

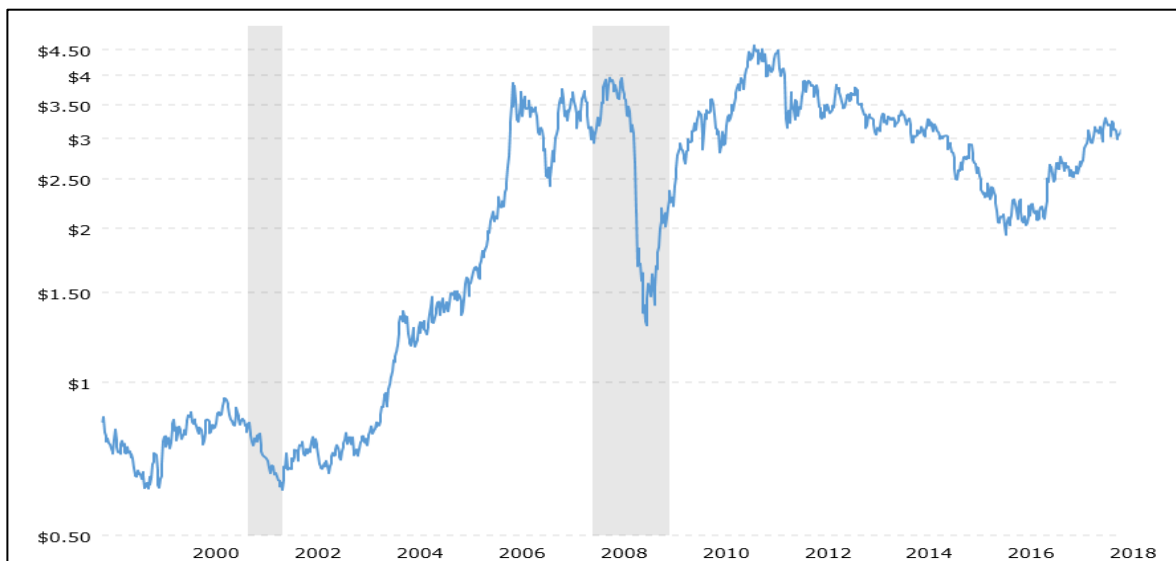
Copper North Mining Corp – Copper News –May 8, 2018

Weekly Highlights

1. Escondina not reaching new contract.
2. China Cu concentrates import as smelters seek feed.

We are sourcing additional information as to supply and demand that may interest our investors. The information is taken from newsletter and other industry databases. Investors should not rely on the information provided in this Copper News; rather, they should seek advice from investment advisors.

20 Year Copper (1998 -2016)

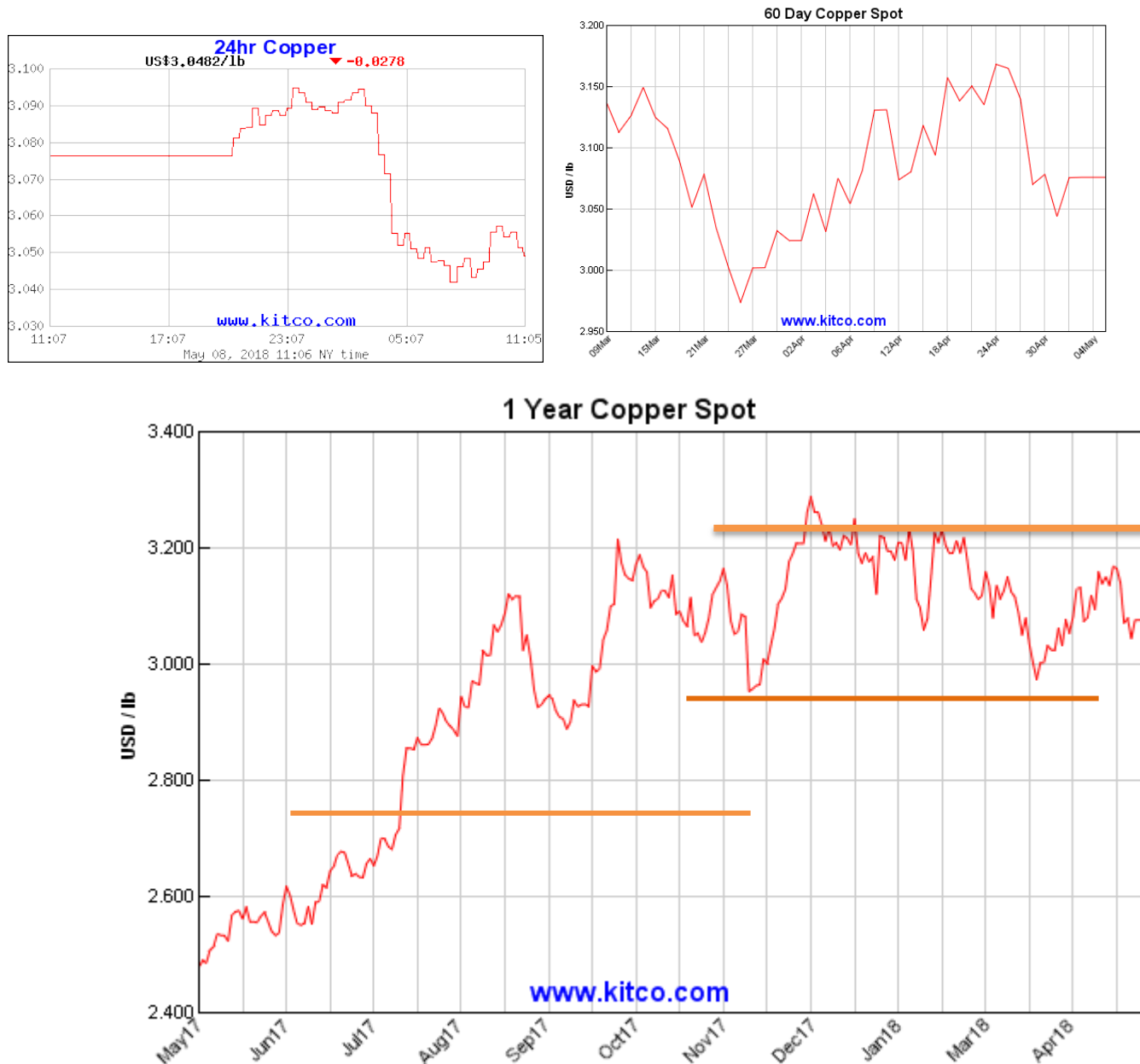


5 Year Copper Spot



Copper breaks 5 year decline trend in October 2016 at US\$2.30. Copper broke the five year down trend in late December 2017 when it reached US\$3.28/lb at year end.

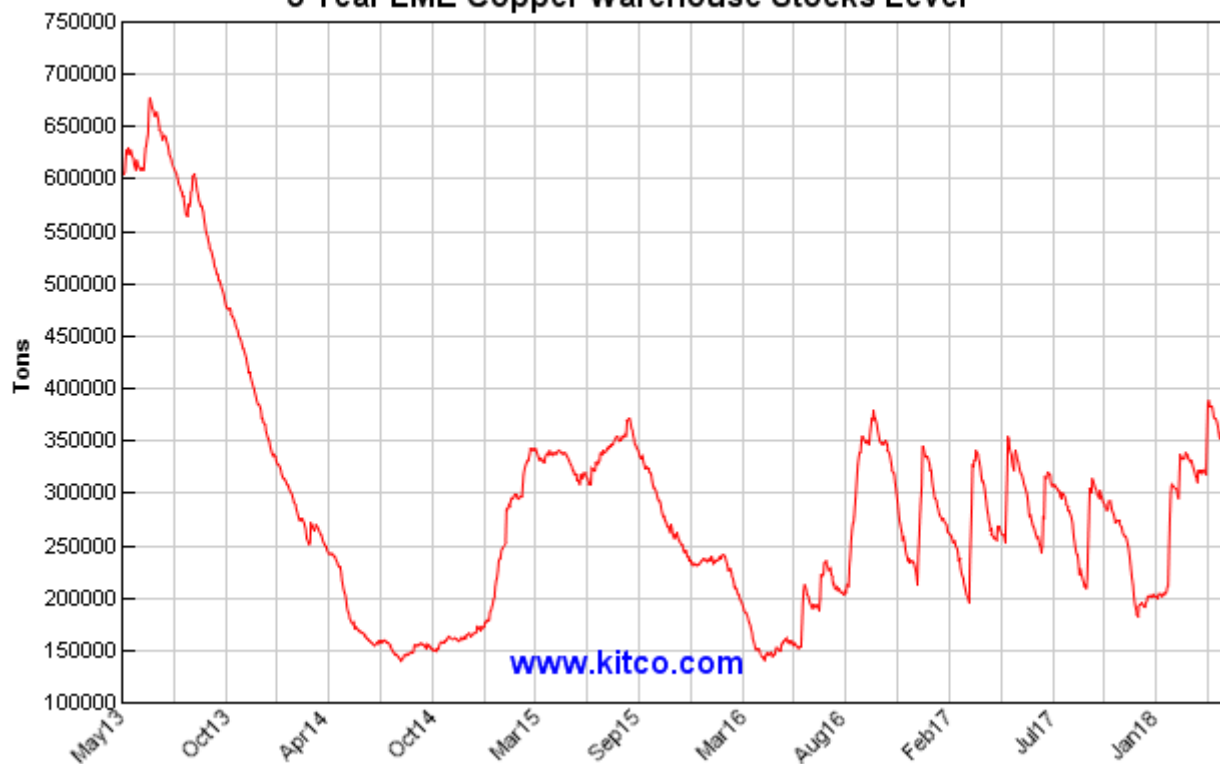
Daily Spot, Six Month and One Year Copper Price and LME and COMEX Copper Inventories



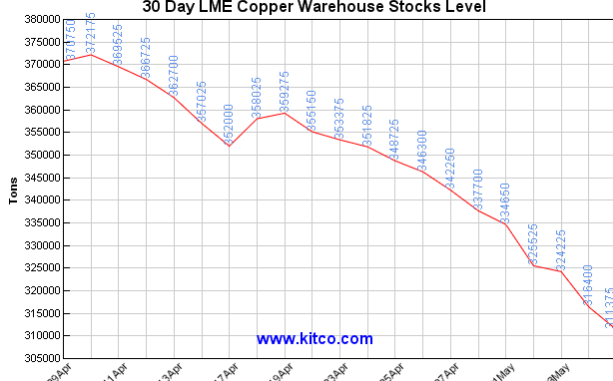
Copper Inventory Adjustments (Note: table does not include private stocks of smelters, governments, etc.)

In the period from June 2014 to April 2016, several falls to 150,000 tonnes and runups to 350,000 tonnes occurred. More recently, inventories in LME warehouses have entered a period of rapid up and down. The ragged decline of LME inventories over the last two years, appear to mark further declines of LME warehouses. News releases are forecasting supply decline globally and is likely to continue in putting upward pressure on copper price.

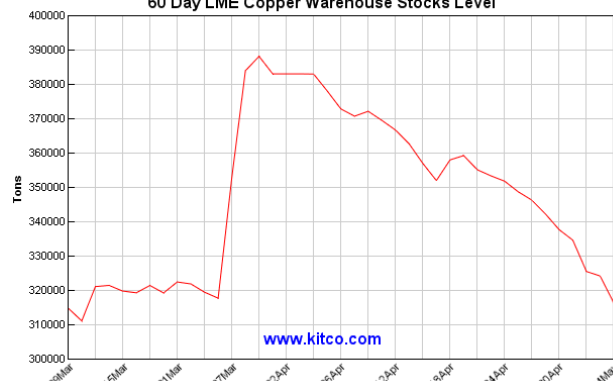
5 Year LME Copper Warehouse Stocks Level



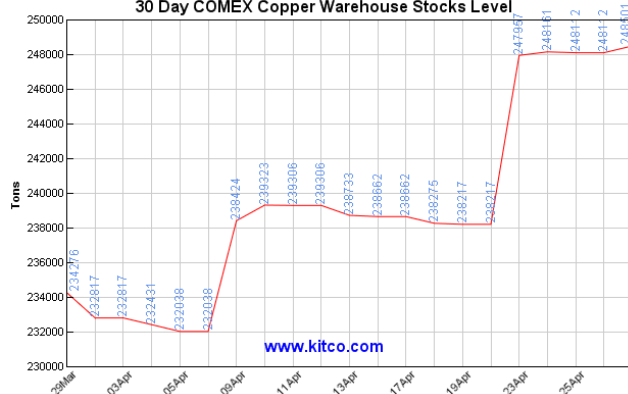
30 Day LME Copper Warehouse Stocks Level



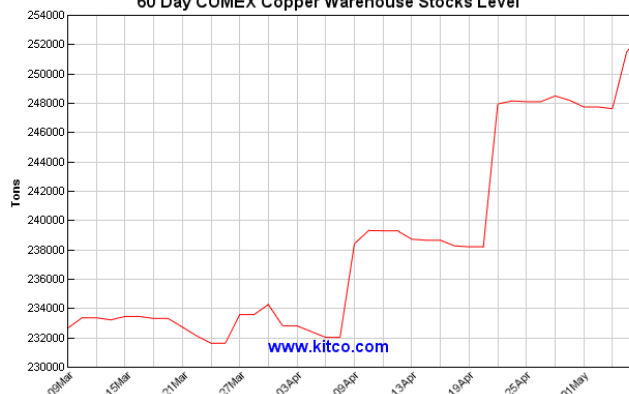
60 Day LME Copper Warehouse Stocks Level



30 Day COMEX Copper Warehouse Stocks Level



60 Day COMEX Copper Warehouse Stocks Level



After LME runup LME declined down to 259,725 tonnes in April 2017 to 383,700 LME tonnes in early May 2017 before a further decline. The past week LME inventories decreased to 311,375 tonnes; Shanghai inventories remain flat, and NYMEX inventories rise slowly to 252,692 tonnes.

Weekly Inventories LME, Shanghai and NYMEX Warehouses.

Week Of	LME (65%)	Shanghai (23%)	NYMEX (11.5%)
April 30, 2018	-26,325 tonnes	+14,953 tonnes	+3,449 tonnes
April 23, 2018	-3650	-19,093	+8,368
April 9, 2018	-13,725	-25,809	+280
April 3, 2018	-2,100	+434	+4,080
Mar 26, 2018	+63,575	-1,224	0
Mar19, 2018	-3,700	+10,441	-1,848
Mar12, 2018	+10,325	+28,899	+916
Mar 5, 2018	-13,775	+7,808	+1,456
Feb 26, 2018	-7,550	+41,755	+4,331
Feb 19, 2018	-325	+20,773	-2,574
Feb 12, 2018	-3,450	+11,627	+ 2,436
Feb 5, 2018	+31,900	+13,537	+591
Jan 29, 2018	-4,800	+8,289	+3,199
Jan 22, 2018	+97,475	-12,027	+5,460

Production cut-backs, decline of mine head grades, reduced treatment and refining charges, and falling inventories, all suggest copper supply shortfalls in the making? Volatility largely reflects exchange rate fluctuation, hedge positions, and country supply risk.

HM Visagie Daily Notes (Clips)

May 7, 2018

- Hedge funds and money managers trimmed their net long positions in COMEX Au and Cu contracts in the week to May0118, U.S. CFTC data showed on Friday. They also switched to a net short position in Ag futures and options.
 - Speculators cut their net long position in COMEX Au by 62,378 contracts to 51,985 contracts. This was the weakest position since Jul17.
 - The dealers trimmed their net long position in Cu by 10,362 contracts to 27,137 contracts, CFTC data showed.

May 4, 2018

- Cu stocks in the Shanghai-bonded zone rose to a 10-month high at the end of Apr18, while a negative arbitrage ratio made it less profitable for the Chinese market to import units. Bonded Cu stocks continue to rise Cu stocks in Shanghai-bonded warehouses were at 520,600-521,000 t on APR2318, up from 500,000-510,000 t a month earlier.

May 2, 2018

- Imported Cu concentrate traded actively as smelters saw stronger demand for stockpiling in Q218, SMM learned. Traded prices of TCs stood at \$73-76/t, according to members of the China Smelters Purchase Team (CSPT). Market participants took a pessimistic outlook on TCs in H218 as domestic smelting capacity for Cu concentrate grew faster than the number of new Cu mines. Some traders have already allocated more cargos for H218, SMM learned.
- Although the growth prospects for Zambia's mining sector remains positive for this year, amid rising Cu prices and improved electricity supply, a worsening regulatory environment may negatively impact on the country's Cu production in the coming years, warns BMI Research. BMI expects Zambian Cu production growth to average 8% this year, which will amount to production of 815,000 t – up 2% on that produced in 2017. On Mar2018, the Zambian Ministry of Mines announced its targeted Cu production levels of more than a M t, up from 755,000 t in 2017.

April 30, 2018

- For week ending Apr2418, hedge funds and money managers;
 - trimmed their net long position in COMEX Au contracts by 29,231 contracts to 114,363 contracts and
 - switched to a net long position in Ag contracts by adding 19,159 contracts to a net long position of 4,697 contracts. This was the first time since early Feb18 that hedge funds and money managers held a net long position in Ag.
 - raised a net long position Cu futures and options, by 15,021 contracts to 37,499 contracts, CFTC data showed, to the strongest in 2 months.
- Monthly treatment charges (TCs) of imported Cu concentrate fell to about \$70/dmt in Apr18, as domestic Chinese smelter capacity for Cu concentrate grew faster than the number of new Cu mines.

April 25, 2018

- The union of workers at BHP's Escondida Cu mine in Chile, told Reuters on Tuesday it had made little progress on an early contract deal with management, making it "highly likely" that no agreement would be struck before official talks begin in Jun18. The union accepted an offer to begin early negotiations with BHP in Mar18 in an effort to avoid another strike at the northern Chile mine. Failure to reach a labor deal caused a 44-day strike at the mine last year, jolting the global Cu market.
- **Freeport-McMoRan Inc (FCX.N)** shares fell more than 14% on Tuesday after the miner revealed onerous environmental demands from Indonesia's government that could delay a new contract for its massive Grasberg Cu mine. The world's biggest listed Cu miner also lowered its Cu sales forecast for the year while raising its outlook for costs, and reported a weaker-than-expected quarterly profit.
- **Antofagasta (ANTO.L)** said Q118 Cu production fell by 10.5% to 153,800 t compared with Q117, mainly because of lower quality ore, but kept full-year output guidance unchanged at 705,000–740,000 t Cu. The issue of ore quality in mature Cu regions, especially Chile, the largest Cu producing country, has been widely flagged.
- Chilean industrial conglomerate Empresas Copec SA has reached an agreement with Peru's Minsur S.A. to buy a 40% stake in a holding company that owns a Peruvian Cu mine project for \$168.5 M. Minsur will retain 60% ownership in Cumbres Andinas S.A., the company that controls the Mina Justa project. Mina Justa, which is expected to require investment of around \$1.6 B, is due to begin construction in H218, with production starting in 2020 or 2021, Copec said. It should produce about 100,000 t/y Cu for 18 years.

April 23, 2018

- Chilean Cochilco forecasts that Chile would produce 5.76 M t Cu in 2018--up 4.3% from 2017, while estimating Cu prices at \$3.06/lb this year. Cochilco said numerous pending labor negotiations at mines in Chile and Peru this year continue to unnerve the market and raise the specter of supply shortages, but added it was hopeful these would be resolved without issue. The agency said Chile's Cu output would jump to 5.94 M t in 2019 and expects Cu prices to rise to \$3.11/lb in 2019.

April 20, 2018

- SMM assessed imported clean Cu concentrate TCs at \$70-78/dmt on Friday Apr2018--up \$1/t from a week ago.
- The Cu market recorded a deficit of 10,000 t in 2m18 which follows a deficit of 263,000 t in the whole of 2017, according to the latest data released by the WBM Statistics.

April 19, 2018

- Peruvian President Martin Vizcarra said on Wednesday it would not "impose" mining projects on nearby communities that object to them, but would seek to promote mining investments to take advantage of improved mineral prices. In the past decade, Southern Copper Corp (SCCO.N) and Newmont Mining Corp (NEM.N) have shelved proposed mines in Peru because of opposition from communities worried about the environmental impact - one of the biggest hurdles to building mines in the world's No. 2 copper producer.

April 18, 2018

- SMM assessed clean copper concentrate TCs at \$70-76/t as of Apr1318--down \$0.5/t from a week ago. The Cu concentrate market remains in a tight balance even though impact of strikes at overseas mines eased. Antofagasta's Los Pelambres Cu mine and Codelco's two Cu mines reached an agreement with their workers in March and April. The labour negotiation at Escondida also progressed positively.

April 16, 2018

- This morning, base metals prices were mixed on Friday's LME prices. Base metals prices on a per-pound basis were: \$3.09 for Cu, \$1.42 for Zn, \$6.41 for Ni, \$1.06 for Pb and \$1.06 for Al. This morning, Au was trading at \$1,344/oz, Ag at \$16.58/oz, Pt at \$927/oz and Pd at \$985/oz.
- Customs data from China showed import volumes of unwrought Cu totaled 439,000 t in Mar18. Q118 imports were 1.23 M t--up 7.3% compared to Q117. For Mar18, Cu concentrate imports were 1.6 M t. The imported Cu concentrate for Q118 puts China's Cu concentrate imports on track to top the record levels of 2017 of 17.3 M t, and was boosted by a ban on most types of scrap imports which have fallen by 40%.

April 13, 2018

- SMM expects China's refined Cu output to be 730,000 t in March, up 13% yoy. China imported 250,000 t of refined Cu--up 7% yoy, based on China Customs data. China's social inventory of refined Cu stays high on rising domestic output and imports. SMM expects Cu prices to be pressured on rising inventory and flat demand.

April 12, 2018

- Cu mining industry leaders meeting in Santiago this week called on Chile's month-old government to open up exploration or risk losing investment as companies hunt elsewhere for new projects. Chile produces around a third of the world's Cu, making it by far the biggest exporter of the base metal. But it faces declining productivity and rules that some say exclude newcomers.
- The record long holding amassed by fund managers on the CME's COMEX Cu market last Aug17 is becoming an increasingly dim and distant memory. At last Aug17 peak of almost 125,000 contracts, their collective positioning exceeded anything seen previously, even during Cu's boom years of 2009 and 2010, when prices hit \$4.63/lb.

April 11, 2018

- **Vedanta Resources Plc (VED.L)** said its application for renewal of consent to operate its Cu smelting plant, one of India's biggest, in the South Indian town of Thootukudi was rejected by the state pollution regulator. The rejection comes amid almost daily protests against a proposed expansion of the smelter by the people of Thootukudi, who have thronged the streets and shut shops demanding a closure of the plant.
- **Codelco's** new commercial VP, Roberto Ecclefield, said, "Supply of copper concentrate will remain tight for another five years due to a lack of new mining projects and excess smelting capacities. We see five more years of very tight markets - there is plenty of treatment capacities, but the problem is the lack of concentrates." This year alone, China could be adding 1.2-1.5 M t of smelting capacities, according to Codelco.

April 4, 2018

INDUSTRY

- The ICSG has announced the release of a new publication that provides a summary of global Cu production capacities and the key projects that are expected to be developed over the next ten years. The report also summarizes the recent trends in Cu mine, smelter and refinery production, based on research undertaken by the ICSG secretariat and updated information received from ICSG member countries.
 - According to ICSG, the global Cu mine capacity is likely to report average annual growth of around 2%. It foresees a lower yearly growth of 1% in 2018/2019. However, the growth is likely to peak up to 3% in 2020/2021, as expansions and new projects come on stream. The output from currently operating mines is likely to remain essentially unchanged through 2021. Continued delays in project approval and execution have resulted in shifting of new capacity forward. However, the trend seems to be changing, of late, ICSG said. The biggest contributors to the anticipated growth in world Cu mine capacity are China, the DRC, Iran, Panama, Peru, the US and Zambia.
 - Through 2021, the annual Cu smelting capacity is likely to grow by 3.5%., primarily on account of expansion by Chinese smelting capacity. The country is likely to account for nearly 70% of the global smelting capacity growth. The Chinese Cu smelting capacity is expected to increase by 30% by 2021. The planned new Cu smelters in Indonesia and Mongolia and expansions in India, Iran and Poland too may add to smelting capacity expansions during this period.
 - The Cu refinery capacity across the world is expected to witness 3% annual average growth through 2021. Almost 90% of the projected growth is expected to come from electrolytic refineries.

April 3, 2018

- Codelco CEO Nelson Pizarro said he expected Cu prices to be slightly under \$3/lb for 2018, though he added that a looming global supply deficit could see prices increase in 2019.
- Codelco produced 1.73-M t of Cu in 2017, its second highest output ever, despite persistently low ore grades at its aging mines. The world's top Cu miner posted a 2017 pre-tax profit of \$2.88 B, a 6-fold increase over its earnings in 2016, even as production costs jumped 7.8% to \$1.359/lb of Cu. Codelco is striving to produce slightly more than 1.7 M t of Cu in 2018, Pizarro said, counter-balancing decreasing ore grades with a \$22 B multi-year investment drive to open new projects and revamp older ones.
- A union representing the majority of workers at Codelco's Radomiro Tomic mine, in Chile, has rejected a final offer for a new labor contract, forcing a period of government-facilitated mediation, the company said on Thursday.
- The union, part of state miner Codelco's Northern Division, has 744 members, the majority of the mine's workers.

March 29, 2018

- **Jiangxi Copper Co. Ltd**, one of China's biggest Cu smelters, said on Wednesday its 2017 net profit more than doubled, growing at the fastest pace in 7 years, mainly due to higher Cu prices. The Nanchang-based company also aims to increase its Cu output in 2018, though it will be monitoring the market due to the country's expected slower growth in key infrastructure sectors and rising inventories.
- US Q417 GDP surpassed analysts' expectations overnight with growth of 2.9% -- slightly quicker than the forecast growth of 2.7%. The reading, which indicated the US economy was on steady footing heading into the current quarter, allayed fears of a slowdown in global economic growth and provided some support to the base metals complex.
- Data from CAAM showed that production and sales of NEVs in China in the 2M18 surged 225.5% and 200% from the same period in 2017 and stood at 81,855 units and 74,667 units, respectively. Production and sales of all-electric vehicles rose to 56,706 units and 50,253 units, up 168.4% and 164.3% on a yearly basis, respectively. The soaring output of NEVs propelled the demand for batteries and buoyed the industry for Li-ion batteries.
- Germany must do all it can to avert driving bans for diesel cars, the country's new finance minister said in an interview published on Thursday, urging cities and local communities to boost investments in charging stations for electric cars. In an interview with the Funke Mediengruppe newspaper chain, Olaf Scholz expressed skepticism that changes in taxation - for instance, scrapping tax breaks for diesel as a fuel - would speed moves by the car industry to introduce cleaner cars.

March 27, 2018

- Workers at **Antofagasta PLC's (ANTO.L)** Los Pelambres Cu mine in Chile reached agreement on a new labor contract, defusing the risk of a strike. The new contract, agreed upon by 82% of union members, includes a signing bonus of \$30,500 per worker, and an average salary increase of 3%. Antofagasta did not immediately reply to requests for comment.

March 23, 2018

- The growth rate of global Cu ore output is expected to rise back to 3.3% in 2018, said SMM senior analyst Ye Jianhua. Given Cu ore supplies in 2017 and price increases, the supply of Cu ore is unlikely to be significantly affected in 2018, even as some 40 salary negotiations would occur at overseas miners this year. China's demand for overseas ore is on the rise as smelting capacity grows, Ye said.
- China is now the world's largest market for new energy vehicles, with its production going up year on year. The output in 2017 stood at 794,000--up 53.8% from 2016, according to CAAM. Currently, 214,000 public charging stations have been built across China--up 51% yoy. The production and the sales volume for new energy cars are planned to reach 2 M by 2020, with an average compound annual growth rate of 41%.
- According to SMM, Cu will be largely used in the generators and spare parts in the new energy car. A pure electric-powered bus would need 224-369 kg of Cu, according to the size of the battery used. The demand for Cu in electric cars and buses is expected to surge to 1.74 M t by 2027 in China, nine times more than 185,000 t in 2017.
- Chile's state Cu miner Codelco said on Thursday it had reached an agreement with the professionals' union at its Ministro Hales mine in northern Chile, following early talks on a new collective labor contract. The 36-month contract, which includes a signing bonus of 7.1 M pesos (\$11,600), was approved by 75% of the union, Codelco said in a statement.

March 21, 2018

- Zambia expects to produce more than 1 M t Cu in 2018 after revising its 2017 Cu production upwards to 800,000 t and on the back of stable power supply. Zambia produced 774,290 t Cu in 2016. Paul Chanda, Secretary of the Ministry of Mines, said projects such as a new shaft by **Mopani Cu Mines (MCM)** owned by **Glencore** and an expansion project by China Non-Ferrous Africa Mining (NFCA) would start production this year and further boost Cu output in 2018 and beyond. *Comment: Production targets are unlikely to be met as long as Zambia asserts questionable claims on mining companies such as FM.*

March 19, 2018

- According to MB, Cu smelters in China and elsewhere have returned to the spot market for large tonnages, lowering their bids from more than \$80 /dmt/\$0.08/lb Cu to settle deals in the mid-\$70/\$0.07 range. Meanwhile, traders locked in Q218 parcels at prices in the mid-\$60/\$0.06 range, although Cu concentrates are being priced lower for H218 because of uncertainty about supplies. The MB Cu concentrates index on Mar1518 was \$68.60 /dmt/\$6.86/lb Cu. This was only \$0.20 /dmt/\$0.02/lb Cu lower than two weeks ago.
- China's refined Cu output stood at 1.48 M t in 2M18, up 7.4% yoy, according to NBS customs data. Iron ore production during the two-month period amounted to 123.46 M t, down 2.5% yoy; Pb production stood at 845,000 t, up 16.1% yoy; and Zn output was 957,000 t, up 2.5% yoy.
- China is the biggest consumer of Cu, accounting for around 50% of the global demand for the metal. Although Chinese imports of the metal declined slightly in Feb18 on a monthly basis, it rose on a yoy basis. In the first two months of 2018, China's unwrought Cu imports increased 10.4% from the same period last year. Moreover, Cu concentrate imports rose 14.5% yoy.

March 15, 2018

- **BHP's** Escondida Cu mine in Chile, the world's largest, said on Wednesday that it has invited its powerful workers' union to start early talks on a new collective labor contract. Last year, a more than month-long strike at Escondida ended with workers opting to extend their previous contract through Jul3117 instead of replacing it.
- Spot treatment and refining charges for imported Cu concentrates for Chinese smelters rose to \$70-\$81/t and 7-8.1 cents/lb last week, up \$1.50/t and \$0.15 cents/lb respectively from the week before, Chinese industry sources said Wednesday. Although some Chinese smelters needed to replenish concentrate stocks after the Lunar New Year holiday, the major smelters did not, as the current fees were less than their target of more than \$80/t, it added.

March 12, 2018

Hurdles To Develop Mines Could Exacerbate Cu Deficit

- The Cu market has for years experienced declining ore grades at major mines, and this combined with consistent demand growth could lead to deficits in the coming years, according to analysts at Goldman Sachs, who see prices reaching \$8,000 /t this year.
- A predicted deficit in the Cu concentrates market could be exacerbated, with mining companies facing ever greater hurdles to bring new projects on stream, according to panelists at the MB Cu Conference. Mining companies are finding it more difficult to bring projects through from exploration to commercial production. Modern projects need to pay closer attention to community liaison and water availability at a time of increasing scarcity.
- Codelco Commercial VP Rodrigo Toro said, "To build a large volume project from the outset until production is at least ten years, so the capacity today for the mining industry to react to increased demand is not as it was before."
- Mining development permits for projects in Australia that used to take 18 months to obtain, now take around four to five years, according to Deloitte partner Tim Biggs. Briggs said, "These requirements are good for the world in general, but for miners it has meant that the go/no-go factor is so much bigger. It takes so much longer so the obvious consequence is that many [Cu mines] are not being made."
- Cu mining companies are slowly coming back to the idea of raising capital expenditure after Cu prices dropped below \$2/lb [\$4,400 /t] as recently as Jan16. Current Cu prices are \$3.10/lb Cu. Mining companies have had their hands burned on large-scale investments in recent years, heightening the reluctance to make similar investments. This week executives from companies such as Glencore, Randgold Resources and Ivanhoe are in the DRC attempting to dissuade the country from bringing in higher taxes on raw material mining.
- Unionized workers at **Antofagasta's (ANTO.L)** Los Pelambres Copper mine in Chile voted to strike Friday after rejecting ANTO's latest offer for a collective labour agreement. The stoppage will be the first strike ever to hit Antofagasta. Los Pelambres recently received environmental approval for a \$1.1 B expansion plan, which will add 55,000 t of Cu a year once in full operation. The mine produced 356,300 t Cu in 2017.

March 8, 2018

- China's imports of Cu fell 20% in Feb18 from Jan18. The GAC reported that imports of anode, refined, alloy and semi-finished Cu products were 352,000 t down from 440,000 t in Jan18 but up from 340,000 t in Feb17. China's Feb18 Cu concentrate imports came in at 1.45 M t, down from 1.62 M t in Jan18 and 1.43 M t in Feb17.

March 1, 2018:

- The Metal Bulletin Cu concentrate TC/RC index dropped to \$68.80 /dmt /6.88 cents/lb Cu from \$69.50/6.95 cents a fortnight ago. Deals to Chinese market were reported as smelters there returned from the Lunar New Year holidays, but by and large the market remained quiet.

Feb 26, 2018

- China's imports of Cu, Ni and Zn grew strongly in Jan18. Cu imports rose 13% to 314,525 t, refined Ni imports doubled to 26,691 t and refined Zn imports surged 287% to 67,111 t.
- China will make manufacturers of electric vehicles (EV) responsible for setting up facilities to collect and recycle spent batteries, as part of its efforts to tackle mounting waste in the sector, say new rules published on Monday. China, which began promoting electric cars in 2009, aims to become a dominant global producer as it bids to curb vehicle emissions, boost energy security and promote high-tech industries. But with Li battery production already up by half in 2017 and waste set to hit as much as 170,000 t in 2018, the government is racing to improve its recycling capabilities and stamp out what could become a growing source of pollution.
- **Glencore (GLEN.L)** expects global supply challenges amid growing electric vehicle (EV) demand because of ageing mine infrastructure and a lack of prospective new projects. GLEN expects a structural shift in demand, away from infrastructure development in markets as EV adoption "is forecast to unlock new sources of demand for the enabling underlying commodities including Cu, Ni and Co." A study commissioned by GLEN that considered the possibility of 30% of the world's vehicles being electric by 2030 found that an additional annual demand of 4.1 M t Cu, 1.1 M t Ni and 314,000 t Co supply would be required.

Refined Copper Market Surplus Declined Modestly in 2017

- The World Bureau of Metal Statistics (WBMS) indicates that the worldwide Cu market ended in marginal surplus during 2017. The global Cu market recorded marginal surplus of 58,000 t during 2017 down from a surplus of 141,000 t in 2016.
- The world Cu mine production during 2017 totaled 20.66 M t, modestly higher by 6.9% from the 19.3 M t in 2016.
- The global refined production edged higher marginally by 2.1% over the previous year to total 23.46 M t. This was mainly on the back of production gains in China. The Chinese refined output surged higher by 476 kt. Also, refined output by Spain was up marginally by 14 kt. On the other hand, Chilean output dropped during the year.
- The global Cu demand during 2017 totaled 23.40 M t, slightly higher when compared with 22.83 M t during 2016. The Chinese apparent consumption rose by 289 kt to total 11.642 M t. China continued to remain as the world's largest Cu consumer, accounting for just under 50% of the world-wide demand during the previous year. Also, EU-28 apparent consumption recorded marginal increase by 3.2% to total 3.443 kt when compared with the 2016 levels.

According to the WBMS report, reported stocks of the metal rose slightly during Dec17 to close at around 59.1 kt higher than Dec16 levels.

Chinese Customs - Import and Export Data for Base Metals in Jan18 (unit: t)

	Jan.	YoY (%)
Imports:		
Refined Copper	314,525	13.04

Feb 23, 2018

- Record high stocks of Cu in land-locked Arizona and Utah are a reflection of soaring transport costs in the United States and weak demand for the industrial metal produced in the Americas, Cu industry sources say. Trading sources added that stocks in these two locations are likely to keep rising until prices are high enough to offset costs of transporting the Cu.

Feb 22, 2018

- **Southern Copper Corporation (SCCO.N)** has won the public bidding process for the Michiquillay project in Cajamarca, Peru, as announced by ProInversion, the government's investment agency. Michiquillay is indisputably a world-class mining project: with Resources of 1,150 M t and a Cu grade of 0.63%, and is planned to produce 225,000 t/y Cu (along with such by-products as molybdenum, Au and Ag) for an initial mine life of more than

25 years, at a very competitive cash-cost. The estimated capital investment hovers around \$2.5 B. Michiquillay will start production in 2025 to become one of the largest Cu mines in Peru.

Feb 21, 2018

- **Southern Copper Corp (SCCO.N)** won a tender to develop Peru's Michiquillay Cu mine with a proposal to transfer \$400 M to the government and pay 3% royalties. SCCO beat out local miner Compania Minera Milpo SAA , which proposed a \$250 M transfer with royalties of 1.875%. Ten companies had delivered pre-registration documents for the tender, but only SCCO and Milpo presented bids.
- **Zambian Cu output** increased by 1.6% to 786,731 t last year, the central bank said on Wednesday. "We are expecting to have a further increase in 2018 due to improved power supply," Bank of Zambia Director of Economics Francis Chipimo told reporters.

Feb 20, 2018

- Peru will accept bids and award a contract to develop the estimated \$2 B Michiquillay Cu mine on Tuesday in the first major auction from the world's No. 2 Cu producer in at least a decade. The auction was delayed twice last year, in part due to political turmoil in Peru. The bids will be a gauge of investor confidence in President Pedro Pablo Kuczynski, a former Wall Street banker who was nearly impeached in December. Peru has seen private investment fall as companies steer away from infrastructure projects due to corruption investigations. The country plans to tender some 15 projects that would cost up to \$10.35 B in 2018, according to Proinversion.

Feb 15, 2018

- **Antofagasta (ANTO.L)** received environmental approval for a major \$1.1 B revamp of its Los Pelambres Cu mine, the regional government of Coquimbo said on Wednesday. The three-stage infrastructure upgrade, unveiled in 2016, seeks to maintain the mine's Cu output at approximately 400,000 t of Cu annually. The project includes a desalination plant at its port facility in Los Vilos, and new ore mills and related infrastructure at the mine itself. ANTO requires additional permits and final approval from its Board before it can start work. Los Pelambres produced 343,800 t Cu in 2017.
- Indonesia is 'still evaluating' a proposed extension of Cu concentrate exports by local unit of **Freeport McMoRan Inc (FCX.N)**, a mining ministry official said on Thursday. FCX's current export permit is due to expire on Feb1618. Any delay in approval unlikely to impact shipments from FCX's Grasberg mine, Coal and Minerals Director General Bambang Gatot told reporters on Thursday.

Feb 13, 2018

- Spot TC/RCs for imported Cu concentrate for Chinese smelters were at \$73-83/t and 7.3-8.3 cents/lb last week--down from \$74-86/t and 7.4-8.6 cents/lb in the preceding week, as trading picked up, industry sources said Monday.
- China's mined Cu demand in 2018 is forecast at 6.15 M t--up 6% from 2017, data from state-owned metals consultancy Beijing Antaike showed. The country's imports of mined Cu (25% metal contained in ore and concentrates) are forecast to rise to 4.8 M t in 2018--up 6.7% from last year, while domestic mined output is seen at 1.72 M t this year--up 4.2% from 2017. China is forecast to have a mined Cu surplus of 370,000 t in 2018, compared with a surplus of 350,000 t last year, Antaike data showed.

Feb 9, 2018

- Cu bulls who are betting on labour strife this year due to a full calendar of contract talks may be disappointed if early wage deals at 2 Cu mines (Andina and Lomas Bayas) are a signpost for further agreements with mine workers. Benchmark Cu prices rallied 12% in December, partly due to fear of shortages if workers go on strike since many major operations in top producers Chile and Peru have contracts expiring this year, including at top mine Escondida.

Feb 7, 2018

- DRC's Cu production, Africa's top producer, rose 6.9% in 2017 to 1.09 M t, while output of Co surged 15.5% to 73,940 t. Au production rose 2.7% to 23,270 kg.

Feb 2, 2018

- The environment for investing in commodities is the best since 2004-2008, Goldman Sachs said on Thursday, saying it expects returns of 15% over the next six months and of 10% over the next year. Less supply, more demand and lower-than-expected commodity inventories should help prices trend higher until later this year, Goldman said, as it maintained its "overweight" recommendation on commodities.
- Goldman sees Cu enjoying double digit gains to top \$8,000/t (\$3.63/lb) over the next 12 months. For Cu that constitutes a 12% jump from today's price. The last time Cu traded at \$8,000 was at the beginning of 2013. The forecast establishes Goldman as one of the most bullish Wall Street banks. Citigroup sees Cu averaging \$7,125/t this year and Deutsche Bank at \$7,175, according to data compiled by Bloomberg.
- The powerful union at **BHP's** Escondida Cu mine, the world's largest, on Wednesday cast doubt on chances of starting talks on a new labor agreement with the company before formal negotiations scheduled for Jun18. The 2,500-member Union 1, which held a strike for 43 days last year and cost BHP Billiton an estimated \$1 B, also questioned in a letter to members the legal rights of a newly formed competing union at the mine.

Jan 29, 2018

- Zambia's Cu production has hit 850,000 t, representing an increase of 100,000 in last year's output. According to the CSO bulletin for Dec17, Zambia exported and produced about 852,608.7 from 774,000 t recorded in 2016.
- SMM's assessment of imported Cu concentrate TCs stood at \$74-86/t as of Jan2618, down \$1/t from a week ago. We expect spot TCs to remain stable at the \$80/t level ahead of Chinese New Year (Feb1618) with sluggish trading activity as smelters have mostly finished their restocking.

Jan 26, 2018

- In 2017, China imported 3.2 M t Cu Metal--down 10.6% on 2016; 798,845 t Cu Anodes--up 13% on 2016; 65,485 t Cu Alloy--up 13% on 2016; 3,557,160 t Cu Scrap--up 6.24% on 2016; and 17,349,646 t Cu Concentrate--up 2.31% on 2016.
- **Freeport-McMoRan Inc. (FCX.N)** is closer to a permit deal with Indonesia for its massive Grasberg mine, but FCX cautioned that it has not yet struck any formal agreements. There has been little sign of progress since last Aug17, when FCX promised to divest a 51% stake in Grasberg, the world's second-biggest copper mine, to the Indonesian government, in exchange for long-term operating rights. Grasberg produced 1 B t Cu in 2017.

Jan 17, 2018

- Chile's state Cu commission, Cochilco, on Wednesday raised its estimated 2018 average price for Cu to \$3.06/lb from its previous forecast of \$2.95/lb, pointing to the potential for global supply disruptions in the coming year. Cochilco Vice President Sergio Hernandez cited a "perception of vulnerability" that he attributed to the large number of anticipated labor negotiations in Chile, the world's top Cu producer, and in neighboring Peru.
- **Turquoise Hill Resources (TRQ.T)** said that Oyu Tolgoi, a Cu and Au mine in the southern Gobi Desert, has declared force majeure in connection with customer contracts for concentrate due to a protest by Chinese coal

transporters in the Ganqimaodu Border Zone. Protesters used vehicles to obstruct the main access road in China leading to the Chinese-Mongolian border, resulting in Oyu Tolgoi convoys being unable to deliver concentrates to customers.

Jan 5, 2018

- Cu concentrate treatment charges (TCs) have come down to \$76-85/t over the past week, below the floor price at \$87/t set by China Smelters Purchase Team (CSPT) for Q118. SMM understood that most transactions were done by small to medium-sized smelters with sellers giving pressure to buyers. SMM believes the lower TCs were due to lower 2018 benchmark and better confidence among traders. In addition, smaller smelters did not stock up enough Cu concentrate before the New Year. Larger ones did much of their restocking in Sep17 and Oct17 when TCs were higher and some have stocks that can last them until end of Feb18.
- Labor negotiations at several of the world's leading Cu mines will increase supply risk in 2018 and could provide support to prices, market analysts said. More than 30 labor contracts are due to be renegotiated next year - the largest number since 2010. This means that nearly 40% of global Cu production - or more than 7 M t - could be subject to disruption due to industrial action next year, according to Barclays.

Thomson Reuters Production of top 10 countries and producers (4 companies gained and 6 lost)!

TOP-10 COPPER PRODUCING COUNTRIES

Rank		Country	Production (000 t)	
2014	2015		2014	2015
1	1	Chile	5,750	5,764
2	2	China	1,694	1,659
4	3	Peru	1,339	1,654
3	4	United States	1,391	1,408
5	5	Australia	969	960
6	6	DR Congo	915	918
7	7	Russia	740	741
9	8	Zambia	693	705
8	9	Canada	694	690
13	10	Indonesia	379	587

Source: GFMS, Thomson Reuters

TOP-10 COPPER MINE PRODUCERS*

Rank		Company	Production (000 t)	
2014	2015		2014	2015
1	1	Codelco	1,839	1,893
2	2	Freeport-McMoRan	1,470	1,547
3	3	Glencore	1,296	1,259
4	4	BHP Billiton	1,203	1,178
5	5	Southern Copper	665	745
7	6	KGHM Polska Miedz	506	562
6	7	Rio Tinto PLC	636	555
8	8	Anglo American	504	472
9	9	Antofagasta	455	400
10	10	First Quantum Minerals	380	366

*Attributable basis – totals may differ from company reports
Source: GFMS, Thomson Reuters

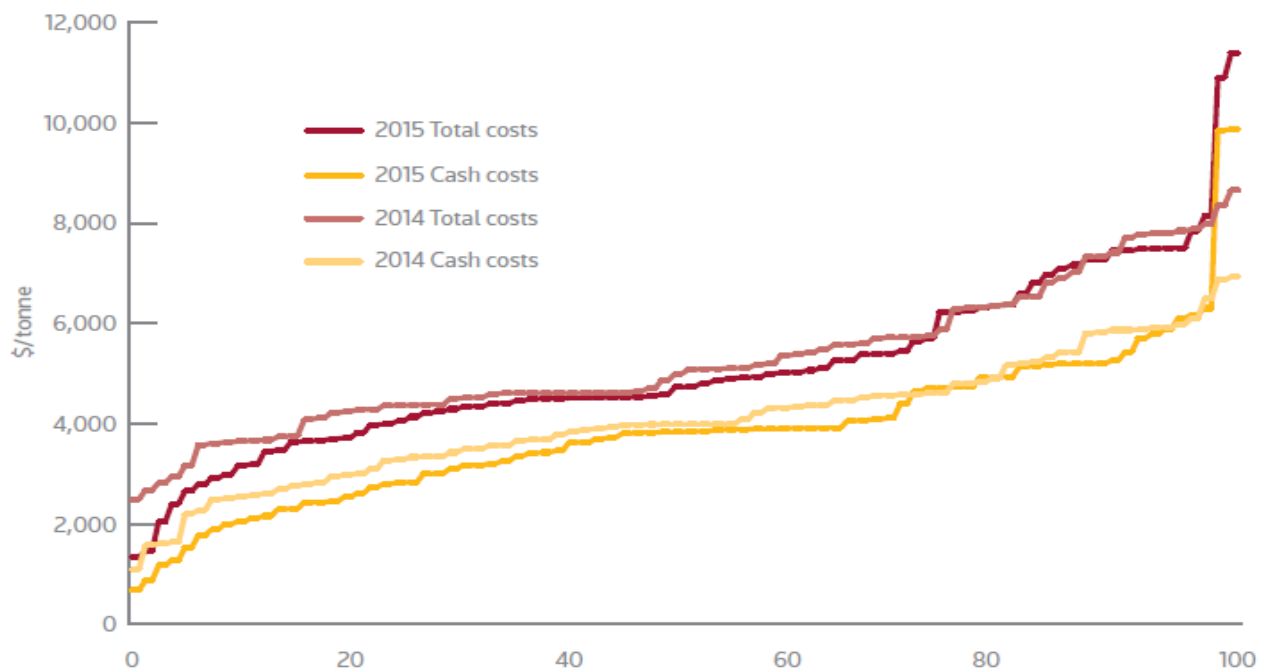
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The following table illustrates development projects. The capex estimates and timelines are an indicator of future mine development necessary to meet future global mine supply. Most of the projects are large capex and long timelines for production.

Thompson Reuters notes that the 2015 copper incentive price required to meet new mine supply demand is US\$3.14 per pound of copper. Wood Mackenzie long term pricing, US\$3.30/lb Cu to sustain supply, at current exchange rate 2019-2020.

COST CURVES 2014 AND 2015



Source: GFMS, Thomson Reuters

Note Carmacks capex to be revised downwards

MAJOR COPPER PROJECTS

Project	Company	Location	Process	Type	Capacity	Capex*	Start Date
Ajax	KGHM	Canada	Conc	New Project	50	795	2019
Agua Rica	Yamana	Argentina	conc	New Project	150	2,122	2021?
Aktogay	KAZ Minerals	Kazakhstan	SX-EW/Conc	New Project	104	2,300	Q4 2015/17
Andina	Codelco	Chile	Conc	Expansion	na	1,400	2022
Aynak	MCC	Afghanistan	Conc	New Project	200	3,000	Post-2020
Bozshakol	KAZ Minerals	Kazakhstan	Conc	New Project	75	2,150	Q1 2016
Bytrinsky	Norilsk Nickel	Russia	Conc	New Project	66	1,700	End-2017
Carrapateena	Oz Minerals	Australia	Concs	New Project	40	555	2019
Carmacks	Copper North	Canada	SX-EW	New Project	14	225	Q2 2018
Chuquicamata UG	Codelco	Chile	Conc	Expansion	367	4,000	2018
Cobre de Panama	First Quantum	Panama	Conc	New Project	320	5,950	End-2017
Collahuasi	Anglo American/Glencore	Chile	Conc	Expansion	496	6,500	na
El Arco	Southern Copper	Mexico	Conc/SX-EW	New Project	190	2,600	2020
El Pachon	Glencore	Argentina	Conc	New Project	280	4,100	na
El Pilar	Southern Copper	Mexico	SX-EW	New Project	35	300	2018
El Teniente new mine level	Codelco	Chile	Conc	Expansion	432	5,100	2020/21
El Tesoro (Encuentro Oxidos)	Antofagasta	Chile	SX-EW	Expansion	50	636	Q4 2016
Esperanza (2nd concentrator)	Antofagasta	Chile	Conc	Expansion	140	2,700	Post-2019
Frieda River	Guangdong Rising Asset Mgmt	Papua New Guinea	Conc	New Project	125	1,700	na
Galore Creek	Teck/Novagold	Canada	Conc	New Project	154	na	na
Golpu (Stage 1)	Harmony (50%)	Papua New Guinea	Conc	New Project	80	2,600	2023
Haquira	First Quantum	Peru	Conc	New Project	190	na	na
Inca de Oro	Guangdong Rising Asset Mgmt/Codelco	Chile	Conc	New Project	50	na	na
Koksay	KAZ Minerals	Kazakhstan	Conc	New Project	80	na	na
Los Pelambres	Antofagasta	Chile	Conc	Expansion	95	1,600	Post-2019
Michiquillay	na	Peru	Conc	New Project	155	700	na
Olympic Dam	BHP Billiton	Australia	Conc/SX-EW	Expansion	225	na	2025
Oyu Tolgoi Underground	Rio Tinto	Mongolia	Conc	Expansion	250	4,400	2021
Project Corridor	Goldcorp/Teck	Chile	Conc	New Project	190	3,600	na
Pumpkin Hollow	Nevada Copper	United States	Conc	New Project	125	1,000	2019
Quebrada Blanca Phase II	Teck	Chile	Conc	Expansion	200	5,600	na
Quellaveco	Anglo American	Peru	Conc	New Project	225	na	na
Radomiro Tomic Sulphides	Codelco	Chile	Conc	Expansion	354	5,400	Post-2020
Roseby (Little Eva)	Sichuan R'way Invstmt/ Altona	Australia	Conc	New Project	39	232	2019
Rosemont	HudBay	United States	Conc	New Project	110	1,226	2020?
Schaft Creek	Teck/Copper Fox Metals	Canada	Canada	New Project	105	3,257	na
Sierra Gorda Phase II	KGHM/Sumitomo	Chile	Conc	Expansion	100	na	2020
Serrrote	Aura Minerals	Brazil	Conc	New Project	30	420	na
Taca Taca	First Quantum	Argentina	Conc	New Project	244	3,000	na
Tampakan	Indophil Resources	Philippines	Conc	New Project	375	5,900	na
Tia Maria	Southern Copper	Peru	SX-EW	New Project	120	1,400	na
Toquepala concentrator	Southern Copper	Peru	Conc	Expansion	100	1,200	Q1 2018
Toromocho	Chinalco	Peru	Conc	Expansion	75	1,320	na
Twin Metals	Antofagasta	United States	Conc	New Project	82	na	Post-2020
Victoria	KGHM	Canada	Conc	New Project	15	na	2021
Zafranal	Teck 50%/AQM Copper	Peru	Conc	New Project	54	na	na
Zone 5	Cupric Canyon Capital	Botswana	Conc	New Project	50	350	H1 2018

*Recent CAPEX figures not yet available for some operations.

Source: GFMS, Thomson Reuters