

COPPER'S ESSENTIAL ROLE IN SOLAR POWER GENERATION



The strategic metals found in northeastern Minnesota's Duluth Complex, which are the focus of the Twin Metals Minnesota Project and other mining ventures, are essential components to solar power generation and other green energy technologies. These technologies will help the U.S. meet its future energy needs as well as reduce harmful carbon emissions. Solar energy's generating capacity has experienced strong growth, with 70 percent more generation having occurred in the first half of 2014 than in 2013. Additionally, utility scale installations have increased four times the amount from 2008 to 2012. In Minnesota, state law requires investor-owned utilities to produce 1.5 percent of their electricity from solar power by the year 2020.

One of the key elements of solar power systems is copper, which increases the efficiency, reliability and performance of photovoltaic cells and modules. The electrical and thermal conductivities of copper allow for the collection, storage and distribution of solar energy. Copper is also vital to the wiring, tubing and cables in other forms of renewable power generation. Generating electricity from renewables, like solar power, requires four to six times more copper per megawatt of power generated than from traditional fossil fuel sources. Mining strategic metals, like copper, will be critical to ensure the U.S. is able to meet its energy demands with sustainable and clean energy sources.

Sources:

Copper Development Association, <http://www.copper.org/environment/sustainable-energy/pdf/CDA-Solar-Infographic.pdf>

U.S. Energy Information Administration, <http://www.eia.gov/>