

# EU 2040 Climate target

## European Copper Institute position in response to the Commission consultation

June 2023

**The European Commission has defined copper as a strategic raw material, acknowledging that copper is indispensable for achieving the EU's objective of a carbon-neutral economy.** Indeed, copper is a crucial raw material for electrification and for the energy transition at large and copper demand in the EU is expected to increase by 35% by 2050 as the continent decarbonises. Copper extraction, processing, and recycling also allows to produce or recycle many other non-ferrous metals that are important for the transition.

**The copper producers that the European Copper Institute represents in Europe<sup>1</sup> have committed to a goal of reducing the scope 1 and 2 GHG emissions of their copper production to net zero by 2050.** Provided that key enabling conditions, such as access to competitively priced decarbonised electricity, are fulfilled, it is possible to reduce the scope 1 and 2 GHG emissions of copper production in Europe by 30-40 percent by 2030 and by 85-95 percent by 2040, compared to a no-action scenario.

**The European Copper Institute (ECI) supports the EU's climate ambitions for 2030 and 2050.** Ambitious policies are needed to increase electrification, the deployment of renewables and energy efficiency to decarbonise the European economy and reduce dependency on Russian fossil fuels. Climate action must build on a fast decarbonisation of the electricity grid, combined with efficiency in all sectors and electrification whenever possible.

**At the same time, it is crucial that these policies consider the need to maintain the global competitiveness of European energy-intensive industries,** in particular the strategic raw material industries. Today, these industries are struggling with the consequences of the energy crisis, and will continue to struggle through this decade as electricity prices remain high and increasingly volatile, while the carbon price increases further and free allocation of emission allowances is drastically cut under the revised ETS Directive. The EU must support the decarbonisation efforts of these industries and take care not to undermine their global

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<sup>1</sup> ECI represents approximately 85 percent of the copper production capacity in the EU, based on the International Copper Study Group's 2021 directory of mines and plants.

competitiveness. Not integrating these two elements in EU policy would ultimately lead to an increase in less climate-constrained production outside the EU, as well as a deepening EU raw material dependency on China and other third countries.

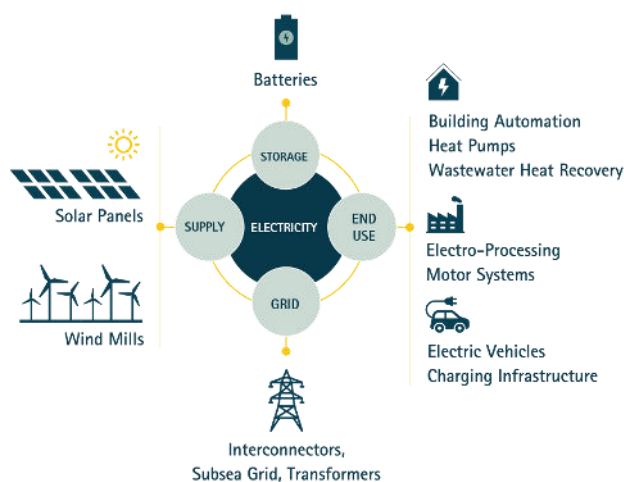
**Indeed, a key challenge for the EU's goal to become climate neutral relates to the availability of raw materials needed for decarbonisation technologies.** Today, high energy prices, complex regulatory frameworks and long permitting processes for mining and processing projects make the EU a difficult place to invest for the producers of these materials. The Critical Raw Materials Act is a welcome initiative that could tackle some of these aspects. However, ensuring a climate neutral and resilient Europe requires broader action, for instance to ensure internationally competitive prices for industrial electricity supply and to retain robust protection against carbon leakage in the EU's climate policies.

**Overall, coherent policies are needed for climate action, environmental protection and industry competitiveness that take into consideration the need to strengthen the EU's strategic autonomy in raw materials needed to reach carbon neutrality.**

## Copper enables climate neutrality and resilience

**Copper is a crucial raw material for electrification and for the energy transition** at large. Thanks to its properties, copper is an essential raw material in decarbonization technologies for sectors across the economy (energy system, transport, buildings, industry) and its circularity contributes to the resilience of these supply chains.

Copper extraction, processing, and recycling also allows to produce or recycle many other non-ferrous metals contained in the copper ores or in the waste stream bearing copper. Therefore, extended EU capacity in copper extraction, production, and recycling, will not only serve in securing copper availability but also availability of other key metals for the EU Green Deal goals: Cobalt, Silver, Nickel, Zinc, and Platinum Group metals.



**The European Commission has defined copper as a strategic raw material, acknowledging that copper is indispensable for achieving the EU's objective of a carbon-neutral economy.**

More copper will therefore be needed in the coming years to enable the decarbonisation of the economy. Global annual refined copper demand is expected to double by 2050 compared to 2020<sup>2</sup>. In Europe, copper demand is expected to grow by 35% in the same period<sup>3</sup>.

Figure 1 Copper in the energy transition

<sup>2</sup> MineSpans Copper Demand Model Q3 2021

<sup>3</sup> KULeuven, Metals for Clean Energy: Pathways to solving Europe's raw materials challenge, 2022

## EU copper producers have committed to carbon neutrality

As an energy intensive industry, copper producers in the EU have already made important efforts to reduce their GHG emissions, which resulted in a reduction of approximately one third in the carbon intensity of refined copper over the period 1990-2018.

**The copper producers that the European Copper Institute represents in Europe<sup>4</sup> have committed to a goal of reducing the scope 1 and 2 GHG emissions of their copper production to net zero by 2050**, as well as to engage with the value chain to bring Scope 3 emissions as close as possible to net zero by 2050.

This commitment is based on a robust and pragmatic analysis of how the GHG emissions of copper production can be abated. The conclusions of this analysis are set out in our decarbonisation roadmap “*Copper - the Pathway to Net Zero, Regional focus: Europe*”<sup>5</sup> which sets out a trajectory for reducing GHG emissions from copper mining, smelting, refining and recycling in Europe based on an analysis of current decarbonisation technologies, their cost, availability at scale, and abatement potential.

**Provided that key enabling conditions are fulfilled, it is possible to reduce the scope 1 and 2 GHG emissions of copper production in Europe by 30-40 percent by 2030 and by 85-95 percent by 2040, compared to a no-action scenario.** This is achievable through the use of decarbonised electricity, the switch to alternative fuels, electrification of equipment and the adoption of further energy efficiency measures.

The most important abatement levers until 2040 are decarbonised electricity (sourced through Power Purchase Agreements or the onsite installation of wind or solar) and the switch to alternative fuels such as biofuels or biogas in mining and smelting.

By 2050, 90-95 percent of scope 1 and 2 emissions can be abated, compared to a no action scenario, using the four abatement levers outlined above. To tackle the remaining emissions, further research and development will be needed for instance to abate direct emissions linked to the presence of carbon in feed material.

Addressing the reduction of Scope 3 emissions presents additional challenges when compared to Scopes 1 and 2, in particular because the interdependence between actors in the value chain requires a partnership approach to maximize potential abatements, which are not under the sole control of copper producers. **Based on an initial assessment, the scope 3 emissions of copper production in Europe could be reduced by 10-20 percent by 2030 and by 40-50 percent by 2040.** In Europe, the efforts of the global copper industry to abate GHG emissions will also reduce the Scope 3 emissions of European copper producers as the carbon footprint of imported copper concentrates and anodes decreases.

## Enabling conditions for bringing scope 1 and 2 emissions of copper production to net zero by 2050

Six key enabling conditions must be met for European copper producers to be able to achieve their decarbonisation targets:

1. **Copper producers must have access to decarbonised and competitively priced electricity in sufficient quantity.** In Europe, unprecedented electricity prices in the last 18

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<sup>4</sup> ECI represents approximately 85 percent of the copper production capacity in the EU, based on the International Copper Study Group's 2021 directory of mines and plants.

<sup>5</sup> <https://copperalliance.org/resource/copper-pathway-to-net-zero-europe/>

months have increased the operational costs of copper miners, smelters and refiners and are causing a competitive disadvantage vis-à-vis producers in other regions where electricity prices are lower. These cost increases cannot be passed on to customers, since copper prices are set on global markets like the London Metals Exchange. The unpredictability of prices has also impacted on the ability to make investments.

2. **Decarbonisation technologies such as electric mining trucks or green hydrogen must be available at sufficient scale and at an affordable price.**
3. **Measures must be taken to increase the end-of-life collection rate of copper-containing products**, to enable increased use of recycled copper.
4. **Access to public and private finance must be ensured.** Between 2020 and 2050, the copper industry in the EU will need to invest approximately 12.5 billion EUR to meet increasing demand for copper and an additional 5.3 billion EUR -at least- to reach decarbonisation targets, an average of 600 million EUR per year. In this respect, it is important and urgent that ambitious yet realistic criteria that are fit for the copper production process are included in the Climate Delegated Act under the EU Taxonomy framework<sup>6</sup> to determine the manufacturing of copper as an activity that substantially contributes to climate change mitigation.
5. **The EU Emission Trading System<sup>7</sup> (ETS) must ensure there is a level playing field on the carbon costs paid by EU copper producers and non-EU copper producers.** Copper producers are price-takers and cannot pass on the cost increases brought about by the EU ETS to consumers without losing market share to producers who do not face the same costs. It is therefore of crucial importance that the EU legal framework provides robust protection to avoid the relocation of production sites to countries outside the EU that have less stringent environmental regulations. With increasingly high carbon prices, carbon leakage protection plays a crucial role in preserving a level playing field in the copper sector and enabling investments in decarbonisation.
6. **A coherent and stable regulatory framework is needed to incentivise investments.** The copper industry in the EU has to remain competitive to be able to invest in advancing decarbonisation and circularity. This requires a coherent and fit-for-purpose regulatory framework that provides legal clarity and predictability, together with a more ambitious industrial policy to support strategic raw material value chains that are essential for achieving the EU's objective to become a carbon neutral continent by 2050.

## Recommendations for the EU 2040 climate framework

**Ambitious energy and climate policies are needed to rapidly increase electrification, the deployment of renewables and energy efficiency.** Climate action must build on a fast decarbonisation of the electricity grid, combined with efficiency in all sectors and electrification whenever possible. Direct electrification, having the highest energy efficiency, should be prioritised among decarbonisation options wherever possible and its strategic importance as net-zero technology should be recognized.

**At the same time, the EU's energy and climate policies must consider the important challenges faced by European energy intensive industries** producing strategic raw materials that are price-takers in the global commodity markets. Today, these industries are struggling with the consequences of the energy crisis, and will continue to struggle through this decade as the electricity prices remain high and increasingly volatile, while the carbon price increases further and free allocation of emission allowances is drastically cut under the revised ETS Directive.

**A key challenge for the EU's goal to become climate neutral relates to the availability of raw materials needed for decarbonisation technologies.** Today the EU is heavily dependent on third countries, and in particular on China, for these materials. High energy prices, complex regulatory frameworks and long permitting processes for mining and processing projects make the EU a difficult place to invest for the producers of these materials. The Critical Raw Materials Act is a welcome initiative that could tackle some of these aspects. However, ensuring a climate neutral and resilient Europe requires **coherence between all policies for climate action, environmental protection and industry competitiveness that takes into consideration the need to strengthen the EU's strategic autonomy in raw materials needed for net zero technologies.**

With these considerations in mind, ECI makes the following recommendations on the EU energy and climate framework going forward:

- The EU must seek to ensure **internationally competitive prices for industrial electricity supply** to maintain strategic energy-intensive industries in the EU and to support decarbonization through electrification. Electro-intensive industries like copper producers also require a stable supply of electricity over time. As the share of intermittent renewables in the grid grows, it is therefore important that sufficient flexibility sources are deployed together with decarbonised baseload generation such as nuclear or hydropower, to allow to match intermittent renewable generation with the stable consumption profile of such industries.
- **Raw material and industrial policies must support strategic raw materials** such as copper. Faster permitting and access to financing for capacity increase and for decarbonization of production is necessary to address the twin investment challenge of our industry.
- Copper producers are price-takers on the global commodity markets. EU-only carbon costs have a direct impact on the competitiveness of the copper industry and its capacity to invest in decarbonization. **It is therefore important to retain robust protection against carbon leakage in the EU's carbon policies.**
- We note the intention of the EU institutions to extend the scope of the **Carbon Border Adjustment Mechanism** to other ETS sectors in the future. Currently, CBAM is an untested mechanism and together with other sectors we have expressed doubts as to its ability to establish a real level playing field between EU and non-EU producers, in particular in relation to the treatment of EU exports, the possible future inclusion of indirect emissions, circumvention and the on-the-ground application of CBAM. It is therefore premature to contemplate the extension of CBAM scope to other sectors: **there should not be any expansion of CBAM before having had the time to fully assess the impact of the application of CBAM on the sectors covered** in the first instance. If, based on such an assessment, CBAM were to be judged to function well as a carbon leakage protection measure, its eventual expansion to new sectors should happen through the ordinary legislative process, following a thorough assessment of the expected impact on the sectors concerned, in close consultation with these sectors. In the meantime, the current carbon leakage measures must be kept in place under the EU ETS.
- The **building sector** represents the largest untapped energy efficiency potential, and we therefore call for an ambitious renovation wave (rate and depth) combining energy efficiency, renewables and electrification to achieve clean heating and zero-emission buildings, with specific attention to the renovation of electrical installations in dwellings. Half of EU dwellings

have obsolete **electrical installations**<sup>6</sup>, so checking and upgrading these installations must be part of renovation plans to ensure the safety, efficiency and readiness of electrical installations for electrification of heating and transport.

- The **electrification of transport** is also an important climate protection and energy efficiency lever. To ease e-mobility and help the EU implement the requirement to only sell zero-emission cars from 2035, we call for a fast deployment of public charging infrastructure for cars and vans along the road and in residential areas and buildings. It is also important to ensure that adequate grid infrastructure is in place to enable the timely deployment of battery electric trucks and busses. The capacity of the EU electricity grids to allow charging of heavy-duty vehicles should be assessed now, so that the necessary steps can be taken to expand grid capacity where needed in a timely manner.
- **Mitigating the peak demand** of energy must become a key objective to ensure a competitive electricity price. Energy efficiency, smart energy management and storage solutions have a key role to play with that objective.

#### About the European Copper Institute

The European Copper Institute (ECI) is the leading advocate for the copper industry in Europe and the European arm of the International Copper Association (ICA). Our members mine, smelt, refine and recycle copper for use across the economy, in the electricity system, buildings, transport and industry.

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<sup>6</sup> Data from Forum for European Electrical Domestic Safety (FEEDS): <https://feedsnet.org/reports/#residential-electrical-safety>