



Copper mining vs. recycling

Copper is one of the world's most useful and used metals. Because it can be recycled repeatedly without loss of performance, most of what has been mined remains in circulation. Still, recycling alone will not meet the demands of an ever increasing world population and the growing industrialization of some of the world's most populated countries. Then there's this simple truth: copper can't be recycled if it hasn't been mined and made available for use in the first place.

Copper is versatile and essential

Copper dates back 10,000 years, making it one of civilization's oldest metals. Today, it continues to play a key role in our civilization, ranking only behind iron and aluminum in global consumption.

Consider this: in 1990, world copper production (mined metal) was 8.95 million metric tons. That grew to 13.3 million tons in 2000 and 16.1 million tons by 2010. Usage continues to grow, particularly since clean energy technologies such as wind turbines, solar and electric vehicles depend on it. More than 18 million tons of copper are estimated to be mined globally in 2017.

Copper is an outstanding conductor of electricity; its antimicrobial qualities make it a valued component in medical applications (copper kills microbes on contact); and its resistance to corrosion, malleability, and other attractive properties make it ideal for plumbing and a host of other products. Better still, copper is completely recyclable. It is one of the few metals that can be recycled repeatedly without any loss of performance.

Most reused metal on earth

Only about 12 percent of known worldwide copper resources have been mined so far. According to the International Copper Association, an estimated two-thirds of the 550 million metric tons of copper produced since 1990 are still in productive use either by itself or in any of its alloys such as bronze and brass. It is by far the most reused metal on the planet. In the U.S. nearly as much copper is recovered from recycled material as is produced from mining. Recycled copper makes up roughly half of the metal's usage worldwide.

A balanced approach for sustained growth

Even if 100 percent of the copper currently available is recycled, it would not be enough to sustain a growing world population. Demand for copper will continue to increase as countries such as China, India and Brazil become more industrialized, and modern societies consume more and more of the metal. Mining is essential to meeting this demand.

World copper producers do their best to maintain a balance between supply and demand, taking into account the availability and consumption of recycled metals, population growth and the industrialization of developing countries when planning production. Although there are fluctuations in supply and demand ratios from year to year, over time the global market has generally remained in balance, with both mined and recycled copper playing important roles.

Sources: [International Copper Association](#), [Copper Development Association Inc.](#)