New Edition of '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 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.

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 7% per year (%/yr) to reach 27.5 million metric tonnes per year (Mt/yr) in 2017, an increase of around 6.4 Mt/yr (30%) 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, 63% of this growth (4.1 Mt/yr) is expected to only occur in 2016/2017. Capacity growth is expected to average around 5.5%/yr in 2014/2015 and about 8.5%/yr in 2016/2017. However, compared with the previous Directory (December 2013), anticipated capacity for 2016 and 2017 has been revised downwards by around 670,000 metric tonnes per year (t/yr) and 870,000 t/yr, respectively, owing to continued significant delays for many projects. For 2016, this represents a cumulative reduction in projections of 2.1 Mt/yr from expectations in the February 2013 directory.

During the four-year period, copper in concentrate capacity is expected to increase by 7%/yr to reach 21.6 Mt/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 24% of the additional capacity from new mine projects and expansions through 2017, followed by Zambia, Chile, 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. By 2017, total expected copper production capacity from projects starting in the new copper mining countries is around 150,000 t/yr, and capacity could continue to increase well above 1 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 620,000 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 2.5%/yr to reach 21.8 Mt/yr in 2017, an increase of 2 Mt/yr (10%) from that in 2013. China is continuing to expand its smelting capacity and will account for 78% of the expected world growth through 2017. China's copper smelting capacity increased by around 4 Mt/yr in the period 2000-2013 and is expected to increase by a further 1.5 Mt/yr by 2017. New copper smelters are also expected to be built in Zambia, Indonesia and Mexico. The balance between concentrate production and available smelting capacity will depend on capacity utilization rates, which have averaged 83% and 85% 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 29% (780,000 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	4,766	4,916	5,316	5,717	5,877	23.3%	5.4%
Concentrates	16,285	17,106	18,084	19,865	21,598	32.6%	7.3%
Total Mines	21,050	22,021	23,399	25,581	27,474	30.5%	6.9%
Total Smelters	19,722	20,541	21,211	21,527	21,772	10.4%	2.5%
Electrolytic Refineries	21,223	22,224	22,714	22,734	22,849	7.7%	1.9%
Total Refineries	26,689	27,840	28,730	29,151	29,426	10.3%	2.5%

Year on Year Growth (tonnage)	*2014*	*2015*	*2016*	*2017*	*accumulated growth*
SX-EW	150	400	401	160	1,111
Concentrates	821	978	1,781	1,733	5,313
Total Mines	971	1,378	2,182	1,893	6,424
Total Smelters	819	670	316	245	2,050
Electrolytic Refineries	1,001	490	20	115	1,626
Total Refineries	1,151	890	421	275	2,737

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.