



# COPPER:

## 2023, YEAR ZERO

Q2 2024



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Asset Management

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# FINANCIAL MARKETS FLASH



## COPPER: 2023, YEAR ZERO

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**Benjamin LOUVET**

Head of Commodities

**OFI INVEST ASSET MANAGEMENT**

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[www.ofi-invest-am.com](http://www.ofi-invest-am.com)

22, rue Vernier  
75017 Paris – FRANCE

Tel.: +33 (0)1 40 68 17 17  
Fax: +33 (0)1 40 68 17 18

S.A. with a board of directors and share capital of €71,957,490  
RCS Paris 384 940 342 - APE 6630 Z

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With an industrial slowdown in all geographical regions, a collapse in the Chinese real-estate sector, and drawdowns of metal inventories piled up during the Covid period, **copper faced a challenging year in 2023 but managed to hold up nonetheless. 2024 began tentatively but may have been the start of a secular trend in copper!**

In 2023, everything came together to send metal prices downward. Demand receded, at least in the traditional heavy-use industrial sectors of manufacturing, which took a hit in Europe, in the US and in Asia, and real estate, which was hit by a slump not only in China but also in the rest of the world, driven by rising interest rates.

## Copper, the jack-of-all-trades of low-carbon technologies

Copper held up because of a profound shift that is occurring on the demand side. This shift began to take shape with the recognition at the COP 21 in Paris in 2015 of the need to give up fossil fuels. Thus began a race against time to switch energy to a low-carbon model. Since then, a headlong expansion of renewable energy generation capacities, led by wind and photovoltaic solar, has ratcheted up demand from this sector, demand that 15 years ago was almost non-existent. Copper, the jack-of-all-trades of low-carbon technologies, is essential to manufacturing wind turbines (each turbine requires between 950 kilos and 5 tonnes of copper), solar panels, electric cars and electric power grids.

2023 was a true turning point, as, for the first time, investments in renewable capacities equalled the increase in global energy demand. In other words, from 2023 on, the share of fossil fuels in the global energy mix is expected to shrink. Keep in mind that this is from a very high base. More than 80% of primary energy consumed worldwide is from fossil fuels: and in 2023, despite the economic slowdown, consumption of coal, oil and gas set new records!

But we are indeed on our way. The world installed record renewable capacities last year, with almost 540 GW of solar and wind, up, respectively, by 85% and 60% vs. the previous year (source: IEA, Renewables 2023, January 2024). China has often been taken to task for its coal consumption, but last year it installed as much in renewable capacities as the entire world in 2022!

## Low-carbon technologies are offsetting shrinking demand in traditional sectors

The acceleration of low-carbon technologies is why copper has held up so well. As low-carbon technologies are extremely metal-intensive, heavier demand from them has more than offset shrinking demand from traditional sectors. Ultimately, copper demand rose by more than 9% in China and by 4% worldwide in 2023, despite slowing growth.

2023 should therefore be regarded as “year zero”, a year that demonstrated that metals demand is less elastic to economic cycles. Metal prices, in contrast, were not found to be less elastic to

these same economic cycles, due to the need to work through the inventories that China piled up during the pandemic.

## Supply will run short as early as 2024

This is likely to be borne out in 2024, with the start of a secular cycle in copper. For, in addition to the fact that inventories have now returned to historically low levels, we believe that all factors are now in place for copper prices to rise sharply in the coming months and years. On the supply side, first of all. Everyone was expecting a copper deficit after 2025, as a number of copper mines are due to begin producing this year. However, the deficit should, in fact, show up as early as this year, due to a number of challenges the copper industry has faced. One of these challenges is the decline in output in Chile, where a number of geological issues have kept it from meeting the output levels projected last year. Chile has warned that these issues are structural in nature and will probably have a more sustained impact on output. Another challenge arose when the Panamanian Supreme Court declared unconstitutional the granting of an operating contract for the Cobre Panama mine to First Quantum Mineral<sup>1</sup>. The mine in question, which accounted for about 2% of global copper output, has been closed since November 2023, with no hope or reopening until at least the next elections, scheduled for May. But there is a great likelihood that operations will not resume even after the elections, as the project is opposed not only by the government but also by the general public, opposition that disrupted mining operations even before it shut down. As a result, Franco Nevada<sup>1</sup> has written down its share of the project and now believes it could be written off entirely.

More globally, the International Energy Agency estimated in a report last year that, to meet the copper needs generated by the transition, 80 new copper mines would have to be opened, and that, given the time it takes to set up a mine (17 years on average, the IEA estimates), investment would have to be committed to all such projects by the end of 2025. But, in fact, hardly a dozen new copper mine projects are currently on the drawing board.

Shortages of ore are already showing up. The most obvious sign of this is the level of copper refiners' treatment and refining charges (TCs/RCs), which have dropped from \$84 per tonne on average last year to about \$9 today (source: Fastmarkets, March 2024)! Falling TCs/RCs may be due to intense competition between refiners – where there is refining overcapacity, refiners are willing to cut into their margins to win contracts against their competitors. While overcapacity has indeed worsened in recent months, that is not the only reason for the drop in TCs/RCs. Another reason is the availability of ore for processing, which has declined for all the aforementioned reasons. The situation is so serious that Chinese refiners have joined together in an attempt at reducing their capacities, in order to restore their margins. However, no specific announcement has been made by the companies concerned, and these statements have so far been a dead letter.

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<sup>1</sup> *Citing of companies herein are for information reasons only, and neither as an offer to sell, nor a solicitation to buy securities.*

There are also signs of higher prices on the demand side. The first of these, as expected, is the roll-out of low-carbon technologies, which continues to accelerate. In China, in particular, and despite last year's impressive figures, solar capacities installed in January and February are estimated to have risen by 80% year-on-year, to 37 GW, far above the year's growth forecasts. However, caution is in order, as two months do not necessarily mean a real trend. But if the trend does continue, projections of growth in copper demand in China for this year, of between 3.5% and 8%, could be exceeded!

### **Demand driven by new needs**

Meanwhile, people seem to be realising that they overlooked something crucial in the energy transition – the electric power grid. More and more countries, in Europe in particular, have recently realised that an underdeveloped power grid could render moot all efforts being made for the energy transition. The Financial Times recently reported that in France – whose grid is often cited as exemplary – a windfarm project in the Poitou-Charentes region was currently on hold, after the developer learned that connecting it to the grid would take eight years! So, it is very likely that many countries will accelerate their grid investments, leading to additional demand for copper. China is already working in this direction and invested more than 70 billion dollars last year to upgrade its grid, and is planning as much this year. Its grid investments alone are expected to total 500 billion dollars by 2030!

And there are other sources of new demand. Elon Musk was one of the first to draw attention to this, before it became the topic of the day: the development of artificial intelligence (AI), and the data processing centres needed to implement it, will require huge resources, led by... copper! We estimate that each GW of applied power developed for AI consumes between 50,000 (according to Jefferies) and 65,000 tonnes (according to Man Group) of copper. Assuming a roll-out of 5 GW of additional applied power for AI this year in the US, and the fact that the US accounts for about half of the AI market, that would mean additional copper demand of more than 500,000 tonnes worldwide, or more than 2% of global demand on an already tight market.

**For all these reasons, we expect 2024 to be the “year 1” of a sustained climb in copper demand and prices. Keep in mind that, according to Emmanuel Hache, a researcher at IFP Énergies Nouvelles and at IRIS, copper is the metal whose total consumption is likely by 2050 to come the closest to our planet's available supply (90% of currently identified copper resources may have been consumed by then).**



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**Contact:**

Stephan Jacobs, Geschäftsführer, Active Fund Placement GmbH

Telefon: +49 69 3487 2779-5

Mobil: +49 172 988 94 52

E-Mail: [sj@fundplacement.de](mailto:sj@fundplacement.de)

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TELOS GmbH

Biebricher Allee 103

D-65187 Wiesbaden

Tel. +49 (0)611 9742 100

E-Mail: [info@telos-rating.de](mailto:info@telos-rating.de)

Web: [www.telos-rating.de](http://www.telos-rating.de)