

Copper Underpins Development of EV Charging Infrastructure

According to research commissioned by the International Copper Association (ICA), growing numbers of plug-in electric vehicles (PEV) will drive demand for over 40 million charging ports by 2027. A crucial material in the construction and development of electric vehicle charging equipment, it's predicted that over 100,000 tonnes of copper will be needed to satisfy the demand just in port charging cables, charging units and wiring to electrical panels.

Though currently just 1–2% of global car sales, the research—undertaken by consulting firm Navigant Research—predicts the global PEV population will rise to 58 million by 2027. With a greater number of cars comes a greater need for charging infrastructure, and copper's intrinsic values give it a dominant role in the market.

'The importance of copper in electric vehicles is widely acknowledged,' says Colin Bennett, Global Manager, Market Analysis and Outreach, ICA. 'Less recognized, however, is that charging infrastructure also relies heavily on copper. This research quantifies an exciting development for copper in a market that will contribute to a positive impact on society.'

How will copper underpin development in EV charging infrastructure?

From a range of potential uses, the research identifies three component parts of EV charging equipment in which copper is used: the charging unit, charging cable and wiring to an electrical panel. With a standard length of 25 feet, the main source of copper in the equipment today is the charging cable, which includes four wires, three for power and one for communications. DC fast chargers have additional copper wiring in the unit and in the cable. However, it is argued that the largest source of new copper demand will come from somewhere else: wiring to the electric panel.

'As range increases and PEVs become increasingly ubiquitous, the fueling dynamic will shift away from centralized retail forecourts to a "charge where I am" system,' said Principal Research Analyst and research author, Lisa Jerram. 'Rather than sit in a forecourt mid-journey, people will recharge during work, or when at home. This will prompt a major infrastructural change in public parking areas, with charging locations requiring hundreds of feet of copper wire to make them EV ready.'

Further information will be presented in the ICA workshop and panel discussion at the World Copper Conference, 9–11 April 2018, during CESCO Week in Santiago, Chile.



About the International Copper Association (ICA)

ICA brings together the global copper industry to develop and defend markets for copper and to make a positive contribution to society's sustainable development goals. Headquartered in Washington, D.C., ICA has offices in four primary regions: Asia, Europe and Africa, Latin America and North America. Copper Alliance programs and initiatives are executed in nearly 60 countries through its regional offices. For additional information, please visit www.copperalliance.org.

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