

EV is the Moby Dick of the copper industry

Electric vehicle (EV) usage is expected to grow 9x over the next decade resulting in a 7% increase in copper demand. With degrading mines and little low hanging fruit available to offer supply, the copper market looks set to light on fire, says Virendra Kumar Gupta.



Copper demand has been fairly uniform over the past few years. The long-term global copper demand is projected to grow at a CAGR of 2% till 2019 and it should reach 23.9 million tonne (MT). This is projected due to global investments in energy infrastructure and increased demand in renewable energy technologies. It is also expected that in 2018 there will be a stronger industrial production globally, this will rapidly force copper consumption and will outpace its production capacity.

Supply has barely managed to keep pace with the demand, as production from the world's largest mines continue to decline. Remaining few major copper projects are barely managing to meet the copper demand which is driven by the massive growth in infrastructure projects, energy projects, and electric vehicles.

Marginal copper projects are expensive, and the ore grades of the world's leading mines still fall every year. Most of the companies that control copper mines have concluded all the easy projects to reduce costs. This time around there will be very little that can be done to sustain lower prices.

Countries that dominate the change and will directly be responsible for the growth forecasts include China, Vietnam and South Korea. India, which currently accounts for 2% of global copper consumption, is most likely expected to increase its consumption over the medium term. The drivers for India's consumption will be strong economic growth and rising urbanisation in the country. There is a massive cultural shift in the metropolitans as citizens become more aware of declining climatic conditions. This has also led to an



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increase in demand for air purifiers, electric vehicles (EVs) and clean energy.

Globally, lawmakers, are racing to showcase to the world as to how quickly their respective countries were planning to go green. India, France, Britain and Norway all want to completely do away with conventional fuels based automobiles in favour of cleaner vehicles. Then, there are at least 10 other countries who have come out with fresh set of targets for implementation of electric vehicles. With electric and hybrid vehicles, currently, accounting for just 3% of global auto sales, according to IHS Markit, the goals are best viewed as political aspirations.

On the other hand, we have companies like Tesla that have grown unprecedentedly purely on market sentiments. It would seem we have the technology, public sentiment & governmental backing but still lack in infrastructure, delivery method and regulatory procedures. Hence, at this point, it is crucial to protect and control EV markets with successful implementation backed up by adequate regulatory framework.

A rising middle class in China and India is causing unprecedented demand for passenger cars. This cascading demand also increases consumption of oil. It is expected by 2050 there may be as many as 1.5 billion cars on the road. In comparison in 2010 there were 750 million.

This type of increased demand demonstrates both a challenge and an opportunity to capitalise on new automobile technologies. In the process, gain substantial economic development benefits which is passed down to other industries. In a world where oil is a limited resource and we are overstrained, an alternate source of transportation fuel - electricity - is not only a smart investment it is an inescapable one.

Shift to EV will generate demand for prevailing jobs and create new jobs in the process. As study after study confirms, job growth in electric vehicle industries will overshadow any decline of jobs in traditional fuel industries. This will in fact result in



even a larger growth in net job. EV will create supplementary economic development opportunities by improving quality of life, dropping energy expenditure, and lessening reliance on imported oil.

EVs will be one of the factors contributing to the increase in global demand for copper alongside modernisation, construction environmental law and the digital age. Although demand is projected to rise for cobalt and lithium as well, more traditional commodities such as copper will also be required for EVs in greater volumes than petroleum cars. An average electric car requires 80 to 90 kilograms of copper compared to an estimated 25 kilograms for a conventional passenger car. Growth in SUV sales will also complement the demand for copper in the automotive manufacturing industry, as the size of a SUV is larger than a conventional car and requires more copper.

Electric vehicle usage is expected to grow 9x over the next decade. This would result in a 7% increase in copper demand. With degrading mines and little low hanging fruit available to offer supply, the copper market looks set to light on fire. Any weakness in the copper price offers a buying opportunity to investors.

Electric vehicles become more commonplace with each passing year. Plenty of commodities will see a lift in demand, but one that is sure to deliver returns from increased EVs is copper. International Copper Association (ICA) recently purported that EVs will see a nine-fold increase in the next 10 years. What does that look like? Just shy of 1.5 MTPA of increased demand - over 7% of the total copper supply today. The boost comes from the elevated levels of copper windings in electric vehicles when compared to the 20-25 kg of copper in their ICE (internal combustion engine) brethren.

Long-standing EV sales have repeatedly succeeded to beat expectations. As technological advances continue, consumers are finding further interest and awareness. In due course of time, electric vehicles industry will offer & deliver technology and price for mass market implementation. As soon as it does the benefits of charging, speed, and dependability will result in quick acceptance by consumers.

EV demand will surpass even the most optimistic forecasts. This would lead to an increase in copper demand that would force prices well past \$3.00/lb.