

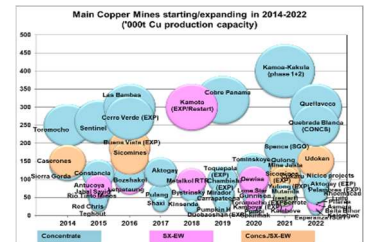
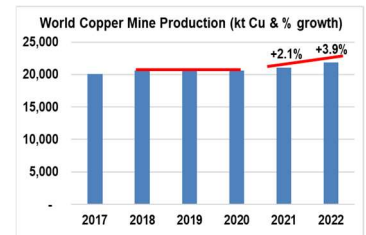


Copper Market Forecast 2021/2022

The International Copper Study Group (ICSG) met via a web-meeting, on 5-6 October 2021. 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.

After three years of remaining essentially unchanged, world copper mine production, adjusted for historical disruption factors, is expected to increase by about 2.1% in 2021 and 3.9% in 2022:

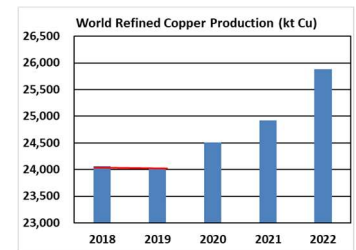
- Growth for 2021 has been revised downwards to 2.1% from the 3.5% foreseen in the Group's April 2021 forecast.
- Despite the ramp-up of new capacity, global mine production in 2021 is being restricted by a slower than expected recovery in Peruvian output, reduced SX-EW production in Chile, the temporary closure of SX-EW mines in Myanmar as well as lower head grades and operational issues at some mines.
- Output in 2022 is expected to increase by 3.9% as it continues to recover to pre-pandemic levels in a number of countries, notably Peru. It will also be supported by the ramp-up of recently commissioned mines and expansions as well as the planned start-up of some large projects.
- Following a four-year period where only two major copper mines were commissioned, the pipeline of copper mine projects is improving. Major projects starting in 2021/2022 include Kamo a Kakula in the D.R Congo, Quellaveco in Peru, Spence-SGO and Quebrada Blanca QB2 in Chile and Udokan in Russia. A number of medium and small projects are also expected to come on stream.
- Most projects are producing concentrate which should result in sustained growth in world concentrate output. SX-EW production is expected to recover in 2022 from this year's constraints and growth should be supported by expansions and new projects in the D.R. Congo.



Source ICSG Directory of Copper Mines and Plants

After increasing by 2% in 2020, world refined copper production is expected to rise by about 1.7% in 2021 and 3.9% in 2022:

- 2021 growth has been revised downwards from 3% to 2% mainly due to reduced SX-EW output in Chile and Myanmar, operational issues in Japan, Australia and Russia, power rationing in China and some unexpected maintenances.
- Nevertheless, a decline of about 0.5% in World Ex-China refined production is expected to be more than offset by growth of about 5% in China.
- After two consecutive years of decline, world secondary refined production (from scrap) is expected to grow by 6.5% supported by the end of Chinese scrap import quotas and the continued improvement in scrap availability globally.
- World primary refined production (from concentrates and SX-EW) is forecast to increase by a moderate 0.8% in 2021 as a 5% decline in SX-EW output will partially offset 2% growth in primary electrolytic refined production (from concentrates).
- In 2022, the increased availability of concentrates, a recovery in SX-EW output and a further rise in secondary refined production are expected to result in an overall increase in world refined output of 4%.



World apparent refined copper usage is expected to remain essentially unchanged in 2021 and to grow by about 2.4% in 2022:

- The global lockdown in 2020 led to a temporary reduction in refined copper usage in particular on an ex-China basis. However sustained growth in copper demand is expected to resume as 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 ex-China usage of refined copper declined by 9.5% in 2020 but is expected to recover by 6.5% in 2021 mainly due to a general improvement in world economic conditions and manufacturing activity.
- In contrast, Chinese apparent usage increased sharply in 2020 due to a notable increase in imports of refined copper and is forecast to fall by 5% this year as the quantity of refined copper imported is likely to be significantly lower. According to estimates by various consultants, real Chinese usage may grow by 3%.
- For 2022, an expected continued recovery in the world economy will benefit copper end-use sectors and should help sustain global growth of about 2.5%.

World refined copper balance projections indicate a balanced market for 2021 and a surplus of about 328,000t for 2022:

- 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 can 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 take into account 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 somewhat balanced market for 2021 and continues to envisage a surplus for 2022.

The next Meetings of the International Copper Study Group will be held over the period 7-8 April 2022.

(Supply and Demand forecast table on next page)

World Refined Copper Usage and Supply Forecast

Thousand metric tonnes, copper

FORECAST TO 2022									
REGIONS (^{'000 t Cu})	COPPER MINE PRODUCTION			REFINED COPPER PRODUCTION			REFINED COPPER USAGE		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Africa	2,473	2,699	3,061	1,592	1,732	1,961	167	198	200
N.America	2,549	2,567	2,695	1,621	1,700	1,790	2,211	2,335	2,400
Latin America	8,508	8,737	9,093	2,791	2,698	2,882	400	432	443
Asean-10	857	881	1,079	732	570	563	1,008	1,106	1,218
Asia ex Asean/CIS	2,459	2,617	2,692	12,918	13,465	13,924	17,538	16,949	17,226
Asia-CIS	901	876	909	507	491	502	102	106	106
EU	872	822	825	2,665	2,715	2,760	2,751	2,974	3,078
Europe Others	1,050	1,087	1,198	1,256	1,167	1,308	806	857	882
Oceania	967	978	995	427	417	444	5	5	5
TOTAL	20,635	21,265	22,546	24,510	24,955	26,134	24,989	24,963	25,558
World adjusted 1/ 2/	20,635	21,061	21,892	24,510	24,920	25,886	24,989	24,963	25,558
% change	0.3%	2.1%	3.9%	2.1%	1.7%	3.9%	2.4%	-0.1%	2.4%
World Refined Balance (China apparant usage basis)							-479	-42	328

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.