipping costs relative to its competitors.
- Spot freight rates from Western Australia to China and Japan for 2015 averaged US\$4.88 a tonne, 56% lower than from Brazil (US\$11.10 a tonne).
- Spot freight rates from Western Australia to China and Japan fell 41% in 2015, compared in 2014.