

Brussels, 13 March 2007

The future's green for the red metal

World refined copper usage continues to rise (+3,3%¹ in 2006) i.e. 17.2 million tonnes; the red metal is reaffirming its key role in modern society, in particular for sustainable development. The use of highly efficient motor driven systems (+30% copper in the motors) would allow EU industry to reduce its CO₂ emissions by 100 million tonnes per year, which would account for one-third of European Kyoto targets. Furthermore, in the healthcare sector, copper confirms its excellent antimicrobial properties, proven by the trials completed at the University of Southampton against the MRSA infection (antibiotic-resistant *Staphylococcus aureus*). Results are expected to be confirmed by an *in situ* trial due to be conducted by a Birmingham hospital over a period of 18 months starting in April.

Copper: vital for sustainable development

Copper was the first metal used by mankind. Alloyed with tin, copper made the Bronze Age possible. Along with its excellent electrical conductivity, it played a key role during the 2nd industrial revolution, and indeed it still does so today, with its role in the new information technologies. Use of copper has grown continuously for more than a century: world demand increased from 0.5 million tonnes in 1900 to reach 17.2 million in 2006. The ICSG (International Copper Study Group) estimates growth for 2007 at 4.2% or 17.9 million tonnes. 41% of copper used in Europe comes from recycling and this percentage could increase further.

The main vector towards improving energy efficiency: a response to the Kyoto targets

Copper is key to energy production and distribution and thus finds itself at the centre of the energy challenges the EU faces today. According to Professor Ronnie Belmans, President of the International Electricity Union and Director of the Electrical Research Department at the KU Leuven, "energy efficiency represents the potential for global energy savings of some 400 million tonnes oil equivalent per year". Today, copper represents the main vector towards improving energy efficiency: increasing the amount of copper in electrical equipment can reduce energy losses by up to 70% (30% in the case of industrial electrical motors). The unique technology behind the copper rotor, a crucial component in highly efficient electrical motors, is French. According to Jean-François Zobrist, Director of FAVI (Copper Alloy Pressure Die-casting), "the most stringent energy-efficiency standards for motors, the NEMA Premium in the US and EFF 1 in Europe, are most easily met by electric motors with copper rotors". The widespread use of highly efficient motor driven systems in the EU would reduce CO₂ emissions by 100 million tonnes per year, accounting for one-third of our Kyoto objectives².

1cm² of copper eradicates 10 million *Staphylococcus aureus* in 90 minutes

Future copper applications in the health sector are still largely unexploited. In its pure form or as an alloy, copper is a powerful antimicrobial contact agent. A laboratory study conducted by the Biology Department of the University of Southampton showed that 10 million methicillin-resistant *Staphylococcus aureus* (MRSA), placed on a copper surface, are eliminated in 1½ hours³. According to Professor CW Keevil, who led the study, "quantities of MRSA that are usually observed on hospital door handles (10³/cm², being 10,000 times less than in the laboratory tests), should be eradicated in only 30 minutes". Cross infection could be avoided by replacing the handles, trolleys and other objects that are frequently touched by patients and hospital personnel with copper or copper alloys such as brass. A trial is due to start in the UK in April in a Birmingham Hospital to test this assumption.

High-definition images and press kit available on request

About the European Copper Institute:

The European Copper Institute (ECI) is a joint venture between the world's mining companies (represented by the International Copper Association, Ltd.) and the European copper industry. Its mission is to promote copper's benefits to modern society across Europe through its Brussels headquarters and a network of eleven copper information centres.

¹ International Copper Study Group, Lisbon – October 2006, forecast.

² Source: The European Commission *Motor Challenge* programme. <http://energyefficiency.jrc.cec.eu.int/motorchallenge>.

³ Noyce JO, Michels H, Keevil CW. Potential use of copper surfaces to reduce survival of epidemic methicillin-resistant *Staphylococcus aureus* in the healthcare environment. *Journal of Hospital Infection* (2006) 63; 289.

Press contact

Anna Macdougald - GSM : + 32 (0) 477 60 26 74 – anna@eu4u.be

Evelyn Gessler - GSM: + 32 (0) 475 23 53 92

Evelyn.gessler@deciders.eu

Lorraine de Fierlant - GSM : + 32 (0) 485 33 33 33

Lorraine.defierlant@deciders.eu

European Copper Institute

Christian de Barrin,

Communications Manager

Tel. +32 (0) 2 777 70 82 / GSM: + 32 (0) 476 30 99 60

cdb@eurocopper.org