



## 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 2018, and also presents the main projects expected to be developed in the next decade.** The Directory, which incorporates the latest updates to capacity and ownership for about 1,200 individual facilities, also includes charts/tables on the current and long-term global distribution of capacity by country, size, operational/development status 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 capacity data for copper mines, smelters and refineries may be accessed through the ICSG interactive online statistical database allowing users to easily 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](mailto:mail@icsg.org)).

Based on existing facilities and announced project developments, annual copper mine production capacity until 2018 is expected to grow at an average rate of around 6% per year (%/yr) to reach 27.5 million metric tonnes per year (Mt/yr) in 2018, an increase of around 5.7 Mt (26%) from that in 2014. Concentrates production capacity will represent 84% of the growth (4.8 Mt) and SX-EW capacity 16% (900,000 metric tonnes [t]). Compared with the previous Directory published in January 2015, anticipated annual mine production capacity for 2017 and 2018 has been revised downwards by around 330,000 t and 140,000 t, respectively, owing mainly to continued delays for many projects. However readers should be aware that downwards capacity revisions are due not only to delays in project development but also to new information not previously available.

During the four-year period, copper in concentrate capacity is expected to increase by 6.5%/yr to reach 21.8 Mt/yr in 2018, and solvent extraction-electrowinning (SX-EW) capacity is expected to increase at a slower rate of 4.4%/yr to reach 5.7 Mt/yr in 2018. Peru is projected to account for 26% of the additional capacity from new mine projects and expansions through 2018, followed by Zambia, Mexico, Mongolia, China and the Democratic Republic of the Congo (DRC). Together these six countries will represent 66% of the world growth. Projects are also being planned in countries that currently do not mine copper, including Afghanistan, Ecuador, Ethiopia, Fiji, Greece, Israel, Panama, Sudan and Thailand. By 2018, total expected copper production capacity from projects starting in these new copper mining countries could reach 150,000 t/yr, and capacity could continue to increase well above 1 Mt/yr if projects planned beyond 2018 in these countries 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 550,000 t/yr by 2018. The Directory also highlights increased interest in seabed copper exploration, with some projects being evaluated, the first one of which is expected to start in 2018 in the Bismarck Sea, off Papua New Guinea.

Annual copper smelter capacity growth is projected to lag behind the growth in concentrate capacity, growing by an average of 3%/yr to reach 22.5 Mt/yr in 2018, an increase of 2.6 Mt (13%) from that in 2014. China is continuing to expand its smelting capacity and will account for 60% of the expected world growth through 2018. China's copper smelting capacity increased by around 4.4 Mt/yr in the period 2000-2014 and is expected to increase by a further 1.6 Mt/yr by 2018. A new copper smelter recently started in Zambia and others are also expected to be built in Indonesia, Iran and Mexico. The balance between concentrate production and available smelting capacity will depend on capacity utilization rates.

The ICSG tabulations indicate that world copper refinery capacity will reach 30.2 Mt/yr in 2018, an increase of 2.9 Mt/yr (11%) from that in 2014. About 2 Mt/yr of the expansion is expected to come from electrolytic refineries and around 900,000 t/yr from electrowinning capacity. Electrolytic refinery capacity growth is projected to average 2.6%/yr and is generally tied to the growth of smelter capacity. About 39% (1.1 Mt/yr) of the world refinery capacity increase during this period is expected to come from electrolytic refineries in China and about 24% (700,000 t/yr) from electrowinning capacity increases in DRC, Mexico, Peru and Zambia.

### Projected World Copper Production Capacities until 2018

('000t Cu)	2014	2015	2016	2017	2018	accumulated growth %	Avg annual growth %
SX-EW	4,789	4,934	5,197	5,475	5,696	19.0%	4.4%
Concentrates	16,930	17,854	19,227	20,436	21,743	28.4%	6.5%
<b>Total Mines</b>	<b>21,718</b>	<b>22,788</b>	<b>24,423</b>	<b>25,910</b>	<b>27,439</b>	<b>26.3%</b>	<b>6.0%</b>
Total Smelters	19,881	20,621	21,361	21,846	22,481	13.1%	3.1%
Electrolytic Refineries	21,709	22,049	22,499	23,094	23,704	9.2%	2.2%
<b>Total Refineries</b>	<b>27,288</b>	<b>27,763</b>	<b>28,476</b>	<b>29,349</b>	<b>30,180</b>	<b>10.6%</b>	<b>2.6%</b>
<b>Year on Year Growth (tonnage)</b>		<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>accumulated</b>	
SX-EW		146	263	278	222	908	
Concentrates		924	1,373	1,209	1,308	4,813	
<b>Total Mines</b>		<b>1,069</b>	<b>1,636</b>	<b>1,487</b>	<b>1,529</b>	<b>5,721</b>	
Total Smelters		740	740	485	635	2,600	
Electrolytic Refineries		340	450	595	610	1,995	
<b>Total Refineries</b>		<b>476</b>	<b>713</b>	<b>873</b>	<b>832</b>	<b>2,893</b>	

#### 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', 'Developing' and 'Planned (Exploration and Feasibility)' stages.