

Press release :

19 million tonnes of CO₂ emissions are avoided annually in Europe: the dual contribution of copper and wind to sustainable development

Brussels, 28/11/02- Copper and wind power are being combined to improve the efficiency of wind turbine energy, currently undergoing rapid expansion. Renewable energy is central to the sustainable development strategy defined by the Kyoto Protocol on climate change and by the 2001 European Directive, encouraging the production of electricity from renewable energy sources. **Already 19 million tonnes of CO₂ emissions are avoided each year in Europe** thanks to wind turbine energy production, in which copper plays a vital role.

There are numerous wind power projects in place in Europe. **Siemens announced today plans to launch the second phase of the Slufter wind farm project in Rotterdam**, with the installation of 9 new wind turbines, each with a capacity of 1.5 MW (megawatts), purchased by the firm NUON. Worldwide wind power capacity is currently more than 27,000 MW, of which 74% is contributed by Europe (20,447 MW), providing for the energy needs of more than 12 million households. The Netherlands, holding 5th place in Europe, has a wind power capacity of 563 MW.

In its strategic document presented at **The Earth Summit at Johannesburg**, entitled *Wind Force 12*, the European Wind Energy Association (EWEA) estimates that the objective of 230,000 MW worldwide (100,000 in Europe) is attainable by 2010. This would meet the energy needs of 300 million households.

Copper is present in all elements of the wind energy production process, from the generator to the transformer, via the rotors and the cables. For example, **a wind turbine of 1 MW contains 4.4 tonnes of copper** and the remarkable conductivity of copper improves its energy efficiency considerably.

Last but not least, apart from providing renewable energy, copper can also contribute to reducing CO₂ emissions by 20 million tonnes per year in Europe – 7.5% of the European Union commitment under Kyoto. Increasing the copper content in motors, transformers and cables can reduce energy losses by more than 70% (along with optimising the use of other metals such as magnetic steel). Often defined as the "**green metal**", copper is also extremely durable and 100% recyclable without any loss in performance.

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