

### The industrial metals super-cycle has accelerated, not slowed down

In April of last year, we argued that demand for industrial metals would be structurally boosted by the fight against climate change. Supply, on the other hand, would not be prepared for this. All in all, we judged that we would be at the beginning of a new super-cycle.<sup>1</sup> Until April of this year, everything went "according to plan" and industrial metals gained about 50% in US-dollar terms. Since then, they have gone into reverse. Has the super-cycle vanished into thin air? Quite the opposite, we argue, and we see good opportunities to enter it now.

### Roller-coaster ride on metals markets

Since the beginning of the year, not only have energy prices experienced sharp price swings, but industrial metals have also been on a roller-coaster ride (Fig. 1). In the first quarter, they continued last year's strong performance with a gain of 23% in US-dollar terms. In addition to the flourishing economy and tight supply, metals prices also benefited from the strong increase in energy prices, which account for a considerable part of production costs. With the beginning of Q2, however, industrial metals plunged by more than 25%, giving back a large part of their gains since our publication. As recession worries in the West were solidifying due to central bank tightening and the ongoing Russia-Ukraine war, China went into lockdown to contain its longest COVID-19 outbreak to date.

### Further downward potential is, by now, limited

In the short term, we believe that industrial metals will remain impacted by the poor economic outlook in the West and the resulting expected decline in demand. And if the zero-COVID policy in China is not relaxed, the demand outlook there also remains uncertain.

Nevertheless, there are also many positive things to note. Not only demand, but also supply, is suffering from the high inflation of production costs. Coupled with the lower metal prices, some producers are already posting losses. About 20% of global aluminium production is currently unprofitable. Despite partially hedged

Within *Focus* we comment on extraordinary market events and analyse capital market related special topics.

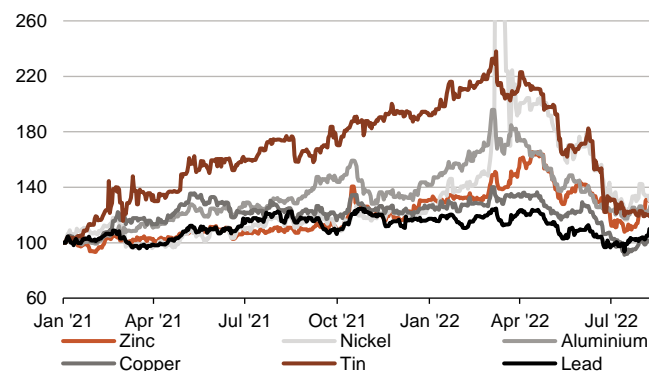
*Fight against climate change has triggered new super-cycle in industrial metals*

*Between supply shortages, high energy prices and recession worries*

*Economic outlook weighs on demand, but supply also suffers from high inflation*

**Fig. 1: Rollercoaster ride on metals markets**

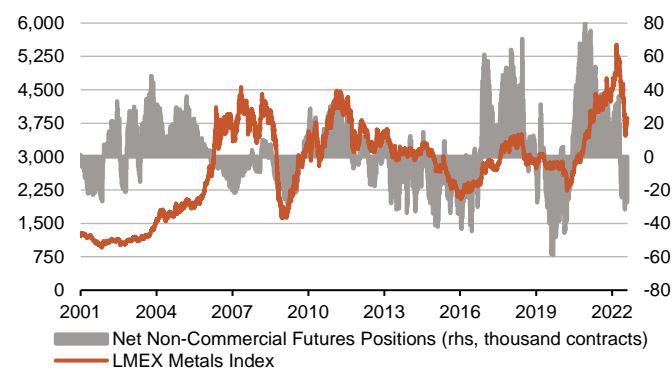
Price development indexed to 100 for the industrial metals zinc, nickel, aluminium, copper, tin and lead since January 2021.



Time period: 01/01/2021 - 09/08/2022.  
Source: Bloomberg, own calculations.

**Fig. 2: Sell-off well underway & positioning bombed out**

Net futures positioning of speculative investors in copper versus the performance of the LME industrial metals index.



Time period: 01/01/2001 - 09/08/2022  
Source: Bloomberg, CFTC, own calculations.

<sup>1</sup> See <https://www.berenberg.de/en/news/capital-markets---focus/industrial-metals-at-the-beginning-of-a-new-super-cycle/>



prices, political pressure and the costs associated with smelter closures, production cuts are likely to (further) reduce supply. Together with the already very low inventory levels, there are no signs of significant overcapacity from a fundamental perspective that would justify prolonged falling prices.

Furthermore, the extent of the sell-off is now comparable to sell-offs in past local recessions over the last 30 years. Only during the Global Financial Crisis (GFC) did industrial metals fall significantly more. Therefore, we think that the largest part of the price decline is probably behind us. This is also supported by the fact that investors are now very pessimistically positioned – in the case of copper, for example, they are net short (Fig. 2). The only longer-term period in which this was not a catalyst for rising prices was between 2013-2016, a time that cannot be compared with today, as the market was structurally oversupplied. The potential for a further drop, therefore, appears to be limited – both fundamentally and technically.

*Price decline of industrial metals is now comparable to past recessions*

### Long-term rising demand meets unprepared supply

Although the short-term demand outlook for industrial metals has deteriorated in recent months, the longer-term tailwind remains completely unaffected and intact. This is because industrial metals are integral raw materials in many key technologies to decarbonise our economy and thus combat climate change (Fig. 3). Metals such as copper, aluminium and nickel play a key role across the entire spectrum of the energy transition – from energy generation through solar or wind, to energy storage and use through batteries and electric vehicles, to CO2 capture and storage. For example, thanks to its high conductivity, copper is used in all aspects of electrification. Wind power requires about four-times more copper than conventional power generation, and solar power up to 12-times more. Aluminium is used in lightweight construction, while nickel is a key raw material in battery production. Studies by various organisations such as the World Bank or the International Renewable Energy Agency, therefore, conclude that the demand for these metals is likely to multiply in the next 30 years if we want to limit global warming to below 2 degrees (Fig. 4).

*Industrial metals are key raw materials in many green technologies*

As things stand, however, the supply side is far from prepared for such a surge in demand. This is because the investments required for an increase in supply have been cut back sharply since the GFC (Fig. 5). In the process, overcapacities have been reduced and the market has finally found a new equilibrium. In order to satisfy the new growth in demand due to the energy transition, producers will have to invest more in new mines again. However, these investments translate into new

*Meeting climate targets implies multiplication of metal demand*

**Fig. 3: Use of (industrial) metals in the fight against climate change**

Use of industrial metals, precious metals and rare earths in energy production, storage, mobility and other applications

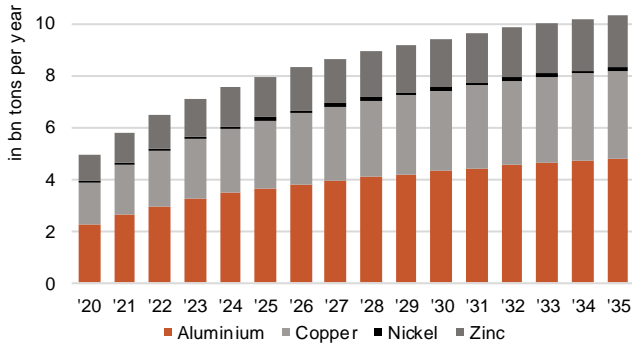
	Wind	Solar	Energy Storage	Electric Vehicles	Electric Motors	Carbon Capture and Storage	LEDs
Aluminium							
Chromium							
Cobalt							
Copper							
Indium							
Lead							
Lithium							
Molybdenum							
Neodymium							
Nickel							
PGMs							
Silver							
Steel							
Zinc							

Source: World Bank<sup>2</sup>, BofA Global Research



**Fig. 4: Strongly increasing demand from green technologies**

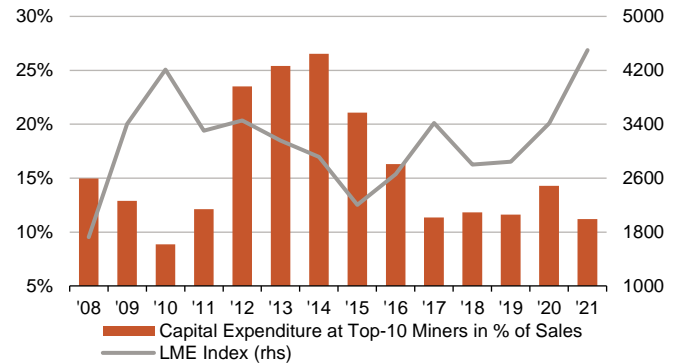
Forecast of the annual raw material demand of wind and solar energy of the EU until 2035 under the scenario of full decarbonisation by 2050



Time period: 01/01/2020-31/12/2035, annual data  
Source: European Commission Joint Research Centre<sup>3</sup>, own calculations

**Fig. 5: Lack of capital expenditure likely to fuel supply deficits**

Annual capital expenditure of Rio Tinto, BHP, Anglo American, Glencore, Vale, Antofagasta, Freeport-McMoRan, Teck Resources, Fortescue Metals Group and South32



Time period: 01/01/2008-31/12/2021, annual data  
Source: Bloomberg, own calculations

supply only after a considerable delay. On the one hand, the planning and construction of a mine is very time-consuming (6 to 20-years lead time) and, on the other hand, the capital intensity of new mines increases because mineral deposits with the highest possible concentration and low extraction costs have already been exploited; therefore, new projects are only profitable at higher metal prices.

This combination of structurally strongly rising demand and unprepared supply is by no means a new phenomenon. In the past 100 years, it was always phases of rapid industrialisation, coupled with initially scarce production capacities, that triggered a commodity boom – also known as a super-cycle – which caused commodity prices to rise throughout economic cycles (Fig. 6). Unlike then, however, it is likely to be less industrialisation and more decarbonisation that drives the coming super-cycle. Industrial metals, in particular, are likely to benefit from this.

**Recent developments should accelerate decarbonisation and thus the industrial metals super-cycle**

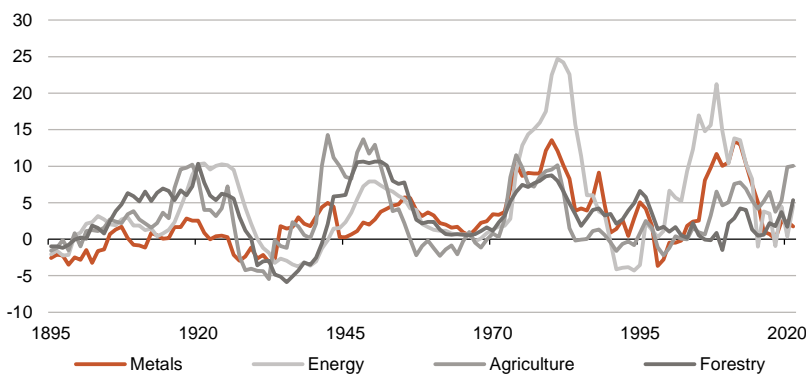
One could interpret the poor performance of industrial metals since the beginning of the year such that, even if we are at the beginning of a super-cycle, it is now at least on pause or (significantly) delayed. However, we believe that recent developments are likely to have had the opposite effect and think that the drivers for the super-cycle have intensified on both the demand and supply side.

*Lack of investment in recent years limits the potential for supply expansion*

*Structurally rising demand coupled with a lack of capacity on the supply side results in rising prices in the long term*

**Fig. 6: Industrialisation triggered past super-cycles**

10-year rolling average of the annual price development of commodities from the energy, metals, agriculture and forestry sector in percent



Time period: 01.01.1895-31.12.2021, annual data  
Source: Statistics Canada, own calculations



While the motivation to decarbonise our society and economy was "only" a question of sustainability until the outbreak of the Russia-Ukraine war, Europe's high dependency on Russian gas has shown that this is also a question of geopolitical security. In this respect, the urgency of the energy transition in Germany has taken on a new dimension. But also in other countries that have so far been dependent on imports of fossil fuels, the sharp rise in prices for energy commodities is likely to create incentives to increasingly switch to renewable energies. We have already highlighted the opportunities for companies in this sector in a Spotlight<sup>2</sup> publication. Overall, long-term demand growth for industrial metals is, therefore, likely to have accelerated since the beginning of the year.

*Decarbonisation is now not only a question of sustainability, but also of geopolitical security*

In contrast, supply growth may even have slowed down. Here, too, energy prices are a catalyst. The predicament of falling metal prices and higher input and financing costs described at the beginning of this article is likely not only to put pressure on the profitability of producers, but also ultimately lead to less investment in the construction of new mines. Existing projects are likely to be largely unaffected by this, so that there should still be production expansions, especially for copper and nickel, but looking at the next five to 10 years, the pipeline of new projects is fairly thin so far.

*Increased input costs and falling metal prices put pressure on profitability and investment activity*

Besides the lack of financial resources, there is also a lack of conviction to make new investments. Above all, the uncertainty, both economic and regulatory/technical, causes producers to hesitate. Economically, the prospect of a recession in the West, the ongoing war in Ukraine and the uncertain situation in China are weighing on the sentiment. Regulatorily, it is the ever-tightening environmental regulations that are discouraging investment. The production of the metals themselves, which are supposed to decarbonise our economy, also needs to be decarbonised. However, the necessary technologies are still being developed, so that Alcoa (the world's second-largest aluminium producer), for example, promised in March of this year not to invest further in production capacities until the technology it is developing is ready for use.

### **A good opportunity to enter the super-cycle**

Industrial metals have suffered badly in recent months from recession worries in the West and the lockdowns in China. The demand outlook for the coming months remains highly uncertain. However, industrial metals have now largely priced in this uncertainty. We think that the long-term upside potential – driven by the strong growth in demand from green technologies and the reluctance of producers to invest – should be unaffected by all this. On the contrary, the longer-term trends may even have accelerated as a result of current developments. In our view, this offers a favourable opportunity to join the super-cycle of industrial metals.

<sup>2</sup> See <https://www.berenberg.de/en/news/aktien/the-accelerated-future-of-the-energy-transition/>

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