



Copper | Resources and Energy Quarterly June 2022



Trade map | June 2022



12.1 Summary

- Copper prices increased 51% to US\$9,300 in 2021 as global industrial activity recovered from COVID-19. Prices are expected to average US\$9,500 in 2022 after a strong start, but will fall back to US\$9,000 a tonne in 2024 as surpluses grow.
- Australia's copper exports are projected to fall to 807,000 tonnes in 2021–22 as scheduled maintenance is completed. Copper exports are expected to grow to 977,000 tonnes by 2023–24 as production from new mines and mine expansions come online (see *Australia section*).
- As output and export volumes grow, Australia's copper export earnings are projected to lift from \$11 billion in 2020–21 to \$15 billion in 2023–24, up an average 9.3% a year.

12.2 World consumption

Consumption starts strong, but China lockdown likely to weigh on growth

In the March quarter 2022, global refined copper consumption was 4.3% higher year-on-year (Figure 12.1). There was a modest increase in China (up 3.1%), but much stronger gains were recorded in Taiwan (35%) and Europe (20%). Some major copper consumers saw declines in copper consumption year-on-year, including the US (down 8.1%) and Japan (down 11%).

However, lockdowns in response to an outbreak of COVID-19 in several Chinese cities appears to have weighed on copper demand over the June quarter. Chinese PMIs slumped to 47.4 (NBS) and 46.0 (Caixin) in April the lowest seen since February 2020 — as several significant industrial hubs faced strict containment measures. While both indices improved in May (49.6 for NBS, 49.1 for Caixin), they remain in contractionary territory.

Shanghai is one of the major manufacturing hubs for electronics, semiconductors, and automobiles. Containment measures in the city forced manufacturers to halt operations, with Tesla and Volkswagen Group suspending production at their Shanghai factories on several occasions due to parts shortages. Toyota has also cited the Shanghai lockdowns as a causal factor for cutting May production by 50,000 vehicles in its Japanese operations.

The Chinese Government has announced more accommodative monetary and fiscal policy measures in order to reach its growth targets, but such policies are unlikely to have much of an effect until well into the second half of 2022. Further, risks remain that the spread of COVID-19 and subsequent containment measures will continue into the September quarter 2022 and possibly even further.

Assuming that China can contain the impact of its COVID-19 outbreak, growth in copper consumption is expected to be positive. Copper consumption is forecast to increase by 1.4% in 2022 — equal to the growth rate of consumption recorded in 2021.

Figure 12.1: Refined Copper Consumption



Source: World Bureau of Metal Statistics (2022); Department of Industry, Science and Resources (2022)

The Russia-Ukraine conflict and inflation present downside risks

The fallout from the Russian invasion of Ukraine is a key consumption risk over the outlook period. Russia is a key exporter of oil, gas and coal; all these commodities have seen price spikes following the invasion. Rising energy prices will inevitably flow through to production, forcing manufacturers to either raise prices or cut their output (and, as a result, their demand for base metals).

The conflict is also impacting raw materials and supply chains. Ukraine is a major supplier of wiring harnesses for European automakers, and the cessation of Ukrainian supply has disrupted several connected parts of the automotive supply chain. Car manufacturers are exploring alternate avenues of supply, but this will take several months to resolve.

Inflationary pressures are also mounting in advanced nations, in some cases reaching levels not seen since the early 1980s. This has caused many central banks to start raising interest rates, including a 50 basis point hike by the US Federal Reserve in early May. Excessive monetary policy tightening by central banks could potentially cause a bigger than expected adverse impact on GDP and thus hurt base metal demand.

But the outlook is positive

Copper consumption is expected to strengthen over the outlook period, rebounding from the fallout from the Russian invasion of Ukraine and the Chinese COVID-19 lockdowns. Growth for 2023 is forecast at 3.4%, falling slightly to 2.8% in 2024 — when total consumption is forecast to reach 27 million tonnes.

The demand for copper is expected to be supported by the continuing trend towards decarbonising the global energy sector. While the Russian invasion of Ukraine presents short term challenges, copper consumption may benefit in the medium term, as nations look to hasten their trajectory towards renewable energy, in order to wean themselves off fossil fuel exports (Russian or not).

12.3 World production

Chile and Peru to lead production growth, but disruption risks apparent

Mine production in Chile fell by 6.9% compared to the March quarter 2021. BHP has revised its guidance for its Escondida operations down due to the impact of increased COVID-19 cases, as well as the road blockades. Water availability issues have affected production at both Anglo American and Antofagasta mines, with the issue increasingly exacerbated by the longstanding drought conditions.

Mine production in Peru fell 11% in the March quarter, but was up by 4.2% from the March quarter 2021. Ongoing disruptions over social unrest present a major downside risk for Peruvian output in the short and medium term. Southern Copper Corporation's Cuajone mine was affected by a 50-day closure in the March quarter, while MMG's Las Bambas mine is still plagued by bouts of protest activity.

First Quantum Minerals approved the stage 3 expansion of the Kansanshi copper mine in Zambia. The \$1.2 billion project will add a new processing plant and a new larger mining fleet that will boost Kansanshi's total annual copper output to 250,000 tonnes per year for the remaining mine life to 2044.

Indonesian copper production (and exports) have grown over the March quarter, benefiting from the recovery in output at Freeport's Grasberg mine. Total copper ore and concentrate production for the March quarter 2022 was up by 23% from the March quarter 2021.

Global mine production is expected to reach 22 million tonnes in 2022 (up 6.9% year-on-year), however project delays could push much of this growth out to 2024. Mine production is expected to increase further to 24 tonnes in 2024 (Figure 12.2). Chile, Peru and the Democratic Republic of Congo are the largest drivers of mined production growth, with over half of the increase in production in 2024 represented by these countries.

Strong momentum in refined production growth

After increasing by 4.8% in 2021, refined copper production is forecast to grow by a further 4.3% in 2022, reaching 26 million tonnes (Figure 12.2). Chinese refined production experienced a slight decrease quarter-onquarter — a combination of a seasonal decrease associated with the Lunar New Year holiday and the recent lockdowns — but still showed a 1.6% gain compared to the March quarter 2021.

The Russian invasion of Ukraine is not expected to have a large effect on world refined copper production. Russia typically accounts for 4.0% of the global refined market, with most of this exported to China and Europe. Any material traditionally exported to Europe could be absorbed by China in the event of sanctions.

Refined production growth is expected to moderate over the outlook period. Growth is forecast at 3.1% in 2023 and 2.1% in 2024, when refined production will reach over 27 million tonnes (Figure 12.2).





Source: World Bureau of Metal Statistics (2022); Department of Industry, Science and Resources (2022)

12.4 Prices

China lockdowns affecting demand

Copper prices remained stubbornly high at the beginning of 2022. The copper price peaked at US\$10,730 a tonne in March — an all-time record — and averaged almost US\$10,000 a tonne in the March quarter 2022. This reflects an increase of 3.0% quarter-on-quarter, and 18% when compared to the March quarter of 2021.

While copper prices traded around US\$10,200 in April, news of softening Chinese industrial production (due to the COVID-19 lockdowns) saw the copper price fall to just above US\$9,000 a tonne in mid-May. Despite a brief rebound, the price broke below US\$8,500 a tonne towards the end of June (Figure 12.3). European demand has also faced headwinds in recent months, with Germany's industrial output contracting beyond market expectations in April. A strong US dollar is also weighing on demand, as copper becomes more expensive against local currencies. Further rate hikes by the US Federal Reserve are likely to soften demand.

The copper price is likely to average around US\$9,700 in the June quarter 2022, before gradually declining over the second half of the year. The copper price is forecast to average US\$9,500 in 2022, as a recovery in Chinese industrial production offsets a softening in prices from increased warehouse inventories.

Recovery of stockpiles to cool prices

In late 2021, warehouse inventories were drawn down to their lowest levels since 2014 (for the SHFE) and 2005 (for the LME). Concerns around a shortage of copper meant that prices were already high prior to the Russian invasion of Ukraine, which then saw the price peak at US\$10,730 a tonne.

A rise in inventories noted in the March 2022 REQ persisted into the June quarter. Total exchange stocks have risen by approximately 60% since the start of 2022, with inventories showing gains at both LME and SHFE warehouses.



Figure 12.3: Copper exchange inventories and spot price

Source: LME (2022) official cash price; Bloomberg (2022)

The main risk to the short term price forecast is the extent to which COVID-19 containment measures in China affect copper supply. China accounts for over 40% of world refined copper supply, so a reduction in Chinese metal supply will provide support for prices around their current levels. However, if the production of refined copper is able to continue at normal levels, exchange warehouses and other market participants will be able to build inventories to levels that are more consistent with historical averages.

The global copper market is forecast to trend into a modest surplus over the outlook period, putting downward pressure on prices. As a result, the price of copper is forecast to decline to average US\$9,100 a tonne in 2023 and US\$9,000 a tonne in 2024. However, potential supply disruptions in Chile and Peru pose upside risks.

12.5 Australia

COVID absences and weather events affect production

Oz Mineral's Prominent Hill mine has been impacted by COVID-19 related absences and rainfall induced supply disruptions. The company's Carrapateena operations also suffered from these problems, but higher than average ore grades helped to offset some of the effects.

Newcrest completed the SAG mill motor upgrade at the Cadia mine in the December quarter, with March 2022 production returning to full capacity.

Total mined copper output is estimated at 784,000 tonnes in 2021–22, 11% lower than the previous year. Refined copper is estimated to have decreased by 20% year-on-year in 2021–22, to 361,000 tonnes.

But production set to increase...

Several major projects are due to be delivered over the forecast period, while production is set to recover at most existing projects. The Nifty reactivation project (Cyprium) is expected to produce in 2023, while final investment decisions are expected for several other mines — including Oz Mineral's West Musgrave project — later in 2022.

Mined copper output is forecast at 903,000 tonnes in 2022–23, growing to 964,000 tonnes in 2023–24. Refined copper is set to grow to 448,000 tonnes in 2023–24.

...bringing higher exports as a result

Total export volumes are estimated at 807,000 tonnes in 2021–22, due to lower production (Figure 12.4). Total export volumes are down from 897,000 tonnes in 2020–21. Exports are expected to grow to 916,000 tonnes in 2022–23. Growth is expected to continue in 2023–24, with total exports expected to reach 977,000 tonnes.

Growth in export volumes will keep export revenue strong, despite the copper price easing slightly. Export earnings are forecast to grow from \$12 billion in 2021–22 to almost \$15 billion in 2023–24.



Figure 12.4: Australia's copper export volumes and values

Source: ABS (2022) International Trade in Goods and Services, 5368.0; Department of Industry, Science and Resources (2022)

Copper exploration falls, but still historically high

Copper exploration was \$115 million in the March quarter 2022, which was 33% lower than seen in the December quarter 2021 (Figure 12.5). That said, it is still higher than exploration expenditure for the corresponding quarter in 2021 (\$103 million).

Figure 12.5: Australian copper exploration expenditure



Source: ABS (2022)

Revisions to the outlook

Since the March 2022 *Resources and Energy Quarterly*, the forecast for Australia's copper export earnings in 2021–22 has been revised down by \$0.8 billion. The forecast for copper export earnings for 2022–23 has been revised down by \$0.3 billion. This is largely due to a downward revision in the price received by copper ores and concentrates.

Table 12.1: Copper outlook

						Annual percentage change		
World	Unit	2021	2022 ^f	2023 ^f	2024 ^f	2022 ^f	2023 ^f	2024 ^f
Production								
– mine	kt	21,005	22,446	23,479	23,690	6.9	4.6	0.9
– refined	kt	25,183	26,270	27,084	27,653	4.3	3.1	2.1
Consumption	kt	25,387	25,689	26,559	27,298	1.2	3.4	2.8
Closing stocks	kt	1 148	942	1 348	1 595	-18	43	18
– weeks of consumption		2.4	1.9	2.6	3.0	-19	38	15
Prices LME								
– nominal	US\$/t	9,315	9,537	9,146	8,998	2.4	-4.1	-1.6
	USc/lb	423	433	415	408	2.4	-4.1	-1.6
– real ^b	US\$/t	10,038	9,537	8,892	8,555	-5.0	-6.8	-3.8
	USc/lb	455	433	403	388	-5.0	-6.8	-3.8
Australia	Unit	2020–21	2021–22 ^s	2022–23 ^f	2023–24 ^f	2021–22 ^s	2022–23 ^f	2023–24 ^f
Mine output	kt	878	784	903	964	-11	15	6.8
Refined output	kt	452	361	444	448	-20	23	0.8
Exports								
– ores and concs ^c	kt	1,672	1,637	1,796	2,021	-2.1	9.7	13
- refined	kt	420	343	412	416	-18	20	0.8
- total metallic content	kt	896	807	916	977	-9.9	14	6.6
Export value								
– nominal	A\$m	11,440	12,416	13,985	14,930	8.5	13	6.8
– real ^d	A\$m	11,936	12,416	13,360	13,807	4.0	7.6	3.3

Notes: **b** In 2022 calendar year US dollars; **c** Quantities refer to gross weight of all ores and concentrates; **d** In 2021–22 financial year Australian dollars; **f** Forecast; **r** Average annual growth between 2021 and 2027 or 2020–21 and 2026–27; **z** Projection.

Source: ABS (2022) International Trade, 5465.0; LME (2022) spot price; World Bureau of Metal Statistics (2022) World Metal Statistics; Department of Industry, Science and Resources (2022)