

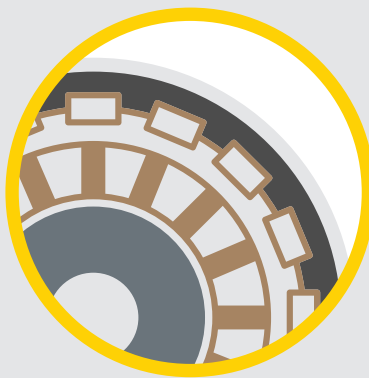
HOW COPPER DRIVES ELECTRIC VEHICLES



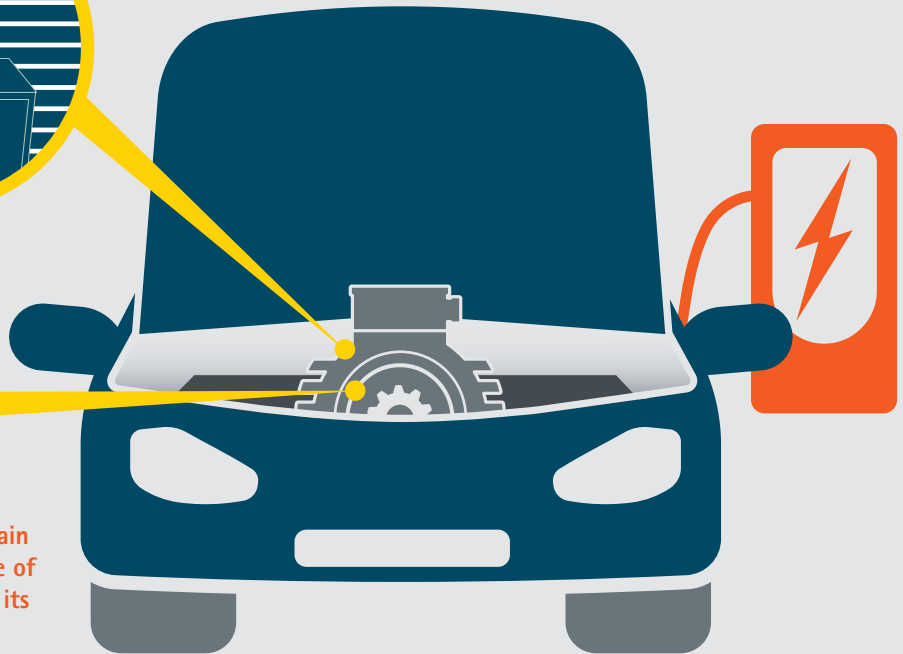
Copper Development Association Inc.
Copper Alliance

Electric vehicles (EV) are contributing to a cleaner, safer and more energy-efficient environment. Powering this sustainable technology is copper, used for its durability, superior electrical conductivity and reliability.

Copper is a major component in EVs used in electric motors, batteries, inverters, wiring and in charging stations.



A pure electric vehicle can contain more than a mile of copper wiring in its stator windings.



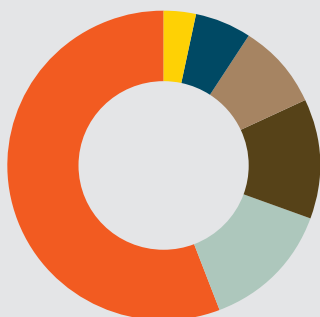
In 2016, the number of electric vehicles increased to **2 million globally**

Annual sales of PEVs will exceed **1 million vehicles in 2023**, reaching more than 7 percent of annual sales by 2025.

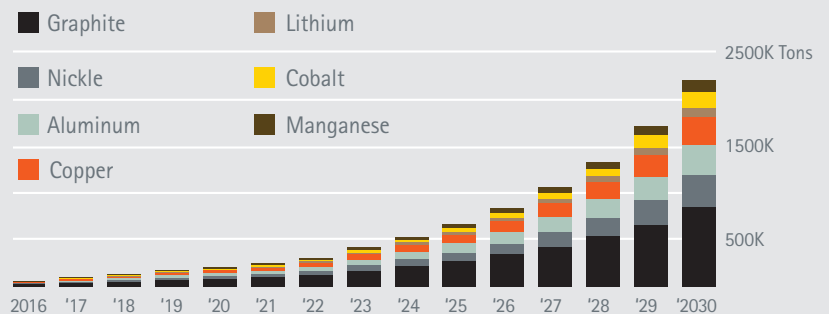
The total number of EVs is projected to reach **7 million by 2025**.

About **5 million charge ports** will be required to support them.

In 2016, the estimated amount of copper used in all electric vehicles was nearly **26 million pounds**.



- Conventional cars: 18-49 lbs of copper
- Hybrid electric vehicles (HEV): 85 lbs
- Plug-in hybrid electric vehicles (PHEV): 132 lbs
- Battery electric vehicles (BEVs): 183 lbs
- Hybrid electric bus: 196 lbs
- Battery electric bus: 814 lbs



Demand Surge

The increasing demand will significantly impact the copper market. The demand for copper due to electric vehicles is expected to increase by 1,700 kilotons by 2027.