

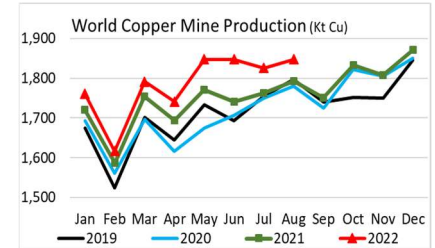


Copper: Preliminary Data for August 2022

The International Copper Study Group (ICSG) released preliminary data for August world copper supply and demand in its October 2022 Copper Bulletin. The Bulletin and ICSG online statistical database provide data, on a country basis, for copper mine, smelter, refined and semis production, copper refined usage, trade, stocks and prices. The bulletin is available for sale (annual subscription €550/€900 for orders originating from/outside institutions based in ICSG member countries).

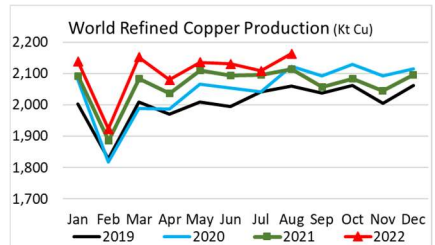
Preliminary data indicates that world copper mine production increased by about 3.3% in the first eight months of 2022, with concentrate production increasing by around 2.7 % and solvent extraction-electrowinning (SX-EW) by about 5.7%:

- Restrictions related to Covid-19 and sustained rates of infection due to the Omicron variant continued to constrain mine output in a number of countries at the beginning of 2022. However, global mine output benefited from additional production at new or expanded mines and from a recovery from reduced output in the first months of 2021 when more stringent Covid-19 related restrictions were in place.
- Production in Chile, the world's largest copper mine producing country, was down by 7% with concentrate production falling by 10% and SX-EW output increasing by 2%. A number of mines in the country have been negatively impacted by absenteeism related to Covid-19 infections, operational issues, lower grades and reduced water supply due to a drought.
- Growth in mine output in Peru, the world's second largest copper mine producing country, was limited to 1.6% mainly as a consequence of an extended stoppage at two major copper mines (Cuajone and Las Bambas) due to local communities' actions. Production over the first eight months of 2022 was 7% below that of the same period of 2019 (pre-COVID).
- Indonesian output increased by about 36% principally as a result of the continued ramp-up of underground production at the Grasberg mine. A strong increase of about 28% was also seen in the D.R.Congo as a consequence of rises at the new Kamoa mine and new/expanded capacity at other mines. Output in both Mexico and in the United States increased by about 2%.



Preliminary data indicates that world refined copper production increased by about 2% in first eight months of 2022 with primary production (electrolytic and electrowinning from ores) up by 2.3% and secondary production (from scrap) up by 0.2%.

- Preliminary official Chinese refined production data indicate a rise of about 2% with primary production increasing by 2.3% and secondary production by 0.4%.
- Globally, growth in refined production has been constrained by a series of planned and unplanned smelter maintenance shutdowns, namely in the EU, and by constrained concentrate output at integrated smelter/refineries in Chile and Peru.
- Chilean total refined copper production (electrolytic and electrowinning) was down by 3%, due to operational constraints and maintenance shutdowns at smelters, that led to a 11% decline in electrolytic output. Electrowinning (SX-EW) production increased by 2% recovering from reduced output in 2021.
- Refined output was up by about 28% in the D.R. Congo due to the continued ramp-up of new or expanded electrowinning plants.
- Preliminary data and estimates indicate that global secondary refined production (from scrap) fell by 0.2%.

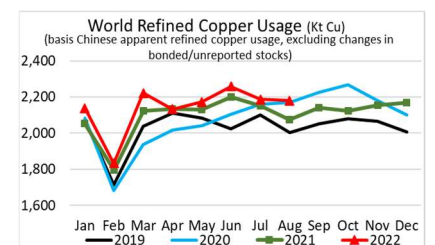


Preliminary data indicates that world apparent refined copper usage grew by about 2.7% in the first eight months of 2022:

- COVID-19 related lockdowns had a notable negative impact on the world economy and subsequently on key copper end-use sectors in all regions ex-China. Although global demand recovered in 2021 from the sharp fall seen in 2020, it still remains below pre-pandemic levels in some countries.
- World ex-China refined usage is estimated to have risen by about 1.5% in the first eight months of 2022: usage in the EU was up by 4%, remained essentially unchanged in the USA and declined by 1.8% in Japan.
- Chinese apparent usage (excluding changes in bonded/unreported stocks) grew by 3.8%, supported by an increase of about 10% in net refined copper imports.

Preliminary world refined copper balance in the first eight months of 2022 indicates an apparent deficit of about 292,000 t:

- In developing its global market balance, ICSG uses an apparent demand calculation for China that does not consider changes in unreported stocks [State Reserve Bureau (SRB), producer, consumer, merchant/trader, bonded]. To facilitate global market analysis, however, an additional line item - Refined World Balance Adjusted for Chinese Bonded Stock Changes - is included in the attached table that adjusts the world refined copper balance based on an average estimate of changes in bonded inventories provided by two consultants with expertise in China's copper market.
- Over the first eight months of 2022, the world refined copper balance, based on Chinese apparent usage (excluding changes in bonded/unreported stocks), indicated a preliminary deficit of about 292,000 t. The world refined copper balance adjusted for estimated changes in Chinese bonded stocks indicated a market deficit of about 282,000 t.



Copper Prices and Stocks:

- Based on the average of estimates provided by two independent consultants, China's bonded stocks are thought to have increased by about 10,000 t in the first eight months of 2022 compared to the year-end 2021 level.
- As of the end of September 2022, copper stocks held at the major metal exchanges (LME, COMEX, SHFE) totalled 206,986 t, an increase of 16,056 t (+8.4%) from stocks held at the end of December 2021. Stocks were up at the LME (+53%) and down at COMEX (-36%) and SHFE (-20%).
- The average LME cash price for September was US\$ 7,734.70 /t, down 2.8% from the August average of US\$ 7,969.98 /t. The 2022 high and low copper prices through the end of August were US\$ 10,730 /t (on 7th Mar) and US\$ 7,000 /t (on 15th July), respectively, and the year average was US\$ 9,063.84 /t (2.7% below the 2021 annual average).

(World Refined Copper Usage and Supply Trends table on next page)

Please visit the ICSG website www.icsg.org for further copper market related information.

World Refined Copper Usage and Supply Trends

Thousand metric tonnes, copper

	2019	2020	2021	2021	2022	2022			
				Jan-Aug	May	Jun	Jul	Aug	
World Copper Mine Production (Concentrates & SX-EW)	20,612	20,680	21,087	13,823	14,277	1,847	1,847	1,825	1,847
World Copper Mine Capacity	24,265	24,830	26,042	17,240	18,104	2,314	2,249	2,332	2,341
Mine Capacity Utilization Rate(%)	84.9	83.3	81.0	80.2	78.9	79.8	82.2	78.3	78.9
Primary Refined Copper Production	20,077	20,746	20,649	13,775	14,091	1,799	1,785	1,777	1,819
Secondary Refined Copper Production	4,007	3,843	4,149	2,740	2,744	338	346	331	346
World Refined Copper Production (Primary & Secondary)	24,084	24,589	24,798	16,515	16,835	2,137	2,132	2,108	2,164
World Copper Refinery Capacity	29,130	29,893	30,138	20,056	20,535	2,620	2,541	2,637	2,648
Refinery Capacity Utilization Rate (%)	82.7	82.3	82.3	82.3	82.0	81.5	83.9	79.9	81.7
World Refined Copper Usage 1/	24,350	24,975	25,256	16,667	17,127	2,173	2,258	2,188	2,180
World Refined Copper Stocks End of Period	1,215	1,236	1,210	1,394	1,356	1,378	1,377	1,376	1,356
Period Stock Change	-12	21	-26	158	146	44	-1	-2	-20
Refined Copper Balance 2/	-265	-386	-458	-152	-292	-37	-126	-80	-16
Seasonally Adjusted Refined Balance 3/				-224	-373	-45	-71	-38	-54
Refined Balance Adjusted for Chinese bonded stock change 4/	-443	-276	-656	-165	-282	-41	-139	-97	-101

Due to the nature of statistical reporting, the published data should be considered as preliminary as some figures are currently based on estimates and could change.

1/ Based on Chinese and EU apparent usage.

2/ Surplus/deficit is calculated using refined production minus refined usage.

3/ Surplus/deficit is calculated using seasonally adjusted refined production minus seasonally adjusted refined usage.

4/ For details of this adjustment see the paragraph of the press release on "World refined copper balance".