



New Edition of ‘Directory of Copper Mines and Plants’

The International Copper Study Group 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 2017. The Directory, which incorporates the latest updates to capacity and ownership for about 1,000 individual facilities, also includes charts/tables on the current and long-term global distribution of capacity by country, size, and process type. For the first time, the mine listings include fields on concentrate grade, mine type, and closure date, where available.

The biannual Directory is available for sale to ICSG member country/non-member country clients at the single issue rate of €400/€600 and annual subscription rate of €500/€750. At an additional cost of €200/€250 detailed data for copper mines, smelters and refineries may be accessed through ICSG interactive online statistical database allowing users to easily extract data suited to their analysis requirements. Please see the attached table of contents or contact ICSG for additional information or purchasing details (mail@icsg.org).

Based on existing facilities and announced project developments, annual copper mine production capacity in the period 2014 to 2017 is expected to grow at an average rate of around 8% per year (%/yr) to reach 28.3 million metric tonnes (Mt) in 2017, an increase of around 7.2 Mt (34%) from that in 2013. Owing to project postponements following the 2008 economic crisis and to technical, financial, and permitting delays in projects originally slated to come on stream earlier, 60% of this growth (4.4 million tonnes per year (Mt/yr)) is expected to only occur in 2016/2017. Average annual capacity growth is expected to be around 6.5% in 2014/2015 and about 9% in 2016/2017. However, compared with the previous Directory (February 2013) significant delays are expected in many projects previously anticipated to start in 2016. During the five-year period, copper in concentrate capacity is expected to increase by 8%/yr to reach 22.4Mt/yr in 2017, and solvent extraction-electrowinning (SX-EW) capacity is expected to increase at a slower rate of 5.4 %/yr to reach 5.9 Mt/yr in 2017. Peru is projected to account for 26% of the additional capacity from new mine projects and expansions developing through 2017, followed by Zambia, the United States, Mexico, and the Democratic Republic of the Congo (DRC). Together these five countries will represent 56% of the world growth. Projects are also being developed in countries that currently do not mine copper, including Afghanistan, Ecuador, Fiji, Greece, Israel, Panama and Sudan. Total expected available copper production capacity by 2017 from projects starting in the new copper mining countries is around 450,000 metric tonnes per year (t/yr) and capacity could continue to increase well above one Mt/yr in these countries if projects planned beyond 2017 are developed. Concurrently, production from countries that started mining copper in the last decade is seen as increasing from 4,000 t/yr in 2003 to around 630,000 t/yr by 2017. The Directory also highlights increased interest in seabed copper exploration, with some projects starting to be developed/evaluated.

Annual copper smelter capacity growth is projected to lag behind the growth in concentrate, growing by an average of 2.7%/yr to reach 22 Mt/yr in 2017, an increase of 2.2 Mt/yr (11%) from that in 2013. Although China is continuing to expand its smelting capacity, the global growth is lower than anticipated in the previous Directory because delays are occurring in the development of new smelters in Indonesia, Mexico and Iran. Other capacity changes include a new smelter in Zambia, and smelter expansions in Turkey and the Philippines. In Australia, a smelter closure is planned. The balance between concentrate production and available smelting capacity will depend on capacity utilization rates, which have averaged 83% and 86% for mines and smelters respectively over the past five years.

The ICSG tabulations indicate that world copper refinery capacity will reach 29.4 Mt/yr in 2017, an increase of 2.7 Mt/yr (10%) from that in 2013. About 1.6 Mt/yr of the expansion is expected to come from electrolytic refineries and around 1.1Mt/yr from electrowinning capacity. Electrolytic refinery capacity growth is projected to average 2.5%/yr and is generally tied to the growth of smelter capacity. About 53% (1.4 Mt/yr) of the world refinery capacity increase during this period is expected to come from electrolytic refineries in China and about 28% (770,000 t/yr) from electrowinning capacity increases in DRC, Mexico and Zambia.

Projected World Copper Production Capacities until 2017

('000t Cu)	2013	2014	2015	2016	2017	accumulated growth %	Avg annual growth %
SX-EW	4,786	4,959	5,354	5,731	5,894	23.2%	5.4%
Concentrates	16,317	17,287	18,603	20,526	22,416	37.4%	8.3%
Total Mines	21,102	22,245	23,956	26,256	28,339	34.3%	7.7%
Total Smelters	19,796	20,956	21,466	21,742	21,987	11.1%	2.7%
Electrolytic Refineries	21,223	22,374	22,714	22,734	22,849	7.7%	1.9%
Total Refineries	26,709	28,038	28,778	29,165	29,443	10.2%	2.5%
Year on Year Growth (tonnage)		2014	2015	2016	2017	accumulated growth	
SX-EW		173	395	377	163	1,108	
Concentrates		970	1,316	1,923	1,890	6,099	
Total Mines		1,143	1,711	2,300	2,083	7,237	
Total Smelters		1,160	510	276	245	2,191	
Electrolytic Refineries		1,151	340	20	115	1,626	
Total Refineries		1,329	740	387	278	2,734	

Background notes:

The biannual ICSG Directory of Mines and Plants provides basic data for all copper mining, smelting and refining operations on a world-wide 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 changes. Salient details for each operation are included and the Directory separates operations between ‘Operating and Developing’ and ‘Planned (Exploration and Feasibility)’ stages.

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