Zinc
Resources and Energy Quarterly March 2019

- Australia produces more than 800,000 tonnes of zinc each year.
- Australia holds 28% of the world's known zinc resources.
- Australia is the 3rd highest producer of zinc in the world.
- Zinc exports contribute more than $3 billion to the Australian economy.

Key zinc consumer markets:
1. China: 6,493kt
2. United States: 873kt
3. India: 684kt
4. South Korea: 486kt
5. Japan: 484kt
6. Germany: 433kt

Major Australian zinc deposits (Mt):
- <0.01
- 0.02–0.03
- 0.04–0.09
- 0.10–0.20
- 0.21–0.44
- >0.45

Global uses of zinc:
- 50% galvanise steel
- 17% diecasting
- 17% make brass and bronze alloys
- 6% rolled zinc
- 6% chemicals
- 4% other

14.1 Summary
- After hitting an 11-year peak in early 2018, zinc prices declined in the second half of 2018. Prices are expected to rebound modestly in the near term, as fears ease over both oversupply and trade tensions. Prices are expected to slowly ease over the outlook period, to average US$2,775 a tonne in 2019 and further to US$2,353 a tonne in 2024, in real terms.
- Australia’s output is expected to lift over the outlook period, as production ramps up at the re-opened Century mine in Queensland, before declining again as the Lady Loretta mine reaches the end of its life. Export volumes of ores and concentrates are forecast to decline from 2.6 million tonnes in 2018–19 to 2.4 million tonnes by 2023–24.
- The real value of Australia’s zinc exports is projected to decline from $4.2 billion in 2018–19 to $2.7 billion in 2023–24 due to softer prices.

14.2 Prices
Prices to decline over the outlook period
After reaching historical highs in early 2018, the London Metal Exchange (LME) zinc spot price eased over the second half of the year, in response to subdued demand. The price averaged US$2,994 a tonne for the year in real terms. Inventories have remained tight, with LME stocks reaching 10-year lows during 2018, and falling even lower in the first quarter of 2019. Similarly, Shanghai Futures Exchange (SHFE) inventories reached their lowest levels in more than 10 years at the end of December, with stocks rebounding slightly in the March quarter 2019. The low level of zinc inventories are attributed to lower smelter output levels in China and Europe over the period, and are expected to keep the price elevated in the short term.

The LME zinc spot price is forecast to average US$2,775 per tonne during 2019 in real terms (Figure 14.1). Beyond 2019, prices are expected to resume on a downward trend, as new concentrate production from mines improves the market balance, reaching US$2,353 per tonne in real terms during 2024.

14.3 World consumption
Global refined zinc consumption is forecast to rise moderately over the outlook period, from 14 million tonnes in 2019 to 15 million tonnes in 2024. Zinc’s primary use is galvanizing steel, so consumption is expected to move with steel use (Figure 14.2) and, in turn, vehicle production and infrastructure development. China accounts for around half of all zinc consumption. Demand for zinc concentrates from China is expected to moderate over the outlook period, as environmental policies limit new and expanded zinc smelting capacity. Additionally, steel demand is expected to moderate in China, reflecting stricter environmental policies and supply-side reforms. However, this moderation is expected to be partially offset by growth in steel consumption in India and other emerging economies.

The imposition of US tariffs on a number of imported Chinese goods has the potential to decrease zinc demand, as export goods containing zinc or galvanized steel become more expensive for US consumers. The trade impact will potentially be offset by measures taken by the Chinese government to boost domestic growth with higher infrastructure spending.
Figure 14.2: Annual change in global steelmaking and zinc use

Source: International Monetary Fund (2018), Department of Innovation, Industry and Science (2019) estimates

14.4 World production

Mine output to rise over the outlook period

Global mine output is expected to grow steadily over the outlook period; a surge in investment in mines has followed a sharp rebound in prices during 2017 and early 2018. Several large mines are expected to enter the market over the outlook period. World production is forecast to be 13.8 million tonnes in 2019, and then grow at an annual average rate of 1.9 per cent to reach 14.4 million tonnes in 2024. Major mine projects coming online during the outlook period include the 250 thousand tonne per annum (ktpa) capacity Vendanta Gamsberg mine in South Africa (at the end of 2018), and IMIDRO’s 400ktpa Mehdiabad Mien in Iran in 2020. Australia also has significant mine capacity ramping up over the outlook period (Section 14.5).

Refined production to lift with mine output

Refinery production is expected to keep pace with mine output over the outlook period. Refined output is forecast to rise from 13 million tonnes in 2018 to 14 million tonnes in 2019, and then to 15 million tonnes by 2024. China accounts for the vast majority of global refined production, and is expected to continue to do so over the outlook period.

While a majority of refined capacity coming online over the outlook period is expected to come from China, there is some uncertainty due to the government’s stricter environmental policies. As a result, growth in Chinese smelter output capacity is expected to moderate relative to previous years. Outside of China, the largest producers are India and South Korea. India’s smelter capacity is expected to increase over the outlook period, with expansions across several smelters owned by Hindustan Zinc Limited through to 2020 adding a total of 113ktpa capacity.

14.5 Australia’s exploration, production and exports

Exploration expenditure bounced back after a brief fall

Exploration spending for silver, lead and zinc has remained unchanged between the September and December quarters at $26 million. This is a fall from $28 million in the June quarter, following a decline in prices after the earlier growth in 2018. With zinc prices expected to turn down, it is possible that exploration spending will ease back over the coming year (Figure 14.3).

Figure 14.3: Australia’s silver, lead and zinc exploration expenditure

Australian mined production increasing

Australia’s zinc production increased during the December quarter 2018 — up from 299,000 tonnes to 329,000 tonnes (in metal content terms) Production is forecast to increase from 0.9 million tonnes to 1.4 million tonnes in 2019–20 and 2020–21. The increase will be driven by the ramping up of Glencore’s Lady Loretta mine, MMG’s Dugal river mine and the re-opening of New Century Resources’ mine, all in Queensland. Production is then forecast to decline through to 2023–24 to 1.3 million tonnes, primarily due to the winding down of Lady Loretta, which has an estimated mine life through to 2023 (Figure 14.4).

Zinc exports are expected to grow in line with rising production

Export volumes are expected to largely track the production outlook, with export ores and concentrates forecast to rise from 1.7 million tonnes in 2017–18 to 2.8 million tonnes by 2019–20. In line with reduced production, exports are then projected to decline through to 2023–24, to hit 2.4 million tonnes. Increased earnings from the impact of higher volumes of zinc exports are expected to be offset by declining prices over the outlook period. As Figure 14.5 shows, earnings are projected to be $4.2 billion in real terms during 2018–19, before settling back to $2.7 billion in 2023–24, as volumes decline and prices ease.

A risk to the export earnings outlook is the trade tensions between the US and China. While the full effect of the tariffs on the demand for zinc is not yet fully apparent, there is potential for global demand to slow and prices to fall before trade flows are re-arranged. This has the potential to impact Australia’s export earnings in the short term.

Figure 14.4: Australia’s zinc production by state

Source: Company reports; Department of Innovation, Industry and Science (2019)

Figure 14.5: Australia’s zinc exports, metallic content

Table 14.1: Zinc outlook

<table>
<thead>
<tr>
<th>World</th>
<th>Unit</th>
<th>2018</th>
<th>2019f</th>
<th>2020f</th>
<th>2021f</th>
<th>2022z</th>
<th>2023z</th>
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<td>– mine</td>
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<td>126</td>
<td>119</td>
<td>115</td>
<td>113</td>
<td>116</td>
<td>119</td>
<td>-1.8</td>
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<td>– real(^b)</td>
<td>US$/t</td>
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<td>– ore and concentrate (^c)</td>
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<td>337</td>
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<td>3,195</td>
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</table>

Notes: \(^b\) In 2019 US dollars; \(^c\) Quantities refer to gross weight of all ores and concentrates; \(^d\) In 2018–19 Australian dollars; \(^f\) Forecasts; \(^s\) Estimate; \(^z\) Projection; r Average annual growth between 2018 and 2024 or 2017–18 and 2023–24.

Source: ABS (2019) International Trade in Goods and Services, Australia, Cat. No. 5368.0; Company reports; Department of Industry, Innovation and Science; International Lead Zinc Study Group (2019); LME (2019); World Bureau of Metal Statistics (2019)