

# We are energy-intensive – but also extremely energy-efficient

The energy transition is inconceivable without metals. But producing copper, zinc, and other metals requires a great deal of energy. In total, Aurubis used as much energy as 115,000 average single-family houses with four residents each in 2019. That amounts to 3.47 TWh. Overall, 1.69 TWh of this comes from primary energy sources like gas, coke, and oil, and more than half (1.78 TWh) comes from electricity. This is equivalent to 941,000 t of indirect CO<sub>2</sub> emissions from purchased electricity and 503,000 t of direct CO<sub>2</sub> emissions in the production process in 2019.

Our goal:

**to reduce CO<sub>2</sub>**  through projects by more than:  
**100,000 t** by 2022/23\*.  
\* compared to 2012

For us, the effective and efficient use of energy is a question of ecological and economic responsibility. As a European company with global competition, we cannot pass on higher costs for electricity, energy, and CO<sub>2</sub> emissions to our customers. At the same time, we are already producing copper cathodes with around 40 % fewer CO<sub>2</sub> emissions than the global average.\*

## CO<sub>2</sub> emissions in an industry comparison: Life cycle analysis of a copper cathode



\* CO<sub>2</sub> equivalent per ton of copper in kg

Sources: International Copper Association, Aurubis, 2013

## We need regulation with foresight

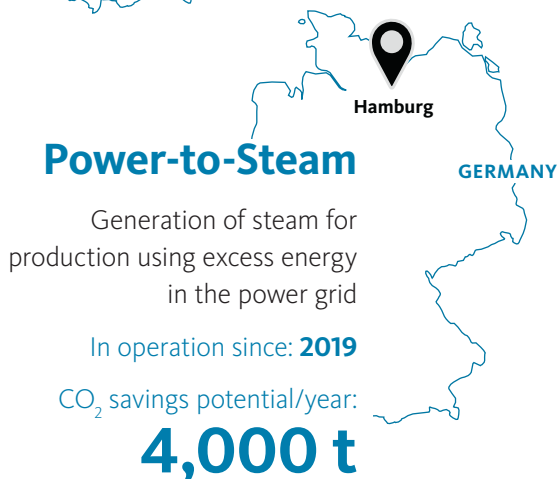
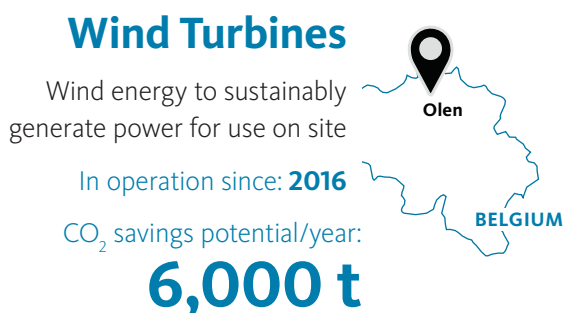
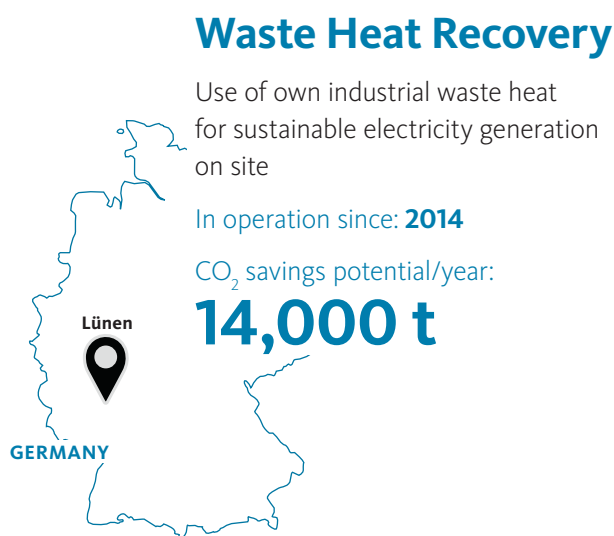
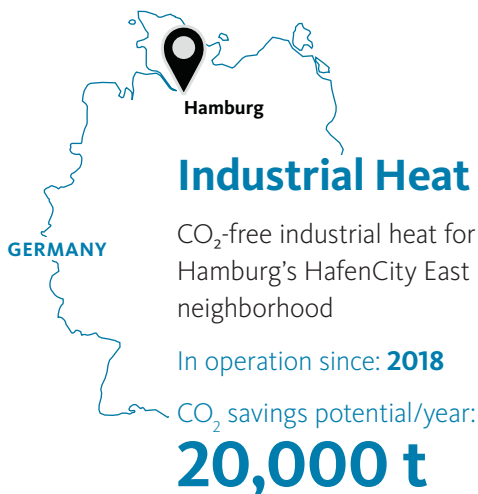
The EU has an ambitious goal for 2050: a resilient economy and society that achieves climate neutrality through a high level of innovation and competitiveness. This is in line with our goals. We want to become the most sustainable, integrated smelter network in the world and we want to increase our energy efficiency even further. The general conditions for this have to be created now so that sustainability doesn't become a competitive disadvantage:

- » Competitive energy prices
- » Legislative continuity
- » Promotion of research and development
- » Promotion of investments in future technologies
- » Instruments that reward low-carbon products



## Up to here – and beyond: Our projects

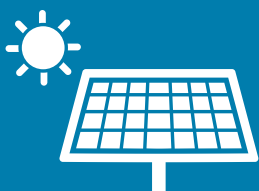
For years we have been successfully implementing projects to reduce CO<sub>2</sub> at all of the Aurubis Group's relevant production sites. Even if completely CO<sub>2</sub>-free production of non-ferrous metals will never be physically possible, we are always looking for potential for more.



## What else we are planning:

Use of renewable energies from photovoltaics in Pirdop, Bulgaria

CO<sub>2</sub> savings potential/year:  
**4,000 t**



Transition from oil to natural gas in Pirdop, Bulgaria

CO<sub>2</sub> savings potential/year:  
**6,500 t**



Expansion of Industrial Heat in Hamburg, Germany

CO<sub>2</sub> savings potential/year:  
**120,000 t**



Optimized manufacturing processes using hydrogen in Hamburg, Germany

CO<sub>2</sub> savings potential/year:  
**6,200 t**



## Contact

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