

# 2003 ANNUAL REPORT

## European Copper Institute



COPPER CONNECTS LIFE™

## Table of Contents

|       |  |
|-------|--|
| 3     | Chairman's Message                                   |
| 4     | Chief Executive's Message                            |
| 5     | <b>Programme Highlights</b>                          |
| 6     | 2003 Copper Usage & Markets                          |
| 7     | Automotive, Building Construction & Industrial Alloy |
| 8     | Communications                                       |
| 9     | Electric & Electronics                               |
| 10    | Environment  |
| 11-15 | <b>European Achievements</b>                         |
| 16    | Financials   |
| 17-18 | <b>Accessing the Worldwide Network</b>               |

**The ECI Mission:** The European Copper Institute is a joint venture between the world's mining companies (represented by the International Copper Association, Ltd.) and the leading European fabricators. Its mission is to promote copper's benefits to modern society across Europe, through its Brussels office and a network of eleven Copper Development Associations.

## Chairman's Message



European demand for refined copper in 2003 totaled 4.7 million tonnes, up 1.3% versus 2002. Given the slight fall in the European Industrial Production Index, this supports a sustained increase in the intensity of copper use across the Region.

The efficient generation, distribution and use of electricity remains high on the European Union's political agenda. A new white paper confirmed Europe's commitment to a substantial increase in the energy to be supplied from renewable sources, 12% by 2010. Copper products have an important role to play in maximising the efficient use of wind, solar and hydro-power sources.

Copper's positive contributions to human health were further reinforced in 2003. Independent research by KIWA, a leading Dutch water research institute, confirmed that copper plumbing is ten times better than plastics in reducing the spread of the Legionella bacteria in water distribution systems.

European Union regulations continue to present important challenges to the industry. On the copper Voluntary Risk Assessment, ECI is making positive progress, under the guidance of the Italian

Government and an independent peer review panel. However, the EU's New Chemicals Policy, as currently written, contains a number of serious issues for the copper industry - particularly with regard to a lack of competitiveness with the organic chemical industries. ECI is working to address these issues at the highest levels of the EU and the member state authorities.

The expansion of the EU, on May 1<sup>st</sup> 2004, will strengthen economic growth. ECI is well placed, through its eleven Copper Development Associations, to promote the social and economic benefits of copper products in the ten new EU member states and thus to support the development of new copper markets.

I would like to thank the International Copper Association and the European industry for their continued support and, on behalf of the membership, to thank ECI and the European CDA team for their commitment and achievements throughout 2003.

A handwritten signature in black ink, appearing to read 'Norbert Brodersen', written in a cursive style.

**Norbert Brodersen**

## Chief Executive's Message



During 2003, the members of ECI and of the national Copper Development Associations completed the many steps necessary to restructure all European copper promotion and defence activities under a common integrated voice. This required significant effort by the CDA Directors, the chairpersons of the local boards and by the ECI staff and directors. I would like to thank them all for their commitment in bringing this about, while at the same time progressing the challenging promotional agenda that we had budgeted for in 2003.

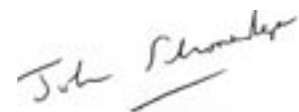
One of the current trends in management consultancy is to do more with less. The start of what we now know to have been a dramatic fall in the exchange rate of the US dollar to the euro required a readjustment of priorities and expenditures. Detailed financial management and the increased willingness to share ideas across the network resulted in an 8% under-run in our US dollar budget for the year. This will be used to cover the continued fall of the US dollar in the first quarter of 2004.

ECI continued to make strong progress on the copper industry's Voluntary Risk Assessment. Feedback from the Italian authorities and the European Commission was positive on our management practices and on the technical quality of our data collection and analysis. We remain on schedule to deliver our initial draft report to the authorities by the end of 2004.

ECI is also playing an important role in representing the copper industry's interests within the Eurometaux led advocacy programme on the EU's New Chemicals Policy.

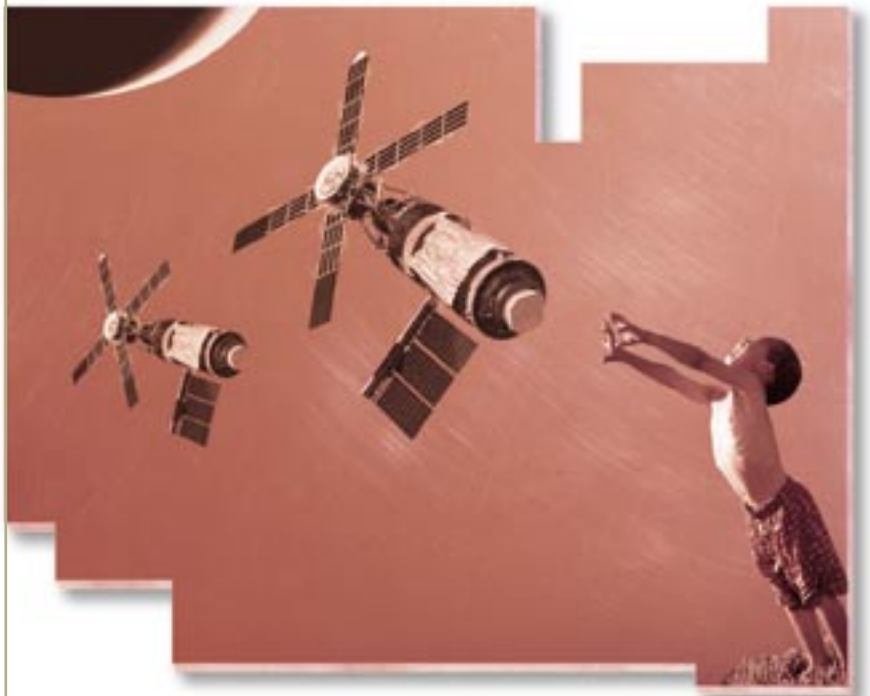
In the promotional area, we are pleased to welcome a continued increase in the number of partner organisations sharing in our activities, particularly in the areas of solar thermal, power quality and energy efficiency. The recent publication of a position paper on the benefits of energy efficient motor driven systems, under the umbrella of the European Union's Motor Challenge Programme, is an important example of ECI strengthening its policy and advocacy actions with the EU and member state authorities.

Lastly, I would like to recognise the progress made in securing increased value from ECI's pan European media relations programme. ECI and the network have organised a number of media events, as well as issuing some high quality media information during 2003. There has been significant media pick up, reflecting the genuine public interest in the benefits provided by products containing copper.



John Schonenberger

## PROGRAMME HIGHLIGHTS





## 2003 Copper Usage & Markets

Despite the recent relatively poor economic conditions in the EU, figures from the International Copper Study Group show that the annual demand for refined copper in the European region has steadily increased up to 4.7 million tonnes, with 2003 accounting for 29% of world demand.

Central and Eastern Europe have increased their share of the total from 15 to 22 %. This reflects the strong role that copper continues to play in facilitating economic growth, for example in energy and data cabling, in telecommunications networks, in powering industrial equipment and in providing clean water, heat, lighting and security in our homes.

Offsetting this trend have been the relatively low levels of industrial production growth across the EU 15. While the efforts of the European Copper Institute and its CDA network are having a measurable impact on regional copper use (particularly in the power quality and domestic wiring areas), factors such as the increasing relocation of consumer equipment manufacture to Asia are resulting in important changes to copper trade flows around the world.

Within this total, copper demand is heavily focused on electrical and electronic end-uses (60%); building construction, e.g. tubing and architecture (15%); transportation (15%) and other industrial equipment (10%).

A key competitiveness and sustainable development benefit for the EU 15 is that 41% of 2002 refined demand was met through the recycling of production scrap, or the recovery of products at the end of their useful life. In addition, around 30% of Europe's copper comes from the refining and smelting of concentrates sourced from countries such as Australia, Chile and Indonesia. The same industry sector that fulfills both of these important functions is facing substantial regulatory pressure and is also suffering financially from tax subsidies that have distorted trade flows and benefited competitors in parts of Asia.



# Automotive, Building Construction & Industrial Alloy

In 2003, copper's main markets in building construction were plumbing and architecture. Copper is intrinsically appreciated by the end user or building owner as its reputation remains high, not only in terms of value and performance, but also in terms of the emotional comfort associated with its natural composition and links to art and modern architecture. ECI's 2003 promotional campaigns combined both image and targeted end use market activities to reinforce copper as a material of choice.

In Europe, copper tubing and fittings maintained a leading position in indoor drinking water distribution, fuel gas applications and heating systems. Copper's intrinsic properties and recognised performance have made it a market leader in the solar thermal renewable energy market. Providers of architectural rolled materials increased its appeal through patination treatments and alloying elements.

Within ECI's various campaigns, focus has been placed on inspiration and information, with a special emphasis on maintaining and promoting copper's use to young users as well as to traditional ones.

Regulatory aspects required significant technical and communication resources. Strong networks and regular contact with stakeholders have resulted in successful co-operation on a number of fronts. ECI provided leadership in addressing the medium term implications of the European Approval Scheme for materials in contact with drinking water, the Energy Performance in Buildings directive and the Construction Products directive.

The solar thermal market represents a new opportunity for copper, based on existing product and skill sets adapted to the growing renewable energy market. Through the Solar Industry Federation, ECI participated in policy making, agenda setting and training for the development of the market.

Copper's use in automotive continues to grow as more hydraulic-mechanical applications become electrical. This trend will continue as hybrid and fuel cell vehicles reach maturity for mass market ramp up. ECI's Automotive team engaged in trend analysis looking for market factors impacting the use of copper. Design for the environment and material property performance requirements were identified. An industry brochure on copper in the automotive industry addressed forward-looking uses and opportunities for copper-connected applications.



**Nigel Cotton**  
Manager



# Communications



**Christian de Barrin**  
Manager



From January 1<sup>st</sup>, a new worldwide communications team, made up of a representative of each region and led by ECI's Communications Manager, re-shaped the ICA initiative into a clear action plan, including budget prioritisation. Building on 2002 successes in Europe, the central element is a general media campaign aimed at increasing copper's profile amongst the general public, in strong coordination with key market development, environment and technology programmes.

2003 confirmed the success of ECI's pan-European media relations programme. Copper's benefits to all aspects of life were strongly communicated in the eight countries taking part in the programme (Belgium, France, Germany, Italy, Spain, Sweden, The Netherlands and the UK). Important information on copper's benefits to human health, for example on the Dutch Water Institute's (KIWA) study on copper's role in reducing the risk of Legionnaire's disease, resulted in excellent media coverage. Other media information highlighted copper's contribution to sustainable development, through its outstanding recycling properties, as well as its role in reducing Europe's CO<sub>2</sub> emissions, through the use of energy efficient electric motor driven systems.

Significant visibility was also obtained by the Copper Development Associations' participation in numerous local events such as the Ecomondo Fair in Italy, the Malmö Health Fair and the Recycling Days in Sweden. A Wind Energy media tour was organised in Spain with Iberdrola, one of Europe's key utilities, resulting in significant press, radio and TV coverage.

ECI's communications programme continued to include important Web based activities, such as the revamping of ECI's website and the launch of a specific Members Info section and a European press release library.

Education has remained one of the key platforms of ECI's communications programme. In close coordination with CDA UK, ECI worked on launching a new physics e-source, targeted at 18 to 21 year-old students. In 2003, more than 70,000 visitors accessed the 6 copper educational e-sources through [www.schoolscience.co.uk](http://www.schoolscience.co.uk).



## Electric & Electronics

In 2003, ECI developed and implemented a novel system for advanced knowledge management to support the new focus on Sustainable Electrical Energy. This system monitors regulatory, technical and market developments across generation (including renewables), distribution and end-use, and is used for the development of opinion and position papers on a broad range of subjects.

In the field of energy policy, ECI became an observer to the Conference of Parties (COP), under the United Nations Framework Convention for Climate Change, and presented its position paper on energy efficient motor driven systems. Promotion work under the EU's Motor Challenge Programme continued, and in Germany, major car manufacturers and chemical companies switched to energy efficient motors. ECI became involved in efficient electricity distribution and lighting through the EU's new Green Building programme, while the standardisation work required to increase efficiency standards for distribution transformers started at CENELEC.

Five new industrial partners joined the LEONARDO Power Quality Initiative (LPQI), bringing the total number of partners to fifty five. Over 100 application notes in 11 languages have achieved an unparalleled market coverage of the initiative in 2003. High profile power blackouts in London, Italy, the USA, the Netherlands and Scandinavia assisted the project by making people more aware that reliability and quality of electricity supply should not be taken for granted. LPQI has been extended with modules on renewable energy, distributed generation, rational use of energy, smart-wired installations for assisted living at home, electrical storage and solutions for high availability



of power. In effect, LPQI now covers almost every aspect of electrical technology.

Relations with the electrical press developed further and ECI issued opinion papers on a variety of topics in support of its expanded focus. Subjects covered were offshore wind, renewable energy systems, liberalisation of electricity, distributed generation and public lighting.



**Hans De Keulenaer**  
Manager

## Environment



2003 activities were dominated by the copper Voluntary Risk Assessment. This project aims at identifying and evaluating relevant risks to human health and the environment arising out of copper emissions during the production, use and disposal of copper products and copper compounds. The industry contributed to an extensive collection of quality information on exposures and effects. Major draft sections of the VRA were critically reviewed by a panel of independent scientists and by experts from the Italian Government's Istituto Superiore di Sanità. This challenging process will support the quality and credibility of the initial RA report, which remains on schedule for completion by the end of 2004.

A key achievement of the 2003 environmental research programme was the integration of the concept of bioavailability into the risk characterisation of EU surface waters and sediments. The novel approach provided by the aquatic Biotic Ligand Model in water, and sulphide binding in sediments, which substantially reduces the scientific uncertainty of surface water and sediments risk characterisation, was accepted by the review panel. Similarly, novel soil research demonstrated the importance of bioavailability for the risk characterisation of copper in EU soils.

**Katrien Delbeke**  
Environmental Manager

**Thierry Gerschel**  
Regulatory Affairs Director

**Ilse Schoeters**  
Project Manager,  
Environmental Programme

Key information on copper and health was contained in the findings of the Free University of Berlin, whose research identified the positive effect of copper in combating Alzheimer's disease in mice. Another key finding by the Dutch research institute (KIWA) concerned copper's role in reducing the risk of Legionnaire's disease in water distribution systems.

The draft of the EU's New Chemicals Policy presents a key challenge to ECI and to the copper industry. Critical, metal-specific issues are the status of concentrates & ores, waste, alloys, intermediates and substances in products. ECI's comments were contributed to the Metals Forum and submitted by Eurometaux.

In 2003, a draft EU proposal for an Ambient Air Daughter Directive was issued by the EU Commission for discussion by the European Parliament and Council. ECI played a key role in coordinating all technical and socio-economic studies and in helping realistic measures to be incorporated into the proposal.



## EUROPEAN ACHIEVEMENTS



## Copper Benelux • Belgium, Luxembourg, The Netherlands

A key 2003 project was to analyse the recent motivations for the steadily increasing regulatory focus on copper environment and health issues. The analysis was used to tailor effective messages for key end users, such as architects and project designers. Messages were delivered through seminars, exhibitions, direct mailing and the web. The combination of the Forum for Enhanced Electrical Domestic Safety and the launch

of Belgian research, in association with Cablebel, resulted in a new alliance between electrical installers, distributors and the Belgian authorities. The Leonardo Power Quality Programme published new guides and organised several educational seminars. The brass programme achieved success through a substantial increase in visits to the expanded technically oriented website.



**Benoît Dôme**

## Centre d'Information du Cuivre • France

CICLA's activities were mainly focused on strengthening the impact of electricity programmes. In coordination with consumer associations, a strong lobbying programme was launched to support periodic inspection of domestic electrical installations. This could lead to a national regulation in 2004. The first modules of the LEONARDO Power Quality Initiative were disseminated

to an extensive number of subscribers and two seminars were organised with industrial partners. Copper's role in reducing the growth of legionella in water piping was well promoted, as was a new publication aimed at providing opinion leaders with an overview of copper's role in health and the environment.



**Olivier Tissot**

## Deutsches Kupferinstitut e.V. • Germany

DKI concentrated its main efforts on technical education and life cycle analysis. More than 6,000 copper plumbing training manuals were sent to 132 technical schools throughout Germany, supporting the European campaign's focus on young plumbers. A new "Copper Key" CD-ROM was produced, offering a comprehensive cross-reference guide for the many national standards for copper alloys. DKI became the European centre of

competence in life cycle activities. A thorough evaluation of the current life cycle inventory report acknowledged it as the most comprehensive and rigorous basis available today. In the field of general media relations, DKI achieved significant coverage, through its Copper Dinner activity, targeted at leading journalists, along with its direct media relations programme.



**Dr. Anton Klassert**

## Hellenic Copper Development Institute ● Greece

One year before the Olympic Games in Athens, HCIDI was particularly active in promoting copper in major construction projects against strong competition from alternative materials. Priority was given to education, with 100 seminars held to train 2,500 students in the correct installation of copper tubes. The HCIDI was successful in achieving the first national standard for

copper in the vertical risers in fire sprinkler systems. Architects were also targeted through various activities, including many seminars. The well-established Greek Copper Day, organised this year in Crete, attracted more than a thousand participants. A similar event, held for the first time in Cyprus - copper's native country - attracted more than 450 participants.



**Kostas Tsapras**

## Hungarian Copper Promotion Centre ● Hungary, Czech Republic and Slovakia

HCPC's promotional activities included events, trade press and direct mailings. More than 1,000 planners and installers attended seminars and training courses to be informed of copper's benefits in plumbing systems. Recent Czech Republic import statistics showed an 11% increase for copper tubes versus 2002. Communications were broadened with a 3-language

website also aimed at the general public. Hungarian and Czech versions of the Copperconcept website were promoted to architects. HCPC was a silver grade sponsor of the World Championship of Young Roofers in Hungary. The Leonardo Power Quality Initiative Programme was intensified, with materials distributed to professionals via the trade press and seminars.



**Robert Pinter**

## Istituto Italiano del Rame ● Italy

In 2003, IIR maintained its activities on education for architects and plumbers, with 19 training sessions and 23 meetings on bio housing. Presentations were made to 140 teachers and 1,400 students, through the launch of a new educational CD ROM. The "Living with Copper" exhibition successfully presented prototypes of copper furniture and was featured in leading magazines

such as Architectural Digest. IIR also obtained excellent media coverage in national press, radio and TV following the presentation of its domestic electrical safety survey in Milano, supported by the Ministry of Education. Lastly, IIR participated in the ECOMONDO Fair, which had a strong focus on the selection of products for sustainability in buildings.



**Vincenzo Loconsolo**

## Polish Copper Promotion Centre • Poland

PCPC's main activities were the Leonardo PQ Programme and participation in the KGHM Copper Days, with more than 4,000 attendees. A first conference on Power Quality was held in Krakow, attended by 1,200 delegates. Focused sessions were held to share experiences and compare different educational methods. LPQI distance learning and the LPQI website were tested by EU students. PCPC's



**Piotr Jurasz**

key 2003 success was the UN funding obtained for the Motor Programme. The Polish Efficient Motor Programme was formally launched at a signature ceremony in the UNDP's Warsaw office. Financed by the UN's Development Programme and the Global Environmental Facility, PEMP will invest over \$22 million in the Polish market over the next few years.

## Copper Development Association • Russia

In 2003, new memberships by Russian mining and semi-fabricating companies allowed ECI's Representative Office in Moscow to be upgraded into a full CDA. The new CDA has focused its activities on regulatory affairs, particularly in codes, standards and installation recommendations for plumbing and roofing. The mandatory re-wiring of existing aluminium domestic



**Vadim Ionov**

wiring installations is now part of the draft Moscow City Fire Prevention Act. CDA Russia has secured a regular presence in leading trade magazines. Moscow architects have accepted the concept of a safe, long-lasting and sustainable copper roof and copper has become one of the default materials for non-budget houses.

## Scandinavian Copper Development Association • Denmark, Finland and Sweden

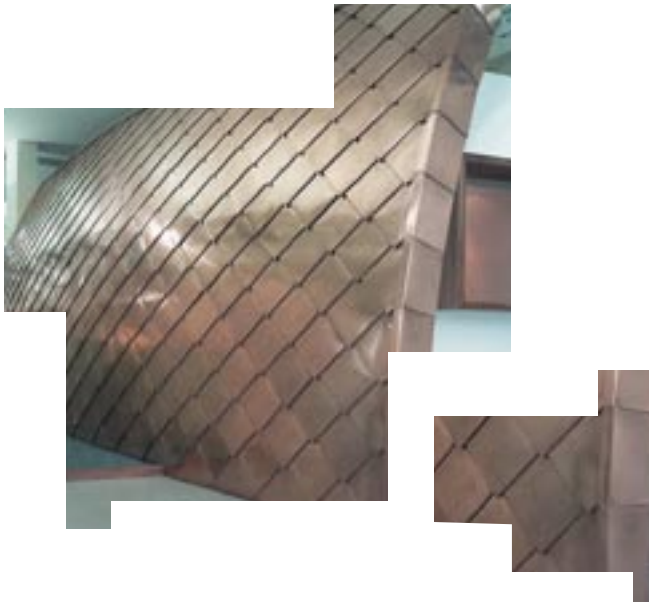
Despite a difficult political climate against metals, particularly in Stockholm, advocacy actions helped to keep open important markets for copper architectural products. SCDA continued with the general media communications programme launched in 2002, with significant results achieved in communicating copper's health and sustainable properties. SCDA participated in major exhibitions on health in Malmö



**Mariann Sundberg**

and on recycling in Stockholm. As a result of SCDA environmental representations, copper was removed from the Swedish Chemicals Inspectorate's list of persistent, bio accumulative and toxic substances. SCDA also contributed to an historical publication on "The Environmental History of the Falun Mine". This tells the story of 1,000 years of copper production at this UNESCO Heritage site.





## Centro Español de Información del Cobre • Spain - Portugal

In 2003, CEDIC continued its promotion of the Leonardo Power Quality Programme and the European Union's Motor Challenge Programme. Regulatory activities focused on improving the existing laws on Legionella prevention and control. CEDIC also ran an advertising campaign on copper piping's role in improving human health and a newsletter was launched. CEDIC organised a Wind Energy Tour for the media, aimed

at communicating copper's role in improving energy efficiency. This received very positive media coverage and was praised by a Spanish member of Parliament in the daily newspaper *Expansión* as a good example of how an industry can successfully integrate sustainable development into a communications programme.



**José Ramón Morales**

## Copper Development Association UK • The United Kingdom

CDA has maintained its position as a centre of excellence for the ECI electrical programmes, through its provision of editorial, technical and publishing leadership for the LPQI programme. LPQI activities have reached 10,000+ electrical engineers, with copper-intensive design messages through direct mail, accredited technical seminars and increased traffic to the LPQI website. The plumbing campaign has

increased contact with plumbing colleges, lecturers' organisations and industry bodies resulting in a 55% increase in student members of the campaign's loyalty scheme. The brass and copper-nickel alloy programmes have achieved important publicity with the placement of 'cupro-technology' articles and case studies in the leading engineering magazines on the benefits and properties of copper alloys.



**Angela Vessey**

## Financials

**Catherine Mantell**  
Supervisor



In 2003, ECI and its network of eleven national Copper Development Associations had an annual budget of 11.2 M\$. Two thirds of this was provided by the International Copper Association, with the remaining third provided by the European copper industry and other project partners.

In February 2003, the membership structure of ECI was changed. While the ICA remains a member of ECI, the role of the International Wrought Copper

Council, as a member, was replaced by direct company memberships across the refining/smeltering, semi-fabricating and downstream industries.

European CDA bylaws were changed by the local memberships, effective January 1<sup>st</sup> 2004. These reflect the closer integration of the activities and the financing of ECI and the eleven national CDAs under a stronger common voice to promote and defend copper and alloy markets across Europe.

### *2003 European Promotion Funds (K\$)*

|                          | ICA<br>Funding | Local<br>Co-Funding | Total  |
|--------------------------|----------------|---------------------|--------|
| Building Construction    | 2,436          | 1,132               | 3,568  |
| Industrial Applications  | 125            | 27                  | 152    |
| Electric & Electronics   | 1,232          | 732                 | 1,964  |
| Central & Eastern Europe | 985            | 652                 | 1,637  |
| Environment              | 724            | 0                   | 724    |
| Communications           | 400            | 0                   | 400    |
| Network Operations       | 1,587          | 1,157               | 2,744  |
| Total Funds              | 7,489          | 3,700               | 11,189 |





## ACCESSING THE WORLDWIDE NETWORK

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Francis Kane, ICA

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