



Tuesday 22<sup>nd</sup> August, 2017

## **News article on the Increasing Demand and Price for Copper**

Hot Chili Limited (ASX code: HCH) is pleased to provide a copy of an article published by ABC Rural news on August 15<sup>th</sup> 2017.

The article comments on the electric vehicle market and renewable energy as key drivers for a continuing rise in global copper demand.

Increasing demand against a backdrop of ongoing supply constraints are seen as fundamentals to coppers continuing price increase, which has now increased to approximately US\$3.00/lb from its low of approximately US\$2.00/lb set in early 2016.

**For more information please contact:**  
**Christian Easterday**  
Managing Director

Phone: +61 8 9315 9009  
Email: [christian@hotchili.net.au](mailto:christian@hotchili.net.au)

**or visit Hot Chili's website at [www.hotchili.net.au](http://www.hotchili.net.au)**



## Electric vehicles, renewable energy driving demand, and price, for copper

ABC Rural

By Babs McHugh

First Published 15<sup>th</sup> August 2017



**Electric vehicles use up to four times the amount of copper used in traditional combustion engines.**

The increasing popularity of electric vehicles means demand for copper is rising, and that spells good news for the nation's copper miners and investors.

Coupled with the demand for copper for use in new technologies, including renewable energy infrastructure, and the role it plays in pollution reduction, the red metal is looking at a buoyant future.

Electric vehicle rotary motors use up to four times the amount of copper as that in a traditional combustion engine, from around 20 kilograms to 80 kilograms.

Copper is also a component of the lithium-ion batteries used in the electric vehicles as well as power invertors and in the charging infrastructure needed to keep them running.

"Without copper you wouldn't be able to run electric vehicles, it's that simple," John Fennell, CEO of the Australian branch of the International Copper Association, said.

"Along with the rotary motor, it's also needed for basic components like battery leads.

"And now a number of countries have signed up to the Electric Vehicle Initiative , so we expect to see the number of [electric vehicles] on the road to be in the tens of millions."

The Electric Vehicle Initiative was instigated in 2009 and is coordinated by the International Energy Agency.

Countries that have signed up to the Electric Vehicle Initiative are: Canada, China, Finland, France, Germany, India, Japan, Korea, Mexico, the Netherlands, Norway, South Africa, Sweden, the United Kingdom, and the United States.

In 2016 there were an estimated two million electric cars in use globally after 750,000 were sold in that year alone.

## **Renewable energy and pollution reduction also drive copper demand**

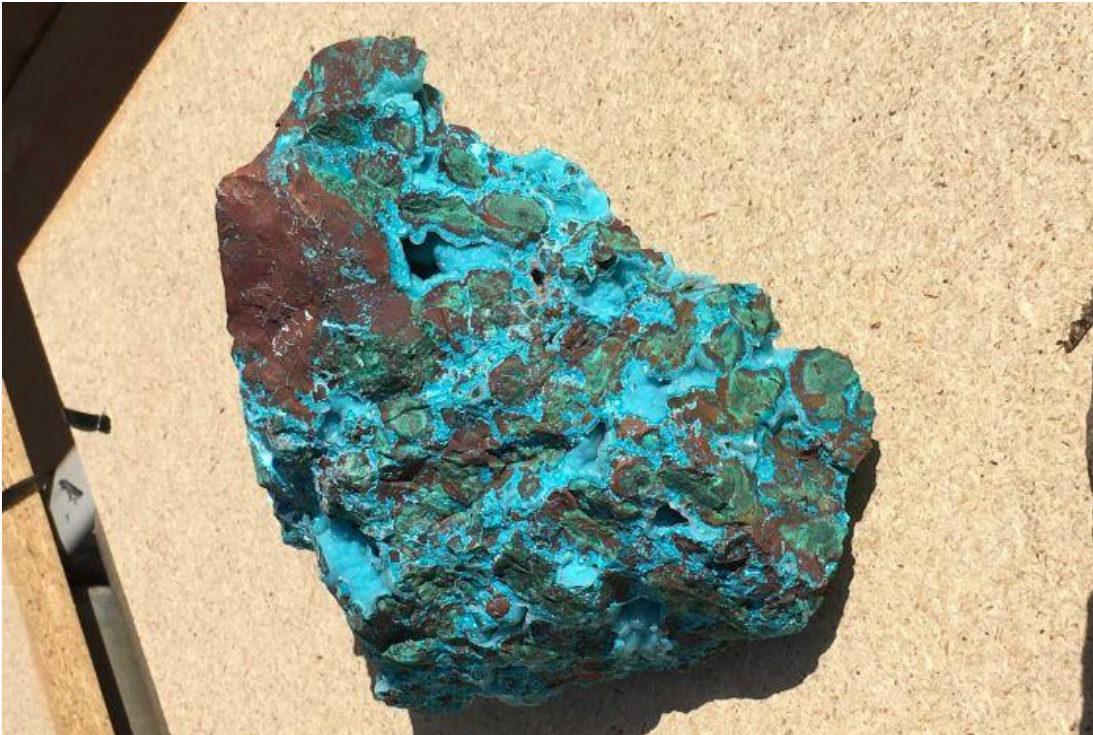
In 2016 the World Copper Association set out a 15-year Copper Technology Roadmap for Asia.

"Along with electric vehicles, the major trends were in areas like renewable energy," Mr Fennell said.

"There's four times as much copper used in renewable energy generation than there is in traditional coal-fired power generation.

"Urbanisation is another trend; when people move from the country, rural areas in India and China, they consume six times as much copper in an urban home as they would in their rural homes.

"And the general trend to less pollution means more efficient appliances, which translates to using more copper, because it reduces electrical and heat energy losses in the system and is cleaner to run."



**Copper in the raw. Demand growth from renewable energy, electrification in China and India and electric cars will see much more of this mined in the future.**

## **Red metal demand to grow, and so will price**

Copper is mined all over the world but Chile is the main producer, providing up to 25 per cent of all global stocks.

There are new mines opening up in Peru and 5 per cent of global copper comes from Australia, China, Africa, and the US combined.

Australia is home to sixth largest copper producer in the world — the Olympic Dam copper-gold-uranium mine in South Australia.

BHP Billiton has recently announced it will spend \$600 million upgrading and expanding the mine and its infrastructure, with its eye firmly on growing demand, and price, for copper.





**BHP Billion has committed \$600 million to further develop the Olympic Dam mine in SA, with an eye firmly on the copper market.**

"At the moment it's a 26 million tonne market per year," Mr Fennell said.

"Those countries combined produce 21 million tonnes and the other 5 million comes from recycled copper, which is an interesting point.

"Eighty per cent of all the copper ever mined over the last 3,000 years is still in use today."

Mr Fennell said the association did not comment on price, but given its expectation of a minimum 20 million electrical vehicles on the road by 2020, demand would only rise.

"That in itself is a minimum 2 million extra tonnes of copper a year," he said.

"It's estimated by 2030 the demand for copper will be around 40 million tonnes per annum.

"So if we look at Roxby Downs in South Australia, it's a very big mine, and it produces a quarter of a million tonnes per annum.

So we'll have to find 56 extra mines, the size of BHP's Roxby Downs, in the next 13 years."

In May this year, copper was fetching \$US5,633 per tonne. Today's cash price on the London Metals Exchange is \$US6,367 per tonne.



## Qualifying Statements

### Forward Looking Statements

The Announcement contains “forward-looking statements”. All statements other than those of historical facts included in the Announcement are forward-looking statements including estimates of Mineral Resources. However, forward-looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to, copper and other metals price volatility, currency fluctuations, increased production costs and variances in ore grade ore recovery rates from those assumed in mining plans, as well as political and operational risks and governmental regulation and judicial outcomes. The Company does not undertake any obligation to release publicly any revisions to any “forward-looking statement” to reflect events or circumstances after the date of the Announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws. All persons should consider seeking appropriate professional advice in reviewing the Announcement and all other information with respect to the Company and evaluating the business, financial performance and operations of the Company. Neither the provision of the Announcement nor any information contained in the Announcement or subsequently communicated to any person in connection with the Announcement is, or should be taken as, constituting the giving of investment advice to any person.