



## Copper: Preliminary Data for 2016

The International Copper Study Group (ICSG) released preliminary data for December 2016 world copper supply and demand in its March 2017 Copper Bulletin. The Bulletin is available for sale (single issues €100/€150, annual subscription €500/€750 for orders originating from/outside institutions based in ICSG member countries).

**In 2016 world mine production is estimated to have increased by around 5%, or 1 Mt (million tonnes),** with concentrate production increasing by 7% and solvent extraction-electrowinning (SX-EW) declining by 2%:

- The increase in world mine production in 2016 was mainly due to:
  - A 38% (650,000 t Cu) rise in Peruvian concentrate output that benefitted from new and expanded capacity brought on stream in the last two years
  - A recovery in production levels in Canada, Indonesia and the United States, and expanded capacity in Mexico
  - Low frequency of supply disruptions due to strikes, accidents or adverse weather conditions
- However overall growth was partially offset by a 3.8% (220,000 t) decline in production in Chile, the world's biggest copper mine producer, and a 4.5% decline in DRC where output is being constrained by temporary production cuts
- On a regional basis, production rose by 6% in the Americas and 11.5% in Asia but declined by 3.5% in Africa while remaining essentially unchanged in Europe and Oceania

**World refined production is estimated to have increased by about 2.5% (530,000 t) in 2016** with primary production (Electrolytic and Electrowinning) increasing by 3% and secondary production (from scrap) declining by 2%:

- Increased availability of concentrates allowed world primary electrolytic refined production to increase by 4.5%
- The main contributor to growth in world refined production was China (increase of 6%, or 470,000t), followed by the United States and Japan where production increased by 7% and 5% respectively and by Mexico (16%) where expanded SX-EW capacity contributed to refined production growth
- However, overall growth was partially offset by a 3% decline in Chile, the second world leading refined copper producer. Although primary electrolytic refined production increased by 4.5%, electrowinning production declined by 6.5% due to definitive/temporary closures of SX-EW mines
- Production in the DRC and Zambia also declined by an aggregated 11% mainly due to the impact of temporary production cuts
- On a regional basis, refined output is estimated to have increased in the Americas (1%) and Asia (6%) while declining in Africa (10%) and in Europe (including Russia) (2%) and remaining essentially unchanged in Oceania

**World apparent refined usage is estimated to have increased by around 2% (430,000 t) in 2016:**

- Growth was mainly due to an increase in Chinese apparent demand as world usage excluding China is estimated to have increased by only 0.9%
- Chinese apparent demand (excluding changes in unreported stocks) increased by around 2.5% based mainly on 6% growth in refined production as in fact net imports of refined copper declined by 7.5%
- Usage in the United States and Japan, the second and third leading refined copper using countries, is down by 2% and 2.5% respectively
- On a regional basis, usage is estimated to have increased by 3% in Asia (when excluding China, Asia usage increased by 3%) and by 2% in Europe (by 1.5% in the EU), while declining by 3% in the Americas

**World refined copper balance for 2016 indicates a deficit of around 50,000 t** (including revisions to data previously presented):

- This is mainly because of a 2.5% increase in Chinese apparent demand
- 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]. To facilitate global market analysis, however, an additional line item—Refined World Balance Adjusted for Chinese Bonded Stock Changes—is included in the table below that adjusts the world refined copper balance based on an average estimate of changes in unreported inventories provided by three consultants with expertise in China's copper market
- In 2016, the world refined copper balance adjusted for changes in Chinese bonded stocks indicates a deficit of around 42,000 t
- The refined copper market balance for the month of December 2016 showed a small surplus of around 20,000 t

### Prices and stocks:

- Based on the average of stock estimates provided by independent consultants, China's bonded stocks increased by around 15,000 t in 2016 from the year-end 2015 level. Bonded stocks decreased by around 100,000 t in 2015
- The average LME cash price for February 2017 was US\$5,941.55 per tonne, up from the January average of US\$5,737.43 per tonne
- The 2017 high and low copper prices through the end of February were US\$6,145.00 (on 14<sup>th</sup> Feb) and US\$5,500.50 per tonne (on 4<sup>th</sup> Jan), respectively, and the year average was US\$5,837 per tonne (20% above 2016 annual average)
- As of the end of February, copper stocks held at the major metal exchanges (LME, COMEX, SHFE) totalled 605,146 t, an increase of 66,073 t (12%) from stocks held at the end of December 2016. Compared with the December 2016 levels, stocks were down at the LME (-36%) and up at SHFE (98%) and COMEX (42%)

Please visit the ICSG website [www.icsg.org](http://www.icsg.org) for further copper market related information.

(World Refined Copper Usage and Supply Trends table on next page)

### World Refined Copper Usage and Supply Trends, 2012-2016

Thousand metric tonnes, copper

	2012	2013	2014	2015	2015	2016	2016			
					Jan-Dec	Sep	Oct	Nov	Dec	
World Mine Production	16,687	18,171	18,433	19,147	19,147	20,157	1,672	1,735	1,713	1,771
World Mine Capacity	20,004	20,747	21,541	22,431	22,431	23,420	1,947	2,020	1,962	2,035
Mine Capacity Utilization (%)	83.4	87.6	85.6	85.4	85.4	86.1	85.9	85.9	87.3	87.0
Primary Refined Production	16,606	17,256	18,568	18,927	18,927	19,547	1,617	1,652	1,608	1,684
Secondary Refined Production	3,596	3,803	3,915	3,945	3,945	3,859	329	337	338	344
World Refined Production (Secondary+Primary)	20,203	21,060	22,483	22,872	22,872	23,406	1,946	1,989	1,946	2,029
World Refinery Capacity	24,444	25,779	26,680	26,750	26,750	27,129	2,247	2,328	2,259	2,340
Refineries Capacity Utilization (%)	82.7	81.7	84.3	85.5	85.5	86.3	86.6	85.5	86.2	86.7
World Refined Usage 1/	20,473	21,396	22,880	23,035	23,035	23,461	1,961	1,944	1,949	2,012
World Refined Stocks End of Period	1,376	1,325	1,350	1,521	1,521	1,395	1,421	1,353	1,298	1,395
Period Stock Change	171	-52	25	171	171	-126	4	-68	-55	97
Refined Balance 2/	-270	-336	-397	-164	-164	-55	-15	45	-3	17
Seasonally Adjusted Refined Balance 3/					-156	-54	13	35	31	-43
Refined Balance Adjusted for Chinese bonded stock change 4/	298	-583	-421	-267	-267	-42	-55	18	-18	4

Due to the nature of statistical reporting, the published data should be considered as preliminary as some figures are currently based on estimates and could change

1/ Based on EU apparent usage.

2/ Surplus/deficit is calculated using refined production minus refined usage.

3/ Surplus/deficit is calculated using seasonally adjusted refined production minus seasonally adjusted refined usage.

4/ For details of this adjustment see the paragraph of the press release on "World refined copper balance".