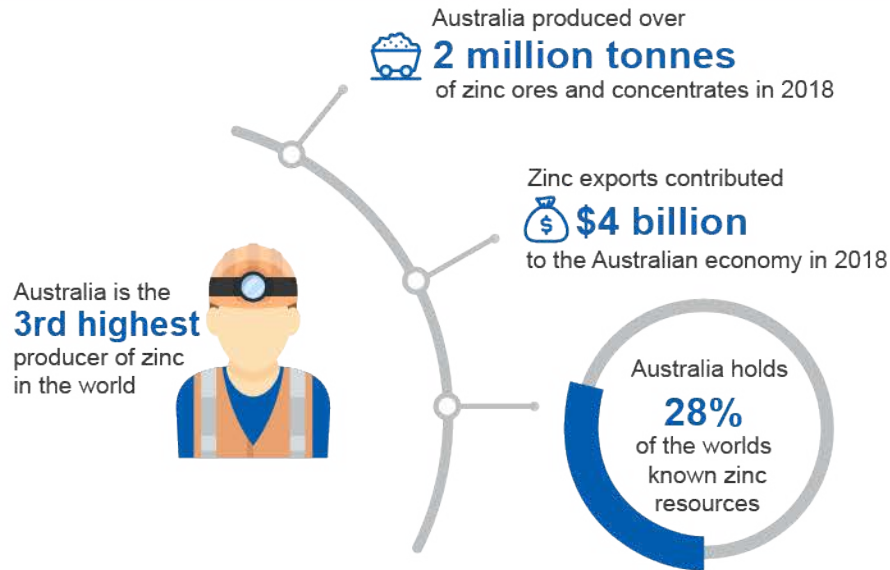


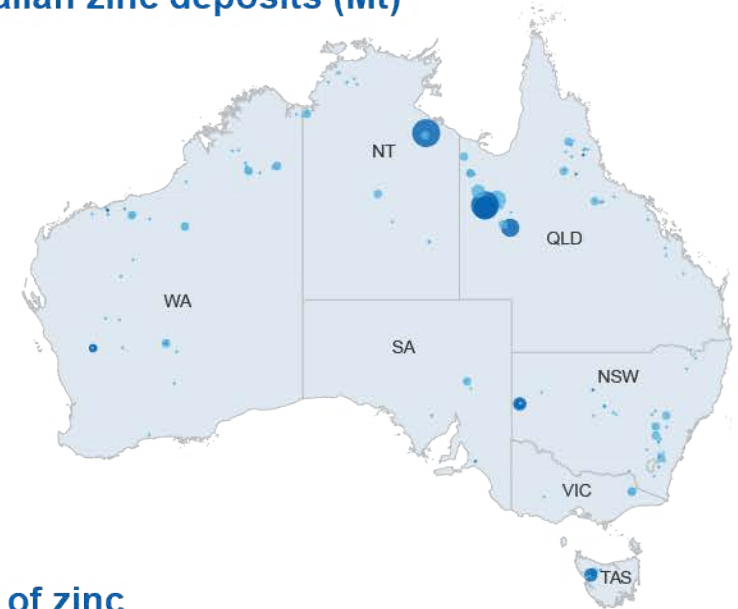
Zinc

Resources and Energy Quarterly June 2019

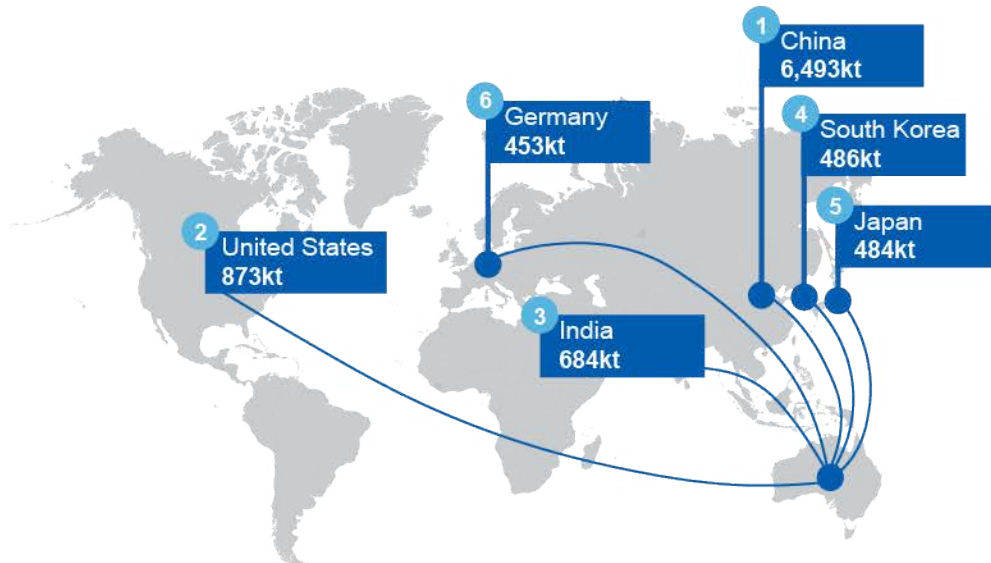


Major Australian zinc deposits (Mt)

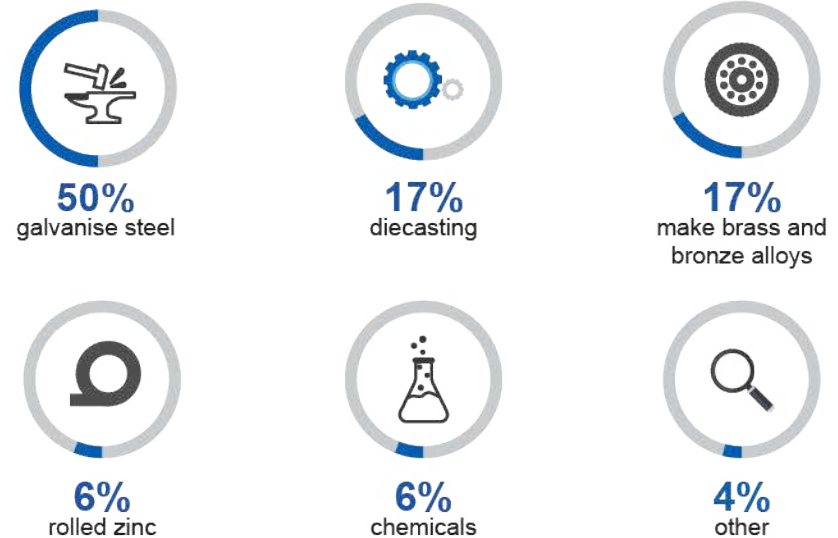
- <0.01
- 0.02–0.03
- 0.04–0.09
- 0.10–0.20
- 0.21–0.44
- >0.45
- Deposit
- Operating mine



Key zinc consumer markets



Global uses of zinc



14.1 Summary

- Zinc prices are forecast to edge back from their recent minor peak in the first half of 2019 — falling from US\$2,780 in 2019 to US\$2,500 in 2021 — as supply closes the gap with demand.
- Australia's production is forecast to peak in 2019–20, as production ramps up at the re-opened Century mine in Queensland, before declining again as a mix of smaller mines hit lower grades and some reach end of life. Export volumes (in metallic content terms) are forecast to peak at 1.51 million tonnes in 2019–20 — then taper lower to 1.46 million tonnes in 2020–21.
- The value of Australia's zinc exports is forecast to decline from \$4.2 billion in 2018–19 to \$3.5 billion in 2020–21, due to softer prices.

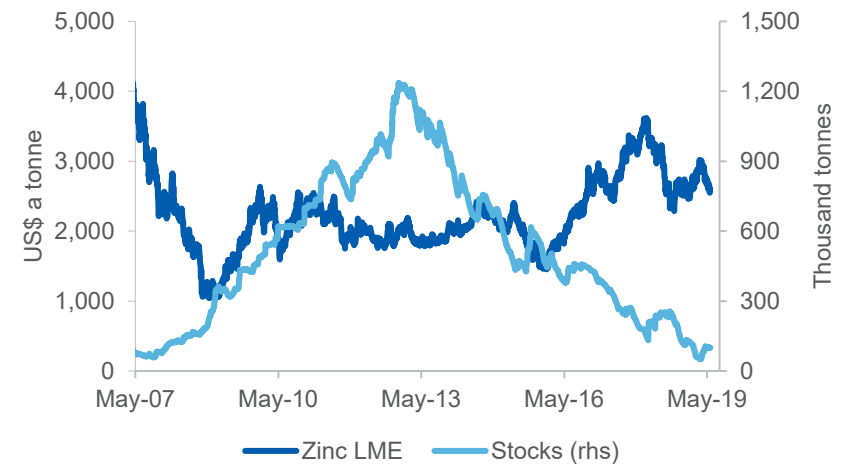
14.2 Prices

Prices to decline over the outlook period

The London Metal Exchange (LME) zinc spot price briefly breached US\$3,000 a tonne in early April 2019, but has since drifted lower as a result of subdued demand, to average US\$ 2,845 a tonne in the June quarter (Figure 14.1). This is 8.6 per cent lower year-on-year. Inventories have remained tight, with LME stocks reaching 11-year lows during May 2019, and Shanghai Futures Exchange (SHFE) inventories declining to historical lows, after a temporary rebound in the March quarter 2019. The low level of zinc inventory is attributed to lower smelter output levels in China and Europe over the period, and is expected to keep the price elevated in the short term.

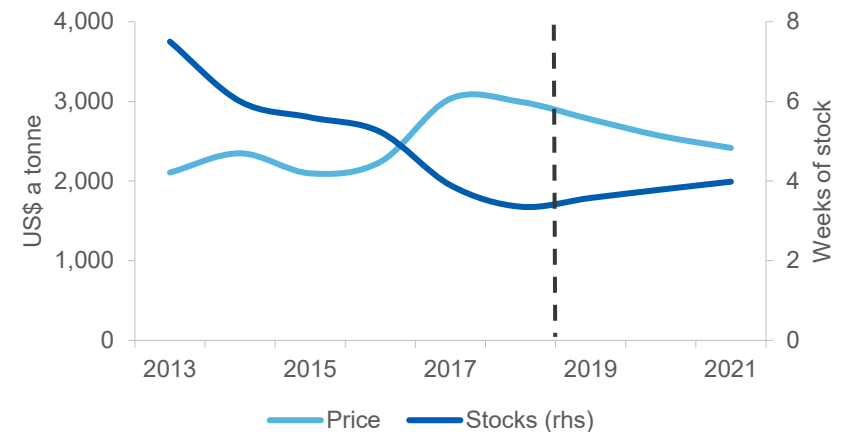
The LME zinc spot price is forecast to average US\$2,780 per tonne during 2019 (Figure 14.2). Beyond 2019, prices are forecast to decline by an annual average of 5.2 per cent, down to US\$2,500 per tonne in 2021. Lower prices will be driven by rising concentrate production and a steady increase in inventory levels, as the market returns to a healthy surplus in 2020 and 2021.

Figure 14.1: Historical zinc prices and stocks



Source: London Metal Exchange (2019) and Department of Industry, Innovation and Science (2019)

Figure 14.2: Forecast for zinc prices and stocks



Source: London Metal Exchange (2019) and Department of Industry, Innovation and Science (2019)

14.3 World consumption

Global refined zinc consumption is forecast to rise moderately over the outlook period, from 13.8 million tonnes in 2019 to 14.3 million tonnes in 2021 (Figure 14.2). Zinc's primary use is galvanizing steel, so consumption is expected to move with steel use which is forecast to rise over the outlook (see the *steel* chapter).

China — which accounts for around half of global zinc and steel consumption — faces a slowing economy over the outlook period, and much uncertainty relating to trade policy with the US. The imposition of US tariffs on a number of imported Chinese goods has the potential to decrease Chinese 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 using higher infrastructure spending.

Nonetheless, higher (steel and) zinc consumption is forecast to benefit from stronger growth stemming from India and other emerging economies. India has ambitious targets to increase domestic steel production over the outlook, and its demand for zinc is forecast to grow by 7.6 per cent annually to 850 million tonnes in 2021.

14.4 World production

Mine output to rise over the outlook period

Global mine production increased by 1.8 per cent year-on-year in the four months to April 2019, and is forecast to rise over the rest of 2019 as several new mines and expansions ramp up production. The market balance is expected to return to surplus by the end of 2019.

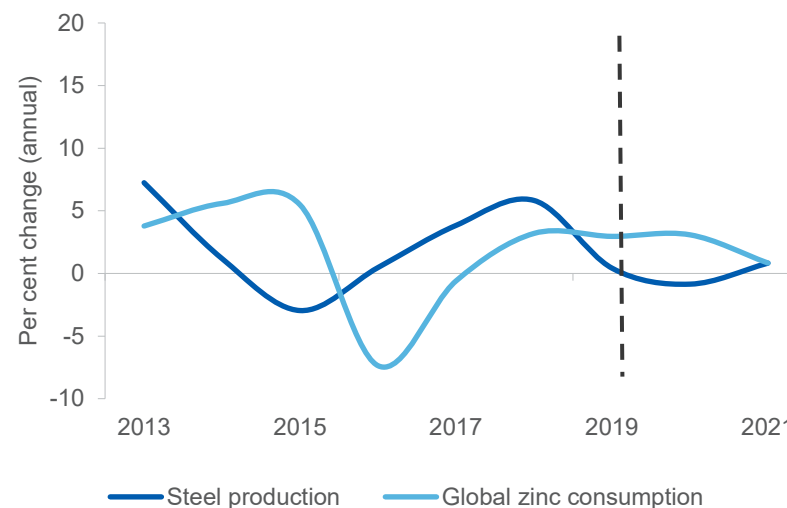
World mine production is forecast to grow at an annual average rate of 4.1 per cent from 13 million tonnes in 2018 to reach 14 million tonnes in 2021. Major mine projects coming online during the outlook period include the 100,000 tonne per annum (ktpa) capacity Yunnan Hualian project in China (expected to commence production in 2020), as well as several large expansion projects in India set to add 80,000 tonnes of capacity in 2019.

Australia — the world's third largest mine producer — also has significant mine capacity ramping up over the outlook period (Section 14.5).

Refined production to lift with mine output

Refined production decreased by 3.0 per cent year-on-year in the March quarter driven by environmental restrictions during China's winter period. However, output is expected to ramp up over the remainder of 2019. Refined output is forecast to grow at an annual average rate of 3.2 per cent from 13 million tonnes in 2018 to 14 million tonnes in 2021. Rising production will be led by China — the world's largest producer — which is forecast to grow its output at an average annual rate of 3.1 per cent, reaching 6.3 million tonnes in 2021. While zinc production in China is dispersed across hundreds of smaller operations, the Yunnan Hualian operations are a notable addition, expected to produce 100,000 tonnes commencing in 2020.

Figure 14.3: Annual change in global steelmaking and zinc use



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

14.5 Australia

Zinc exports are expected to grow in line with rising production

Export earnings are forecast to decrease from an estimated \$4.2 billion in 2018–19 to \$3.5 billion in 2020–21, driven by moderating prices. Volumes (in metallic content terms) are forecast to peak in 2019–20 and taper in 2020–21, returning to 2018–19 levels.

Export volumes (total metallic content) increased strongly by 17 per cent in the March quarter, to 313,000 tonnes, driven by the ramp up in production stemming from MMG’s Dugal river project and the New Century mine. Export volumes (in metal content terms) are estimated to have risen strongly by 24 per cent year-on-year in 2018–19, boosted by the reopening of the Mt Isa railway — which provides haulage for nearly half Australia’s production.

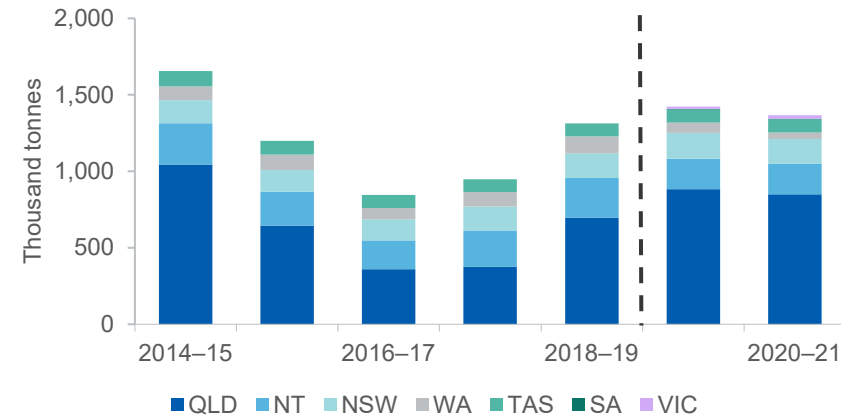
Australian mined production increasing

Australia’s zinc production increased by 33 per cent year-on-year during the March quarter 2019 — to 317,000 tonnes (in metal content terms). Mine production is forecast to reach a five year peak at 1.4 million tonnes in 2019–20. The increase will be driven by the ramp up of Glencore’s Lady Loretta mine, MMG’s Dugal river mine and the re-opening of New Century Resources’ mine, all in Queensland. The Thalana zinc project in Queensland restarted in the March quarter 2019, and is producing at a higher-than-expected rate due to exceptional recoveries and concentrate grades. This may provide additional upside to production over the outlook period.

Slow start to exploration expenditure in 2019

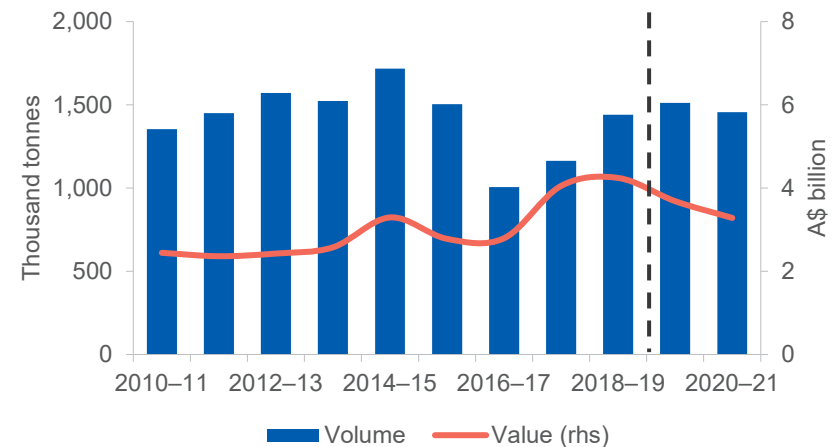
Exploration spending for silver, lead and zinc declined by 12 per cent year-on-year to \$16 million in the March quarter 2019, despite elevated prices. With zinc prices expected to decline from historically high levels, exploration spending is expected to remain subdued over the outlook period.

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



Source: ABS (2019) International Trade in Goods and Services, 5368.0, Department of Innovation, Industry and Science (2019)

Table 14.1: Zinc outlook

World	Unit	2018	2019 ^f	2020 ^f	2021 ^f	Annual percentage change		
						2019 ^f	2020 ^f	2021 ^f
Production								
– mine	kt	12,691	13,480	14,239	14,297	6.2	5.6	0.4
– refined	kt	13,171	13,649	14,150	14,435	3.6	3.7	2.0
Consumption	kt	13,682	13,770	14,047	14,333	0.6	2.0	2.0
Closing stocks	kt	894	773	875	977	-13.5	13.2	11.7
– weeks of consumption		3	3	3	4	-14.1	11.0	9.5
Price								
– nominal	US\$/t	2,925	2,780	2,640	2,500	-5.0	-5.1	-5.3
	USc/lb	133	126	120	113	-5.0	-5.1	-5.3
– real ^b	US\$/t	2,992	2,780	2,580	2,391	-7.1	-7.2	-7.3
	USc/lb	136	126	117	108	-7.1	-7.2	-7.3
Australia	Unit	2017–18	2018–19 ^s	2019–20 ^f	2020–21 ^f	2018–19 ^s	2019–20 ^f	2020–21 ^f
Mine output	kt	949	1,313	1,424	1,367	38.4	8.5	-4.0
Refined output	kt	474	485	475	478	2.4	-2.1	0.6
Export volume								
– ore and concentrate ^c	kt	1,738	2,382	2,748	2,612	37.1	15.3	-5.0
– refined	kt	417	410	333	337	-1.8	-18.6	1.2
– total metallic content	kt	1,164	1,437	1,510	1,457	23.5	5.1	-3.6
Export value								
– nominal	A\$m	3,973	4,171	3,954	3,458	5.0	-5.2	-12.5
– real ^d	A\$m	4,053	4,171	3,861	3,296	2.9	-7.4	-14.6

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.

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)