



New Edition of ‘ICSG Directory of Copper Mines and Plants’

The International Copper Study Group (ICSG) released a new Edition of its biannual Directory of Copper Mines and Plants that **provides global facility-by-facility production capacity and summary country capacity through 2023. It also presents the main projects and expansions expected to be developed in the near/medium future.**

The Directory, which incorporates the latest updates to capacity, project development and ownership for more than 2,000 individual copper mines, smelters and refineries, also includes charts/tables on the current and long-term global distribution of capacity by country, size, operational/development status and process type.

Sample of the detailed information presented in the Directory shown below.

Country	Mine	Operator/ Owner	Process	Status	Type (1)	Start Up	Closure/ LOM (2)	Concs. Cu %	Other Metals	Short Remarks	2018	2019	2020	2021	2022	2023
DRC	Deziwa	Gecamines 49%, CNMC (China Nonferrous Metal Mining Group) 51%	SX-EW	Operating		2020			Co	Estimated reserves of 5Mt Cu and 400Kt Co. 1st phase is for 80ktpy Cu and 8ktpy Co, for a mine life of 20Y. Aug 2016 Gecamines signed agreement with CNMC that will finance, build and operate the mine (for 9 years or max 11y) earning 51% share. CNMC press release 15 Jan 2020 states that "on 15/01/20 Deziwa Mining and Lualaba Copper Smelter held a joint commissioning ceremony and Deziwa project completed ahead of the planned schedule of April 2020"			50	80	80	80

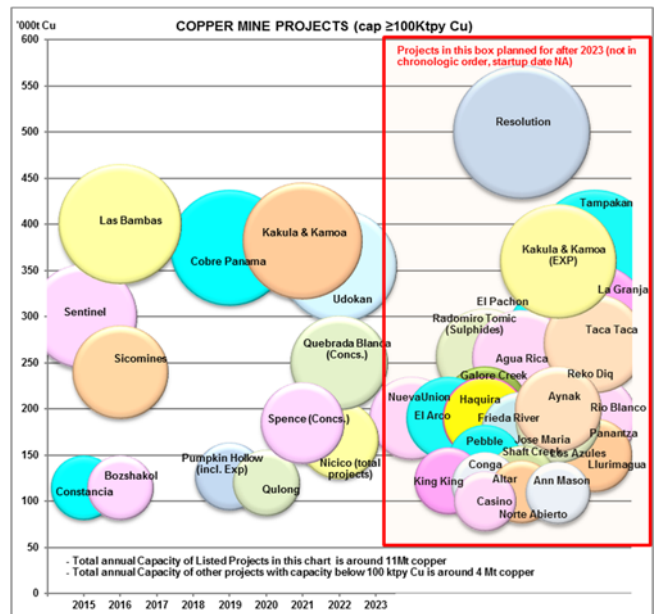
The biannual Directory is available for sale to ICSG member country/non-member country clients at the single-issue rate of €400/€700 and annual subscription rate of €550/€850. At an additional cost of €200/€250 capacity data for copper mines, smelters and refineries may be accessed through the ICSG online statistical database allowing users to extract data suited to their analysis requirements. Please see the attached Directory table of contents or contact ICSG for additional information or purchasing details (mail@icsg.org).

Trends in copper mine, smelter and refinery production capacity **reflect production capability and not necessarily production forecasts.** In the last 5 years, for instance, global mines have operated at an average of 85% of the capacity reported in the ICSG Directory due to several factors that constrained actual production such as strikes, accidents, adverse weather, etc

In addition to the thorough research undertaken by the ICSG secretariat, updated and detailed information regarding capacity trends at operating/projected mines/plants is received from ICSG member countries. The current Directory highlights the following trends:

• **After an annual average growth rate of only 1% in the period 2017-2019, copper mine capacity is expected to grow by around 4.5% per year over the period 2020 to 2023:**

- Low growth of around 1%/year was seen in 2017-2019 as no major copper mine projects were commissioned with the exception of Cobre de Panama.
- The postponement of projects and expansions over the last few years due to unfavourable trends in capital expenditure and delays in project development, mainly as a result of the time required for project permitting shifted new capacity forward.
- The pipeline of projects is improving and should result in an average annual growth rate about 4.5%/year from 2020 to 2023, with a higher growth of 6% in 2023 when major projects are starting or ramping up.
- Concentrates will represent around 90% of the total growth in world mine capacity over the period 2020 to 2023.
- Interest in seabed copper exploration continues with projects currently being evaluated. These are listed in the Directory.
- Capacity development linked to Chinese overseas investments, mainly in Africa and South America, continues.



• **Beyond 2023, a significant number of copper mine projects are currently being evaluated (see chart above and detailed information in the Directory)**

• **From 2020 to 2023, annual copper smelter capacity is expected to grow at an average rate of around 3.3% per year**

- China is continuing to expand its copper smelting capacity but at a slower pace than before. Currently, Chinese annual capacity is seven times higher than in 2000 and is expected to increase by a further 30% by 2023, accounting for 70% of expected world copper smelting capacity growth.
- The proportion of smelters using Chinese technology has increased from 2% to around 13% in the last 10 years.
- On an ex-China basis, over the period 2020 to 2023, new copper smelters are planned in Chile, the DRC, India, Indonesia, Iran and Mongolia and expansions in Finland, Russia, Sweden and Uzbekistan. Other projects are planned beyond 2023 but are still pending approval.

• **Over the period 2020 to 2023, annual copper refinery capacity is likely to grow at an average rate of around 2.3% per year**

- Growth in electrolytic refinery capacity is projected to average 2.5%/yr. Growth in Electrowinning (SX-EW) capacity is projected at 1.9%.
- About 85% of the growth in global refined capacity from 2020 to 2023 is expected to come from electrolytic refineries.
- China (in the form of electrolytic capacity) will be by far the biggest contributor to world growth in refined capacity followed by the DRC and Peru (in the form of electrowinning capacity).
- By the end of 2023, Electrowinning capacity is expected to have declined by 10% in Chile.

Background notes:

The biannual ICSG Directory of Mines and Plants provides basic data for all copper mining, smelting and refining operations on a worldwide basis and projects the development of future capacities for these operations. These projections can serve as a basis for forecasts of the supply side development for copper. Each edition is complemented by a list of web addresses of companies, enabling quick and easy access to more company details. **The ICSG database is continually updated to reflect recent announcements and operational/ownership changes. Salient details for each mine, smelter and refinery are included and the Directory separates operations between ‘Operating’, ‘Developing’, ‘Exploration’ and ‘Feasibility’ stages. The Directory also , includes information on production processes, concentrate grades and by-products.**

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