

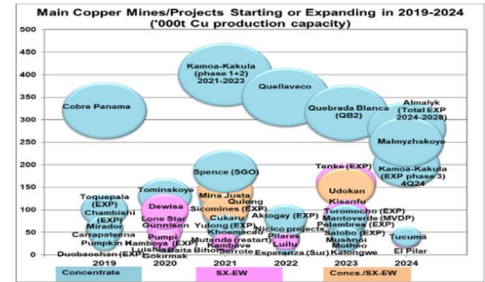
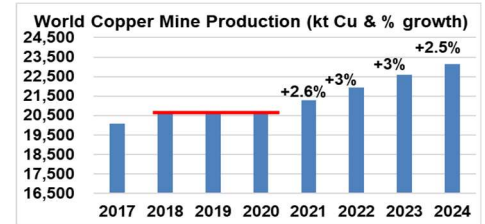


## Copper Market Forecast 2023/2024

The International Copper Study Group (ICSG) met in Lisbon, Portugal, on 27-28 April 2023. Government delegates and industry advisors from most of the world's leading copper producing and using countries participated to discuss key issues affecting the global copper market. In the meeting of the Statistical Committee, the ICSG view of the world balance of refined copper production and use was developed.

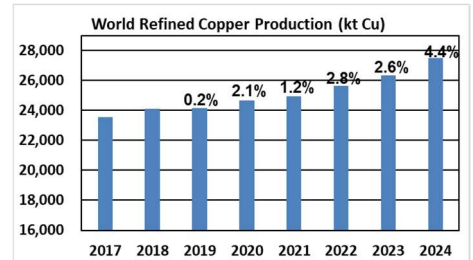
### World copper mine production expected to increase by 3% in 2023 with a growth of about 2.5% forecast in 2024:

- The rate of growth of world copper mine production in 2023 has been revised downwards vis-à-vis ICSG's October 2022 expectations from 5% to 3%.
- This is mainly due to operational and geotechnical issues, equipment failure, adverse weather, landslides, revised company guidance in a few countries and community actions in Peru.
- However, world mine production this year is benefiting from additional output from new, expanded or ramp-up mines, mainly in the D.R. Congo, Peru and Chile. In addition, output in a number of countries will recover due to the fact that production at the beginning of 2022 remained restricted as a result of Covid-19 related problems.
- Major projects starting or expanding in 2022/2023 include Kamo-a Kakula and Tenke in the D.R Congo, Quellaveco and Torromochu in Peru and Quebrada Blanca QB2 in Chile. A number of medium and small projects, as well as expansions, will also add to output. Most of the projects starting in this period are concentrate producing mines.
- Lower global growth in mine output of 2.5% is anticipated for 2024 as, although additional production from 2023 ramping mines will contribute to supply, major projects starting in 2024 are only expected to come on stream in the latter half of the year.



### World refined copper production is forecast to rise by about 2.6% in 2023 and 4.4% in 2024:

- 2023 projected refined copper output is expected to be limited by operating constraints/maintenances in Chile, Indonesia and the United States.
- World growth in 2023 and 2024 will be mainly sustained by the continued expansion of Chinese electrolytic capacity.
- World primary refined production from concentrates will benefit from the increased supply of concentrates arising from the start-up of new mine projects and is expected to continue to rise.
- World SX-EW output growth continues to be mainly supported by new/expanded electrowinning (SX-EW) capacity in the DRC.
- World secondary production (from scrap) is expected to increase in 2023 and 2024 supported by the development of new secondary refinery capacity.



### World apparent refined copper usage is expected to increase by about 1.4% in 2023 and 2.8% in 2024:

- The reopening of China after the zero-Covid policy, a recovery in the rest of the world from constrained demand in 2022 and improved economic growth in 2024 are all expected to support usage growth in 2023 and 2024
- Although the global economic outlook is challenging, manufacturing activity is expected to continue rising in most of the key copper end-use sectors.
- After an increase of only 0.4% in 2022, world ex-China usage is expected to rise by 1.6% in 2023, and will surpass pre-Covid levels. Growth of about 3% is expected for 2023.
- Chinese apparent refined usage is expected to increase by about 1.2% in 2023 and 2.6% in 2024. Underlying real Chinese demand growth estimated by consultants varies between 2.5% to 2.9% for both years.
- Copper is essential to economic activity and the modern technological society. Additionally, infrastructure developments in major countries and the global trend towards cleaner energy and electric cars will continue to support copper demand in the longer term.

### World refined copper balance projections indicate a deficit of about 114,000t for 2023 and a surplus of 298,000t for 2024:

- ICSG recognizes that global market balances can vary from those projected owing to numerous factors that could alter projections for both production and usage. In this context it should be noted that actual market balance outcomes have on recent occasions deviated from ICSG market balance forecasts due to unforeseen developments.
- 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) which can be significant during periods of stocking or de-stocking and which can markedly alter global supply-demand balances. Apparent copper demand for China is based only on reported data (production + net trade +/- SHFE stock changes).
- ICSG expects a deficit of about 114,000 t for 2023 compared to a surplus of about 155,000t expected last October mainly due to better expectations for Chinese usage as compared to the Group's previous forecast. A surplus of about 298,000t is expected in 2024 as a consequence of additional supply.

The next Meetings of the International Copper Study Group will be held in Lisbon in 3-4 October 2023.

(Supply and Demand forecast table on next page)

## World Refined Copper Usage and Supply Forecast

Thousand metric tonnes, copper

FORECAST TO 2024									
REGIONS ( <sup>'000 t Cu</sup> )	COPPER MINE PRODUCTION			REFINED COPPER PRODUCTION			REFINED COPPER USAGE		
	2022	2023	2024	2022	2023	2024	2022	2023	2024
Africa	3,252	3,501	3,756	2,163	2,291	2,487	177	181	193
N.America	2,514	2,483	2,610	1,633	1,594	1,705	2,267	2,265	2,320
Latin America	8,542	9,284	9,680	2,581	2,431	2,608	385	372	391
Asean-10	1,078	1,083	1,088	494	462	582	1,193	1,249	1,309
Asia ex Asean/CIS	2,685	2,827	3,019	14,130	14,638	15,212	18,012	18,220	18,762
Asia-CIS	948	964	995	515	514	549	107	106	107
EU	786	788	794	2,569	2,697	2,757	3,101	3,159	3,194
Europe Others	1,223	1,269	1,477	1,156	1,356	1,428	827	872	902
Oceania	895	931	965	401	435	445	5	5	5
TOTAL	21,922	23,131	24,384	25,641	26,419	27,773	26,072	26,431	27,183
<b>World adjusted 1/ 2/</b>	21,922	22,578	23,153	25,641	26,317	27,480	26,072	26,431	27,183
% change	3.0%	3.0%	2.5%	2.8%	2.6%	4.4%	3.4%	1.4%	2.8%
<b>World Refined Balance (China apparant usage basis)</b>							<b>-431</b>	<b>-114</b>	<b>298</b>

1/ Based on a formula for the difference between the projected copper availability in concentrates and the projected use in primary electrolytic refined production.

2/ Allowance for supply disruptions based on average ICSG forecast deviations for previous 5 years.