



LIVING BETTER... WITH COPPER

Whether it is to improve the efficiency and performance of applications across energy and healthcare, or to make transportation, architecture and heating and cooling systems more environmentally friendly, copper has never been more important for the sustainable growth of the EU.

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Copper's key performance characteristics are its electrical and thermal conductivities, its corrosion resistance and its ability to destroy harmful pathogens. Its value to society is further enhanced as, at the end of their life, copper products can be recycled, over and over again, without any loss in performance.

As the EU places more and more emphasis on the "green technologies" needed to meet its 2020 energy targets, it is increasingly important to understand the sources of the raw materials that help deliver these technologies.

Copper and its alloys are indispensable for a broad range of applications across many industries, world-wide. As a result, end-of-life (scrap) copper is leaving the EU, at ever increasing rates, to countries with lower recovery technologies and poorer health and environmental protection practices.

Since the EU imports 40% of its annual copper needs, not only is the EU losing a valuable raw material, it is also missing out on important energy savings. This is because the energy required to recycle one tonne of copper is 80% less than that required to produce one tonne of primary copper.

To correct these two resource inefficiencies, the EU and its Member States need to provide more support for copper recovery and recycling in Europe.

The European Copper Institute, its members and partners have provided a number of recommendations available at www.eurocopper.org.

YOU CAN WIN BY USING LESS COPPER THE MICROGROOVE™ ADVANTAGE

Designers and engineers across the world continue to explore new ways to build products that are more resource efficient and deliver higher performance.

The copper industry's MicroGroove technology is a recent game-changer in the commercial and residential air conditioning market. It reduces the amount of copper required in the heat exchanger of an air conditioning or refrigeration unit, while at the same time improving the unit's performance.

MicroGroove tubes provide the same durability and corrosion resistance as traditional tubes but are of smaller diameter and 30% lighter for the same heat transfer performance. The smaller units also require 40% less refrigerant use.

As a result, manufacturers across North America, China, and the EU, are offering higher energy efficiency air conditioning units that require fewer materials and use less energy.



YOU CAN WIN BY USING MORE COPPER ENERGY EFFICIENCY AND RENEWABLES

Using electricity and energy more efficiently will preserve precious natural resources, as well as reduce harmful greenhouse gas emissions, such as CO₂.

Copper can facilitate a typical 50% reduction in the losses from inefficient equipment and systems in standard European homes and businesses. Copper's conductivity is key to improving the electrical energy efficiency of wires and cables, motors and transformers, and household appliances. This explains why 60% of copper is used in electrical applications.

Copper also improves the efficiency of all forms of renewable energies, such as wind turbines, photovoltaic panels, wave and tidal generation, and solar thermal systems.

Leonardo ENERGY platform

ECI's Leonardo ENERGY platform is a global community for the professionals helping accelerate Europe's transition towards a sustainable energy economy, with a carbon-free society being the ultimate goal.

The platform addresses five areas of sustainability:

1. Energy efficiency
2. Renewable energy systems
3. Power quality
4. Electrical safety
5. The home of the future

Leonardo
ENERGY 
www.leonardo-energy.com

Solarthermalworld.org

Together with UNEP and UNDP, ECI manages this global web portal for solar thermal professionals offering latest news on the development of the sector. It also provides a forum for experts, hosted by the Solar Thermal Energy Council, a collaborative platform between industry, research institutions and NGOs.

Miniaturisation

By improving the dispersion of heat from high-frequency microprocessors and logic devices, copper supports the miniaturisation and high performance of high-tech devices such as smart phones and tablet computers.

**THEREFORE, TO THE QUESTION OF WHETHER TO USE LESS OR MORE RESOURCES,
THE ANSWER IS COPPER.**

With strong EU support for recovery and recycling initiatives, copper products and the copper industry that produces them can:

- Continue innovating to drive increased EU competitiveness
- Boost economic growth while reducing energy losses
- Combat climate change and reduce the environmental impacts of resource consumption

In other words, not using copper costs money, wastes energy and increases CO₂ emissions. If we use it smartly, copper can help Europe meet its targets, while also helping EU citizens live better.

In figures

The European Copper Industry

45 today's copper market value in billion Euro

50,000 number of persons employed in the EU27

Copper in Recycling

12.3 millions of tonnes of copper-rich electric and electronic waste expected to be collected in the EU27 between now and 2020

45.7 percentage of European 2009 market demand met by recycled copper

80 percentage of energy savings from recycling scrap versus primary production

For further information:



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