



Future Megatrends to Increase Copper Demand

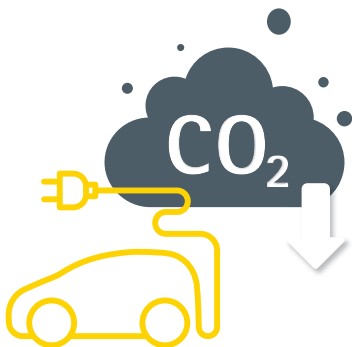
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Forecasted trends across electric vehicles, renewable electricity generation and the construction sector will contribute to significant increases in global copper demand.

Recurring factors across megatrends

Four recurring factors are impacting all sectors of the economy and increasing demand for copper.

1. The constant increase in speed and capacity of communications systems.
2. A pressure to reduce greenhouse gas emissions to mitigate climate change. This includes a pressure to invest in clean technology, energy storage and improved efficiency.
3. A drive to increase the circularity of the economy. This means reducing waste and improving recycling rates.
4. China has become a very important presence in today's market.



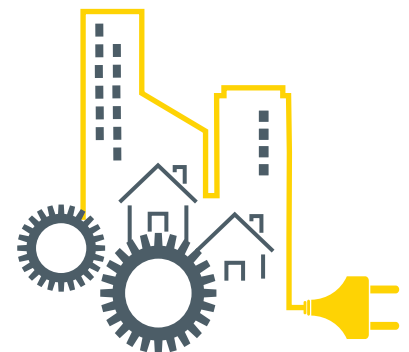
Electric vehicles

Electric vehicle development is advancing at a significant pace. Aided by enhanced vehicle performance and reduced battery costs, electric vehicles are entering the mainstream. Government regulations, including some countries that are targeting net-zero greenhouse gas emissions, will further bolster the rapid uptake of electric vehicles. All these factors are impacting copper demand, because copper is prevalent in three areas of electric mobility: energy storage, charging infrastructure and the production of vehicles.



Energy sector

Renewable electricity generation is growing fast, particularly solar and wind farms that use much larger volumes of copper than conventional thermal power generators. This, combined with the restructuring of the electricity grid to accommodate energy storage, will result in the energy sector requiring far larger volumes of copper. The sector chooses to use copper in these applications, rather than inferior conductive materials, because it is the best nonprecious conductor of heat and electricity, which is essential to the efficient generation and delivery of electricity to homes and businesses.



Construction sector

The global middle class is set to grow to 5.6 billion in 2030, a 4 percent increase per annum, creating significant new demand for the construction of homes and commercial buildings. New homes will be equipped with domestic electrical goods and systems, which rely on copper, and commercial buildings will be made "smarter". Both IT and energy-efficiency smart systems will rely on copper to operate at peak efficiency.