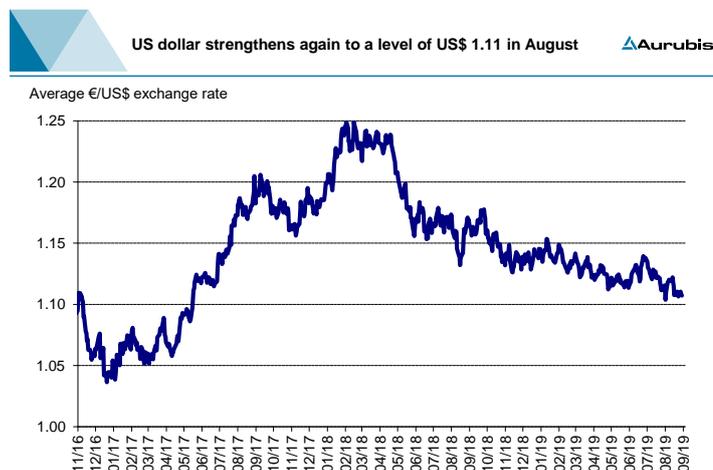


The Aurubis Copper Mail provides monthly information about current trends on the copper market.

In focus



In August, the trade dispute between the US and China, as well as Brexit, dominated the headlines again. The copper market wasn't spared the uncertainties this caused for industry in general. These fears are manifested in reserved order levels coming into the processing industry, whether in mechanical engineering or electrical engineering. The sideways trend in the copper price in August fits this situation – the market seems to lack a clear direction at the moment. At the LME, Comex, and SHFE warehouses there were new warehousing transactions here and there, and slightly higher inventories overall.

Economic situation

In August the US and China exchanged more blows in their ongoing trade dispute. The US announced in the middle of the month that it would impose 10 % tariffs on US\$ 300 billion worth of additional goods. In return, China proclaimed in late August that it would place an additional 5 % in tariffs on US copper scrap starting December 15, as Reuters reported. There is already a 25 % tariff on US copper scrap, which would increase the trade barrier to 30 % in total. China also announced at the end of August that it would impose a 10 % tariff on unwrought copper from the US as of September 1. Nevertheless, both sides want to continue talks, possibly in September, as MBI NE-Metalle reported.

The US dollar was quoted at US\$ 1.11 to the euro at the end of August.

Copper essentials

In August, the International Copper Study Group (ICSG) released its estimates for the period from January to May 2019. According to these numbers, *mine output* in the first five months of the year was at 8,281,000 t and thus at the level of the same period of the previous year. Mine capacity utilization reached 80.4 % (previous year: 81.3 %).

Global output of *refined copper* from concentrates and recycling materials was also at prior-year level during the period, at 9,774,000 t (previous year: 9,870,000 t). The utilization of global refining capacities declined from 86.4 % in 2018 to 83.2 % in 2019. While concentrate inputs decreased slightly, copper scrap inputs rose somewhat.

Visible global demand for *refined copper* declined during the period by about 1 % to 9,964,000 t (previous year: 10,001,000 t), mainly driven by slightly lower demand from China.

This results in a minor deficit of 190,000 t for January to May (previous year: deficit of 131,000 t) for the global refined copper balance.

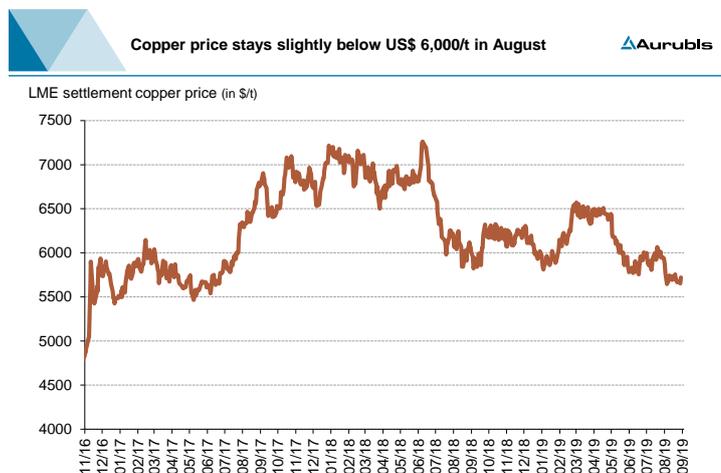
For 2020, the current CRU and Wood Mackenzie forecasts predict a deficit of around 340,000 t and 550,000 t of copper content on the concentrate market, respectively.

However, the two market observers currently assume that the Indian smelter Tuticorin will resume production next year. As a reminder: production at Tuticorin has been at a standstill since spring 2018 after protests by the local citizens. Since then, the courts in India have been consulting about whether the smelter can start up again and whether it fulfills environmental standards. While the CEO of operating company Vedanta is cautiously optimistic that Tuticorin will resume production, CRU reports that there is doubt in the market about whether the smelter will ever produce again.

The forecasts mentioned above also take into account the output of Chinese smelters, which, as of today, have shut down operation due to the currently low spot TC/RCs (see the Production section).

Considering these two effects, the market for copper concentrates would be balanced for the most part.

» Price trend



In August, the copper price on the London Metal Exchange (LME cash settlement) mostly moved sideways. It closed the month at about US\$ 5,800/t, slightly below the level at the end of July 2019 (US\$ 5,926/t).

» Copper raw materials

Reuters reported that the price situation on the global copper concentrate market brightened somewhat again in August, with a continued satisfactory supply. Spot treatment and refining charges for copper concentrates (TC/RCs) stabilized at a level of around US\$ 55/t / 5.5 cents/lb, according to S&P Global Platts, due to less demand among Chinese

smelters, among other factors.

In connection with the low spot TC/RCs for copper concentrates at the moment, a report circulated in August that the Chinese copper smelter Nanguo had to resort to financial assistance from China Minmetals to be able to continue sourcing concentrates, according to American Metal Market. Nanguo operates a newly commissioned 300,000 t/a smelter and, according to AMM, the company has recently had more and more difficulties obtaining letters of credit from individual banks.

There was more news about current and future mine projects in August.

Chilean copper producer Codelco started its underground mining activities at the Chuquicamata mine in August, according to information from Goldman Sachs that referred to S&P Global Platts. This should secure production at the mine, one of the largest worldwide, for the next 40 years. Starting in 2026, "Chuqui" should produce about 320,000 t of copper each year. Open pit mining activities are expected to cease in the coming year. According to American Metal Market, the conversion to an underground mine will unearth a higher volume of complex concentrates.

The Financial Times states that Antofagasta is optimistic that it will receive a permit to develop an underground copper mine in the US state of Minnesota. The Chilean company plans to invest about US\$ 1 billion there.

The copper project Resolution Copper in the US state of Arizona is already one step further. It received a draft environmental impact statement from the United States Forest Service. The joint project of Rio Tinto and BHP has the potential, according to the two companies, to cover 25 % of the United States' copper demand, as Bloomberg reported.

In August, China released a third tranche of import licenses for category 6 recycling materials, as American Metal Market reported. Overall, China Solid Waste and Chemicals Management issued licenses for a volume of about 87,680 t of copper scrap imports. Import licenses have therefore been issued for a total of 453,109 t for the second half of 2019 thus far. As a comparison: in 2018, China imported a total of 2.4 million t of copper scrap – so about 600,000 t per quarter.

» Production

Reuters reported that Codelco has started a shutdown at its copper smelter Ventanas. The smelter was halted in mid-August and Codelco hasn't publicly said how long this will last. The copper smelter made headlines last year after more than 100 local residents had to receive short-term medical treatment and attributed this to the nearby copper smelter.

Fastmarkets reported that there were also production disruptions in August at Atlantic Copper in Huelva, Spain. After problems with its electric furnace, the copper smelter belonging to Freeport-McMoran is currently running at

only 40 % capacity. According to Fastmarkets, this has led to a delay of up to two weeks in the Spanish smelter's copper concentrate intake. This has reportedly led to concentrate deliveries that had been in transport to the smelter having to be released to the free market. Due to the disruptions, Atlantic Copper – the largest sulfuric acid producer in Spain – has also declared force majeure for its sulfuric acid deliveries.

Low TC/RCs and obsolete technology seem to have moved some Chinese smelters to halt operations. According to CRU, the currently low TC/RCs are a possible reason for stopping production at Shanghai Chemical and Top Eastern Copper. Huludao North is currently experiencing an unplanned shutdown that also seems to be facilitated by the low TC/RCs. In the case of Laizhou Fangtai and Jinshui Copper, obsolete technology and environmental protection standards were allegedly the reasons for stopping operations, according to CRU. The Chinese smelters mentioned here alone represent a processing capacity of about 320,000 t of copper per year, CRU states.

The future of the Tuticorin copper smelter in India is still uncertain. Vedanta's CEO is cautiously optimistic that the smelter will resume production again. In the meantime, however, there are more indications that Tuticorin will suspend its production until further notice. CRU mentioned that there is doubt within the market whether the smelter will ever restart production again. Tuticorin was originally supposed to resume production in mid-April 2019, but the Indian supreme court refused to allow this in February 2019. At the moment, there is no official date for restarting production.

American Metal Market reported that spot copper premiums in the US remained stable at between 7 and 8 cents/lb in August. In China, on the other hand, spot copper premiums rose again and reached the highest level of the last six months. They ranged between US\$ 58 and 78/t in mid-August, as Fastmarkets published. According to the news service, inventories in Chinese bonded warehouses fell considerably at the same time. They were allegedly about 8 % below the previous month in August. As in July, the European market didn't record much activity in August; copper premiums were between US\$ 40 and 50/t (Rotterdam CIF) and between US\$ 80 and 90/t (delivered Germany), as Fastmarkets reported.

» Inventories



August 29, 2019	Europe	North America	Asia	Total*
				
LME	119,200 t	41,625 t	175,750 t	336,575 t
COMEX / SHFE	---	43,519 t	156,573 t	200,092 t
Total Cu inventories at metal exchanges	119,200 t	85,144 t	332,323 t	536,667 t

*Differences possible due to rounding

Inventories in the global warehouses slightly increased again overall in August. They were at 537,000 t at the end of the month, about 58,000 t higher than at the end of July (approximately 479,000 t).

» Copper products

American Metal Market (AMM) expects that China's investments in the state energy grid will increase in the second half of the year. According to AMM, these investments account for about 50 % of total copper demand in China and are currently still 19 % below the 2018 level. However, according to analysts quoted by AMM, Chinese demand related

to the country's energy grid should exceed the 2018 figure by a total of 5 % at the end of the year.

A study published by research company Wood Mackenzie anticipates demand for 20 million charging points for electric vehicles by 2030, which would translate to a 250 % rise in copper demand compared to 2019. According to Wood Mackenzie's data, however, more public and private investments would have to be made. The research company forecasts copper demand of 33.4 million t until 2040 for electric vehicles alone.

MBI NE-Metalle indicates that the Federation of German Employers' Associations in the Metal and Electrical Engineering Industries considers both of these industries to be in a recession. Production in the first half of 2019 was reportedly down 4.9 %. Both quarters experienced a decline compared to the previous quarter. Furthermore, the automotive industry was affected in particular, with production in the first half of 2019 supposedly about 12 % below the previous year. The electrical engineering industry also recorded a 3.5 % decrease in the same period, and the mechanical engineering sector produced 1.7 % less than in the first half of 2018. Based on information from the Federation of German Employers' Associations cited above, the outlook doesn't exactly invite optimism thus far: while the organization says the automotive industry is stabilizing at a low level, incoming orders in the mechanical engineering sector and the electrical engineering industry are reportedly below prior-year figures.