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Copper Market Forecast 2021/2022

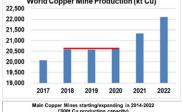
The International Copper Study Group (ICSG) met via a web-meeting, on 28-29 April 2021. Government delegates and industry advisors from most of the world's leading copper producing and using countries participated to discuss key issues affecting the global copper market. In the meeting of the Statistical Committee, the ICSG view of the world balance of refined

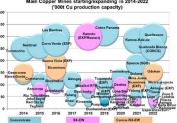
copper production and use was developed.

After three years of remaining essentially unchanged, world copper mine production, adjusted for historical disruption factors, is expected to increase by about 3.5% in 2021 and 3.7% in 2022:

World Copper Mine Production (kt Cu)

- 2020 production remained flat as a recovery in production in some countries from constrained output in 2019 (eg. Chile and Indonesia) and additional output from projects including those in Panama, Russia and the D.R. Congo helped balance the negative impact the Covid-19 pandemic had on copper mine output in few countries, most notably in Peru.
- In 2021, growth of 3.5% is anticipated as global output is expected to recover from 2020 constrained levels and benefit from increased supply resulting from the ramp-up of recently commissioned mines and expansions as well as from the planned start-up of larger 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 Kamoa Kakula in
 the D.R of Congo, Quellaveco in Peru, Spence-SGO (already started), and Quebrada Blanca QB2
 in Chile and Udokan in Russia. A number of medium and small projects are also expected to come
 on stream.
- In 2022, additional output from ramp-up mines that opened in previous years, the start-up of new
 major projects and expansions, together with an improvement in the global pandemic situation
 should sustain a further growth of around 3.7%.





After increasing by 1.6% in 2020, world refined copper production is expected to rise by about 3% in both 2021 and 2022:

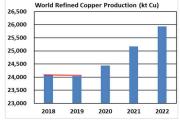
- Despite COVID-19 related restrictions, world refined production grew by 1.6% in 2020 as it rebounded from significantly constrained output in 2019.
- In 2021-2022, the overall recovery from the negative impact of the global lockdown and the continued expansion of capacity in China and the D.R. Congo will support higher world growth of about 3%
- At the beginning of last year Chinese refined production was negatively impacted by shutdowns related to COVID-19 restrictions, tight scrap supply and reduced availability of concentrates. However, growth of about 4% is expected for 2021 and 2022.
- After a decline of 4% in world secondary refined production (from scrap) in 2019 and 2020, due to the Chinese scrap ban and the negative impact of the lockdown on the supply of copper scrap, world secondary refined production is expected to grow in 2021 and 2022 on the basis of continued improvement in scrap availability.
- World primary electrolytic refined production (from concentrates and SX-EW) is forecast to increase by 2.9% in 2021 and 2022, with SX-EW output presenting lower growth of 0.6% in 2021 and 2.2% in 2022.

World apparent refined copper usage is expected to remain essentially unchanged in 2021 and to grow by about 3% in 2022:

- The Covid-19 related global lockdown has had a notable negative impact on the world economy and subsequently on key copper enduse sectors in all regions. World ex-China refined copper usage was significantly impacted and is estimated to have declined by about 9% in 2020. However, due to a 38% (1.2 million tonnes) rise in net refined copper imports, Chinese apparent usage increased by 13% more than offsetting usage declines in other regions of the world. As a consequence, overall world apparent refined usage was 2.5% higher than in 2019.
- In 2021, Chinese refined imports are anticipated to be lower than it 2020's all-time record, negatively impacting Chinese apparent refined usage growth.
- Although in 2021 growth of around 7% is expected for world ex-China usage with an anticipated improvement in global economic activity, a decline of about 4.5% is foreseen for Chinese apparent usage and this will limit global usage growth to about 0.2%
- For 2022, the continued recovery of the world economy and copper end-use sectors and the expected improvement in the global pandemic situation will help drive growth of about 3% in world usage.
- Sustained growth in copper demand is also expected to continue as copper is essential to economic activity and even more so to the modern technological society. Infrastructure development in major countries such as China and India 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 surplus of about 80,000t for 2021 and 110,000t 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 including the current uncertainty regarding the length of the COVID-19 pandemic. 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).
- After a significant deficit in 2020 of about 600,000t mainly owing to a sharp increase in Chinese apparent refined copper usage, ICSG continues to envisage small market surpluses in both 2021 and 2022.



The next Meetings of the International Copper Study Group will be held over the period 5-6 October 2021

(Supply and Demand forecast table on next page)

World Refined Copper Usage and Supply Forecast

Thousand metric tonnes, copper

FORECAST TO 2022									
REGIONS	COPPER MINE PRODUCTION			REFINED COPPER PRODUCTION			REFINED COPPER USAGE		
('000 t Cu)	2020	2021	2022	2020	2021	2022	2020	2021	2022
Africa	2,418	2,588	3,045	1,536	1,663	1,867	169	183	194
N.America	2,568	2,675	2,770	1,590	1,743	1,898	2,261	2,385	2,450
Latin America	8,504	9,092	9,587	2,792	2,876	2,946	400	416	430
Asean-10	858	1,036	1,214	732	700	683	1,009	1,145	1,247
Asia ex Asean/CIS	2,459	2,562	2,661	12,930	13,406	13,948	17,527	17,019	17,467
Asia-CIS	901	862	928	507	496	501	102	106	106
EU	872	828	826	2,666	2,737	2,765	2,761	2,973	3,059
Europe Others	1,051	1,118	1,238	1,256	1,211	1,342	807	855	871
Oceania	967	996	1,005	427	416	455	5	5	5
TOTAL	20,597	21,756	23,274	24,437	25,248	26,405	25,042	25,088	25,829
World adjusted 1/ 2/	20,597	21,321	22,100	24,437	25,167	25,937	25,042	25,088	25,829
% change	0.1%	3.5%	3.7%	1.6%	3.0%	3.1%	2.5%	0.2%	3.0%
World Refined Balance (China apparant usage basis)							-604	79	109

^{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.