# Review of 2022 and outlook for 2023: from Eurasian Resources Group

#### **Key takeaways:**

- Cobalt supply facing huge downside risks, whilst demand continues to surge the market could quickly transition from a moderate surplus to a deficit in 2023
- Total demand for cobalt in the next five years will be higher than all cobalt consumed in the first two decades of this century
- Total visible copper stocks are down by 36% YoY less than a quarter of the average level typically seen in Q4 in the five years leading up to the pandemic
- View of a refined copper market surplus in 2023 rapidly shifting to one of deficit
- Copper demand in Europe and North America will continue to outperform the broader global macroeconomic slowdown due to booming green energy demand
- Strong copper demand recovery expected in China as coronavirus restrictions are lifted and vast stimulus supports copper-intensive real estate and consumption sectors
- Global aluminium market is expected to be broadly balanced in 2023

2022 has seen most commodity prices sold off sharply – however, this was largely due to specific disruptive short-term price drivers, including COVID-19 lockdowns in China (which have recently loosened), monetary policy in the US, and the fallout from the energy crisis caused by the military conflict between Russia and Ukraine.

We expect the impact of all these factors to resolve or ease off in 2023. Furthermore, we believe the market has overreacted and is at odds with actual state of most commodity markets. We anticipate that the demand structure for many commodities is undergoing a fundamental shift driven by the global net-zero transition.

## Cobalt: Storm clouds gather over mine supply as EV demand continues to surge

Despite strong supply growth in 2022, which is estimated to reach over 20% YoY according to CRU, cobalt mine production is facing significant downside risks in 2023, some of which have already been realised. This could mean flat, or even negative, mine supply growth next year.

This is in stark contrast to cobalt demand where, for example, NEV sales are set to supersede the 10M units mark by the end of 2022 (up by more than 50% YoY). Global passenger NEV sales reached a new all-time record of 1.1M units in November, after exceeding the 1M units mark in September for the first time ever.

In 2023, Rho Motion predicts that global EV sales will continue to surge to 14.4M units, meaning that 17% of all car sales will be electric – up from 13% in 2022, and more than double their 8% penetration in 2021. This immense sales growth in 2023 will be underpinned by stronger growth in Western Europe of 21% YoY as supply chain bottlenecks recede and new manufacturing capacity comes online. This is in addition to stronger growth in the US and Canada of 39% YoY due to government support measures and new manufacturing capacity. CRU estimates that cobalt demand for EV batteries will reach nearly 100kt in 2023, which is equivalent to total EV demand in 2021 and 2022 combined.

We are also observing a huge uptake of lithium-ion batteries in the e-mobility space, with total battery capacity from this sector expected to reach 37.3GWh (+17% YoY) in 2023 according to Rho Motion.

Meanwhile, we expect a full recovery of aerospace sector demand to pre-pandemic levels. CRU expects a 12% YoY increase in cobalt metal demand from the aerospace sector in 2023.

In view of this continuing surge in cobalt demand from the EV sector, a recovery of demand from the portable electronics and aerospace sectors, prospective buying by China's State Reserve Bureau and major supply headwinds, the cobalt market looks set to transition from a moderate surplus in the second half of 2022 to a deficit market in 2023.

According to CRU, lithium-ion batteries currently account for almost 45% of total cobalt demand and are expected to increase to around 60% in five years' time. Just ten years ago, this figure stood at only 10% of total demand. This trend will culminate in a surge in absolute cobalt demand. To put this into perspective, total demand for cobalt in the next five years will be higher than all cobalt consumed in the first two decades of this century.

Secondary supply, such as recycling, is one avenue to bolster future supply of cobalt. However, the secondary supply chain faces severe challenges in the foreseeable future from underdeveloped collection networks, poor regulatory frameworks, safe handling constraints, evolving battery chemistries and design, price volatility and, of course, the long life-spans of EV batteries, which will constrain feed supply. The overarching conclusion is that secondary sources of supply alone will be unable to meet the growing demand for energy transition minerals on its own, and significant investment in primary production capacity will therefore be essential.

### Copper: Consensus view of a surplus market in 2023 is rapidly shifting to one of deficit

Total visible copper stocks are down by 36% YoY – less than a quarter of the average level of 840kt at this time of year in the 2015-2019 period leading up to the pandemic.

On the supply side, the above-average rate of mine disruptions that gripped the market in 2022 looks set to spill over into 2023 (especially in South and Central America), with numerous pronounced guidance reductions already announced for the coming years by major miners. Moreover, two of the key mine projects set to bolster supply growth next year have slipped significantly behind schedule.

Meanwhile, copper consumption picked up markedly in 2H22 and we expect it to continue being supported in 2023, especially in China, by the easing of coronavirus restrictions and roll-out of vast economic stimulus. Visible copper inventories in China already stand critically low at just 101kt – down by 51.7% YoY and less than a fifth of the average level of 541kt at this time of year in 2015-2019. In the rest of world, copper demand will continue to outperform the broader macroeconomic slowdown, bolstered primarily by rapid demand growth from the green energy sector in Europe (supported by initiatives stemming from the European Green Deal) and in the US (under the American Jobs Plan and the Inflation Reduction Act).

In view of the above dynamics, the market is increasingly shifting away from an outlook of surplus in 2023, to one of deficit. This shift is already well reflected in the annual benchmark premiums for 2023 copper cathode supply, which have risen markedly, indicating a tightening of cathode supply.

Against this tight fundamental backdrop, there is an increasing likelihood of an early Fed pivot, especially as US inflation readings have come in markedly lower than expected for two consecutive months. This should ultimately turbocharge copper prices back towards USD 10,000/t in 2023.

### Aluminium: Broadly balanced market in 2023 following strong price volatility

The global aluminium market had a strong year both in terms of price volatility and a shift in its medium-term fundamentals. The LME aluminium cash price skyrocketed to the highest level since 1988 at USD 3,985/t in March 2022.

The European market faces a prolonged energy crisis amid radical cuts in energy imports from Russia. US aluminium consumption has been mostly hit by sharp rises in interest rates, whereas the Chinese market has continued to be impacted by the country's recent zero-covid policy and financial downturn in the property sector. These factors resulted in the LME aluminium price crashing to USD 2,080/t in September – its lowest since February 2021.

Global aluminium supply faced significant challenges in 2022. European smelting capacity has been cut by 1.1Mtpa, with more cuts likely to follow during this winter and next. In addition, not all of the closed capacity is expected to come back online amid steadily rising power costs and the impact of environmental regulation.

While the global aluminium market is expected to be broadly balanced in 2023, the prices should remain elevated against a backdrop of higher smelting costs, raised interest rates and higher demand in China amid the anticipated change in the country's coronavirus policy. In addition, the aluminium industry will need to significantly increase investment in the coming years to meet decarbonisation targets and partially replace Russian metal exports. Annual investments should move from 100s of millions of USD to 10s of billions.

Meanwhile, the global alumina market has seen less dramatic developments in 2022 compared to aluminium, with prices expected to climb higher in 2023, in response to refinery curtailments in the high-cost environment.

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