

Up to 200 km copper wire generates environmentally-friendly electricity in every wind energy converter.

Peter Willbrandt, Board of Directors



Copper in wind energy converters

In the ring generators of large wind turbines, coils of up to several hundred kilometers of flat and round copper wire provide environmentally-friendly electricity generation. In the large offshore wind energy power stations in the North- and Baltic Seas, up to 30 t of copper is used in each wind turbine.

A 5 MW installation in the North Sea operates for about 3,000 hours per year (onshore installations = about 1,500 - 2,000 hours per year), and produces about 15,000 MWh of electricity. Assuming 600 g CO₂/kWh, this avoids 9,000 t CO₂ per year.

The 9,000 t of CO₂ avoided thereby means, when translated into the 30 t copper used, that each tonne of copper contributes to a saving of 300 t CO₂ per year. About 1.5 MWh of electricity is required to produce one tonne of copper, and thus less than 2 t CO₂. Within the space of a year, one tonne of copper has saved more than 150 times the CO₂ that was generated when it was produced in Germany. Over a 10-year period, the amount of CO₂ avoided rises to a total of 3 000 t CO₂ per tonne of copper.

Gallery




Kupferwalzdraht



Wicklungen in Ring-Generatoren



Windkraftanlage



Products

Within one year, one tonne of copper has saved more than 150 times the CO₂ that was generated when it was produced.

**Savings:
300 t CO₂
per tonne
of Copper
per year**

Aurubis

Company

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The Initiative

Metals pro Climate is an initiative which presents and highlights the achievements and potential of the NF metals industry.

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