



2.3 Million Tonne Energy Storage Boost for Copper

Study Name: Phenomenal Growth in Energy Storage
Study Author: IDTechEx
First Presented: April 2019

Research, commissioned by the International Copper Association (ICA), has found that, by 2029, annual global copper demand may increase by 2.3 million tonnes, thanks to energy storage in e-mobility and stationary storage applications.

Overview

IDTechEx, the company responsible for the study, forecasts the increase as demand for energy storage will grow from 0.1 terawatt hours (TWh) in 2019 to around 3.2 TWh by 2029. Copper plays an important role in the manufacture of Li-ion batteries. At the cell level, copper is used in anode current collectors, and at the pack level, it is used in the electrical interconnects, e.g. busbars, cables and wiring.

Improvements in battery performance are accelerating the uptake of energy storage devices. Although innovations in some types of battery technologies could cause copper demand to decrease at the cell and pack level (in terms of kilograms of copper per kWh), the research does not predict overall demand will decline.

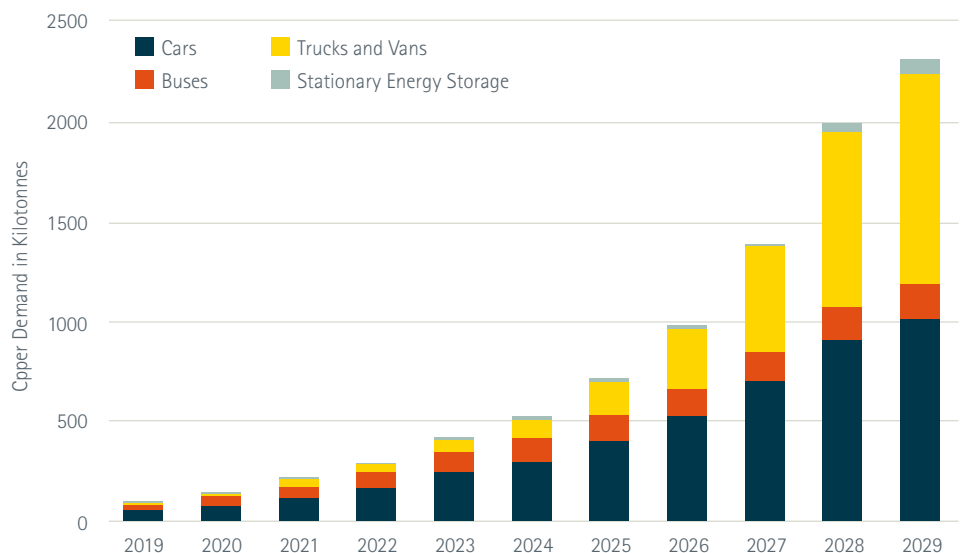
Key Findings

- Energy storage in mobility and stationary storage applications will raise annual copper demand by 2.3 million tonnes by 2029.
- The electric vehicle (EV) market will grow to 52 million annual sales by 2029, driving up demand for batteries.
- Widespread EV deployment will lead to a further decrease in Li-ion battery costs, which will spill over to stationary storage systems at household, commercial, industrial and grid levels.

Second Life Batteries

Another finding from the study is that the 'end-of-life' of an electric car battery needs to be redefined as they could continue to be used for another 10 years or more in various post-vehicle applications before they are finally recycled or disposed of. By 2029, available storage capacity from second-life batteries will hit 178 GWh per year.

Annual Copper Demand in Energy Storage for Mobility and Stationary Storage 2019–2029



Second-life Battery Availability Forecast 2019–2029

