Zinc
Resources and Energy Quarterly September 2018

Australia produces more than 800,000 tonnes of each year.

Zinc exports contribute more than $3 billion to the Australian economy.

Australia holds 20% 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: 6,724kt
2. United States: 819kt
3. India: 689kt
4. South Korea: 622kt
5. Germany: 481kt
6. Japan: 470kt

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

Deposit
Operating mine

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

- Zinc prices are currently in decline, after hitting an 11 year peak in early 2018. Prices are expected to rebound to some extent in the near term, as fears of oversupply and trade tensions ease. But the long-term trajectory leans towards prices slowly easing, to be around US$2,625 a tonne by 2020.
- Australia’s production is expected to lift over the next two years, as production ramps up at the re-opened Century mine in Queensland. Export volumes of ores and concentrates are forecast to rise from 1.8 million tonnes in 2017–18 to 2.9 million tonnes by 2019–20.
- Export values are expected to lock in the substantial gains recorded in 2017–18, remaining above $3.8 billion annually over the outlook period.

14.2 Prices

Zinc prices appear to have passed their peak, with decline setting in

The London Metal Exchange zinc price is in retreat, after a strong start to 2018. Monthly average prices peaked at US$3,540 a tonne in February before easing in June and then dropping sharply (to just above US$2,500) in August. Prices have since recovered slightly and stabilised in September, but remain well down on levels earlier in the year.

Lower prices reflect an increase in output from a number of new and expanded existing facilities, which have led to expectations of rising inventories. US-China trade tensions have also played a part, with hedge funds shorting base metals markets in the wake of political uncertainty.

Global zinc inventories remain relatively tight, however, and expectations of rising inventories are not expected to persist. Chinese smelters have recently announced significant supply cuts, and this, in conjunction with slowly rising demand, should result in a rebound in the zinc price in the short term. However, prices are expected to continue easing over the longer term, averaging US$2,850 a tonne in 2019 and US$2,625 a tonne by 2020 (see Figure 14.1).
14.3 World consumption
Consumption growth is expected to moderate over the outlook period
World refined zinc consumption is forecast to lift moderately over the outlook period (see Figure 14.2), rising from 14.2 million tonnes in 2018 to 15.4 million tonnes by 2020. Manufacturing and construction activity remain robust across most of the world, and this is expected to drive steady increases in zinc use. Construction is expected to account for around half of global zinc demand over the outlook period, with consumer products and industrial equipment accounting for most of the rest.

China, which consumes around half of all zinc, remains the key uncertainty in the global zinc outlook. The country is seeking to shift towards higher quality growth with more focus on environmental sustainability. At the same time, it continues a long-run transition towards a more consumer-led economic model, though high private debt has placed some constraints on the pace of transition. China’s Belt and Road Initiative — potentially the largest infrastructure program ever undertaken — is likely to benefit zinc producers considerably, but the timing and scale of spending under this program remains uncertain.

14.4 World production
Mine output should rise over the next two years
Global mined output is expected to grow steadily over the outlook period, as previous capital investment begins to pay off. While zinc production has faced some disruptions in 2018, significant supply is expected to return to the market in 2018 and 2019. Key projects expected to add to output include Vedanta’s Gamsberg mine in South Africa, as well as several expansions and re-openings of zinc mines in Australia (see below).

Supply is forecast to rise from 13.8 million tonnes in 2018 to 14.3 million tonnes in 2019, and further to 14.9 million tonnes in 2020.

Refined production could act as a bottleneck
Although zinc mine output is rising, there is potential for some bottlenecks to emerge at the refining stage over the next two years. Global refining capacity faces some disruption as a result of recent cuts in output from Chinese facilities. Partly offsetting this, Yunnan Luoping, which owns an 80,000 tonne per annum refinery in China, was cleared to resume operations in September after satisfying environmental checks.

Facilities elsewhere are also expected to expand output marginally, and as ore becomes more plentiful, refined output is forecast to rise from 14.2 million tonnes in 2018 to 15.4 million tonnes by 2020. This is broadly in line with demand, and should keep the metal market in balance, albeit with marginal supply deficits potentially emerging by 2020.

14.5 Australia
Exploration expenditure bounced back after a brief fall
Exploration spending for silver, lead and zinc recovered to $27.8 million in the June quarter, after price growth in early 2018. This effectively reverses the decline of the March quarter. Exploration is marginally above the level of a year ago, but with zinc prices now turning down, it is possible that exploration spending will ease back over the coming year.

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

Australian mined production is recovering, due to a surge in investment

Australia’s zinc production recovered in the June quarter — rising from 239,000 tonnes to 244,000 tonnes in metal content terms — after a brief drop in output from Glencore’s McArthur River mine in the Northern Territory depressed the March quarter figures.

Annual production is forecast to rise significantly in 2018 following a period of strong capital investment. Australia’s production of zinc is forecast to lift from 944,000 tonnes in 2017–18 to 1.3 million tonnes in 2018–19 and to 1.4 million tonnes by 2019–20.

The rise in Australian output stems primarily from New Century Resources’ newly re-opened Century mine in Queensland, which was previously the largest zinc mine in the world. After acquiring the mine — in order to extract from its tailings dam — New Century Resources has begun producing output through a process of slurry flotation. Hydraulic mining in the tailings dam commenced in August, and the company is seeking to ramp up operations through the remainder of 2018 and in 2019.

In addition to improving the concentrate quality, the company will seek to upgrade the flotation plant and install a large new pipeline, airport, and mining fleet at the site.

Some rise in output is also expected from MMG’s Dugald River mine in Queensland, which is ramping up production over 2018 and early 2019.

Zinc exports are expected to grow in line with rising production

Australia has relatively modest domestic zinc use. As a result, the export outlook is expected to largely track the production outlook, with exports of ore and ore concentrates expected to rise from 1.7 million tonnes in 2017–18 to 2.9 million tonnes by 2019–20.

Export earnings are projected to largely hold their value, with higher volumes offsetting expected declines in prices. As Figure 14.5 shows, earnings are projected to increase from $4.0 billion in 2017–18 to $4.1 billion in 2018–19, before settling back to $3.9 billion as prices ease in 2019–20.
### Table 14.1: Zinc outlook

<table>
<thead>
<tr>
<th>World</th>
<th>Unit</th>
<th>2017</th>
<th>2018(^f)</th>
<th>2019(^f)</th>
<th>2020(^f)</th>
<th>2018(^f)</th>
<th>2019(^f)</th>
<th>2020(^f)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– mine</td>
<td>kt</td>
<td>13,306</td>
<td>13,797</td>
<td>14,339</td>
<td>14,906</td>
<td>3.7</td>
<td>3.9</td>
<td>4.0</td>
</tr>
<tr>
<td>– refined</td>
<td>kt</td>
<td>13,597</td>
<td>14,158</td>
<td>14,759</td>
<td>15,375</td>
<td>4.1</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>Consumption</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kt</td>
<td>13,684</td>
<td>14,210</td>
<td>14,767</td>
<td>15,358</td>
<td>3.8</td>
<td>3.9</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td><strong>Closing stocks</strong></td>
<td>kt</td>
<td>1,034</td>
<td>982</td>
<td>973</td>
<td>990</td>
<td>-5.0</td>
<td>-0.9</td>
<td>1.8</td>
</tr>
<tr>
<td>– weeks of consumption</td>
<td></td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>-8.6</td>
<td>-4.6</td>
<td>-2.1</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– nominal</td>
<td>US$/t</td>
<td>2,894</td>
<td>3,146</td>
<td>2,850</td>
<td>2,625</td>
<td>8.7</td>
<td>-9.4</td>
<td>-7.9</td>
</tr>
<tr>
<td></td>
<td>USc/lb</td>
<td>131</td>
<td>143</td>
<td>129</td>
<td>119</td>
<td>8.7</td>
<td>-9.4</td>
<td>-7.9</td>
</tr>
<tr>
<td>– real(^b)</td>
<td>US$/t</td>
<td>2,966</td>
<td>3,146</td>
<td>2,787</td>
<td>2,538</td>
<td>6.1</td>
<td>-11.4</td>
<td>-8.9</td>
</tr>
<tr>
<td></td>
<td>USc/lb</td>
<td>135</td>
<td>143</td>
<td>126</td>
<td>115</td>
<td>6.1</td>
<td>-11.4</td>
<td>-8.9</td>
</tr>
<tr>
<td><strong>Australia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mine output</td>
<td>kt</td>
<td>843</td>
<td>944</td>
<td>1,307</td>
<td>1,438</td>
<td>12.0</td>
<td>38.5</td>
<td>10.0</td>
</tr>
<tr>
<td>Refined output</td>
<td>kt</td>
<td>466</td>
<td>474</td>
<td>500</td>
<td>500</td>
<td>1.7</td>
<td>5.5</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Export volume</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– ore and conc.(^c)</td>
<td>kt</td>
<td>1,479</td>
<td>1,739</td>
<td>2,587</td>
<td>2,881</td>
<td>17.6</td>
<td>48.7</td>
<td>11.4</td>
</tr>
<tr>
<td>– refined</td>
<td>kt</td>
<td>372</td>
<td>417</td>
<td>363</td>
<td>364</td>
<td>12.1</td>
<td>-13.1</td>
<td>0.5</td>
</tr>
<tr>
<td>– total metallic content</td>
<td>kt</td>
<td>1,008</td>
<td>1,165</td>
<td>1,483</td>
<td>1,613</td>
<td>15.6</td>
<td>27.3</td>
<td>8.8</td>
</tr>
<tr>
<td><strong>Export value</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– nominal</td>
<td>A$m</td>
<td>2,688</td>
<td>3,989</td>
<td>4,129</td>
<td>3,881</td>
<td>48.4</td>
<td>3.5</td>
<td>-6.0</td>
</tr>
<tr>
<td>– real(^d)</td>
<td>A$m</td>
<td>2,802</td>
<td>4,080</td>
<td>4,129</td>
<td>3,789</td>
<td>45.6</td>
<td>1.2</td>
<td>-8.2</td>
</tr>
</tbody>
</table>

**Notes:** \(^b\) In 2018 US dollars; \(^c\) Quantities refer to gross weight of all ores and concentrates; \(^d\) In 2018–19 Australian dollars; \(^f\) Forecasts

Source: ABS (2018) International Trade in Goods and Services, Australia, Cat. No. 5368.0; Company reports; Department of Industry, Innovation and Science; International Lead Zinc Study Group (2018); LME (2018); World Bureau of Metal Statistics (2018)