



International Copper Study Group

Member Governments of the ICSG

Argentina	Belgium
Canada	Chile
China	European Union
Finland	France
Germany	Greece
India	Indonesia
Italy	Luxembourg
Mexico	Netherlands
Peru	Poland
Portugal	Russia
Serbia/Montenegro	Spain
United Kingdom	United States
Zambia	

Copper's Economic Contribution: Focus on the European Union

The ICSG Secretariat has initiated work to quantify the copper sector's contribution to national and regional economies. The 15 members of the European Union (EU) are the first major copper producing and using countries to be analysed for ICSG's Economic Database. The database includes variables, such as economic output, employment, and investment, by various stage of production: from exploration to manufacturing.

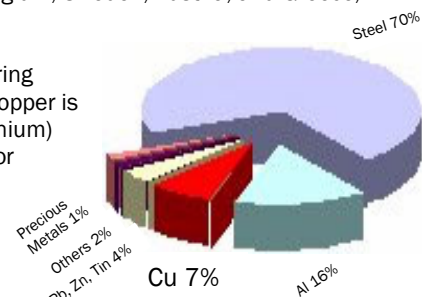
In the EU copper sector it is copper manufacturing industry (e.g. refining and semi-fabricating), that contributes the most to the economy, directly accounting for around 46,000 jobs. Most of this employment is in Germany (43%), followed by France (12%), Italy (12%), United Kingdom (11%), Spain (5%), Finland (4%), with 3% in each of Belgium, Sweden, Austria, and Greece, with the remainder spread across EU countries.

Copper contributes 7% of the overall metal manufacturing industry contribution to the EU GDP. Excluding steel, copper is the second highest contributor to the GDP (after aluminium) accounting for 23% of the total non ferrous metal sector contribution to the GDP.

Copper manufacturing contributes .14% of the total GDP for Finland, between .07 to .08% for Germany, with figures around .04% for each of Belgium, Greece, Austria, and Sweden. On an annual basis for the EU, copper manufacturing accounts for wealth creation of 3.2 billion euros, turnovers of 17.5 billion euros, and investment of 500 million euros. This does not include indirect benefits, which would significantly multiply copper's contribution to these economies.

To support its copper manufacturing, the EU depends on the import of copper concentrates (540,000 tonnes per year), refined copper (2.3 million tonnes per year), and scrap (447,000 tonnes per year). Overall the EU exports more value added copper products, than it imports. [Data for 2002].

The EU is home to some of the largest multinational copper companies, from mining to manufacturing. EU companies control around 20% of world mining capacity, 18% of refining capacity, 28% of semi-fabrication capacity, including 17% of cable world capacity.



Value added in the EU metal manufacturing industry (estimated share in 2000)

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ICSG Regional Roundtables

The Secretary General's first series of regional roundtables (Berlin, Brussels, Madrid and Washington,) with government representatives, producer and consumer industry representatives/associations, resulted in the following feedback:

1. Industry favours the Study Group's focus on copper specific issues and the impact of horizontal issues on the copper sector.
2. Products/activities valued: Forecast, reliability and consistency of data, monitoring and analysis of policies and regulations, economic analysis of copper sector.
3. Areas where industry recommends ICSG intensifies outputs:
 - Detailed trade data and analysis on

key products

- Material flow analysis
 - Transparency in copper scrap trade and usage, and end uses
 - Information in support of the economic contribution of the copper sector
 - Copper's contribution to sustainable development, innovation, trade and investment, climate change
4. Information regarding technological processes, new trends in technology, exploitation and reserves is of particular interest to developing and least developed countries.
 5. Fair competition is an issue for several regions and sectors.

ICSG at Metal Bulletin 2003 Conference

The Secretary General joined keynote speakers at Metal Bulletin's Copper 2003 Conference in Portugal, to present Trends in Copper Supply and Demand in Today's Environment. Over 125 participants attended the conference.

The presentation traced shifts in mined copper, refined production, copper usage and intensity of use, on a regional basis, and within the context of the global environment in which the copper sector operates. Also addressed were short and long term factors likely to affect the structure of world copper supply/demand; China's role as the largest user of copper; the emergence of India, and changes in Russia. To obtain a copy of the presentation contact the ICSG Secretariat at mail@icsg.org.



ICSG Info Circulars

The ICSG monitors and analyses international and regional issues which may affect the copper sector. ICSG publishes its findings in Info Circulars, distributed to members. Extracts from recent Info Circulars are published in InFocus.

Waste Electric and Electronic Equipment (WEEE) (May 2003)

European Union: The fastest growing waste stream in the EU is electrical and electronic equipment, constituting around 3 to 5% of municipal waste and the largest known source of heavy metals (lead, cadmium, mercury) and organic pollutants in municipal waste. The WEEE generation per capita is believed to be about 12 to 20 kg/year. In 1997 non-ferrous metals (including precious metals) represented approximately 13% of the total WEEE. Based on ICSG estimates, with 6.8 to 7.3% of copper content in WEEE waste, the theoretical copper scrap availability amounts to around 450,000 to 500,000 tonnes (year 2000), of which about 160,000 (1997 most recent estimate) tonnes was recycled. The remainder is likely exported, contained in other recycling product fractions, stockpiled, set aside and/or disposed.

The European Commission adopted on 13 February 2003 a Directive on Waste Electrical and Electronic Equipment, with member state transposition scheduled for 13 August 2004, producer responsibility implementation for 13 August 2005, and recycling targets for 31 December 2006. The WEEE Directive seeks to establish separate collection and recycling systems for WEEE; implement the principle of producer responsibility for collection, treatment, recovery and disposal; guarantee free take back of WEEE from consumers; achieve collection target for private households of 4 kg WEEE per person per year, and achieve recovery/recycling targets according to the type of WEEE of 65% to 80%.

The ICSG Info Circular lists existing and "in process" regulations and initiatives pertaining to WEEE for EU and European Free Trade Association (EFTA) countries.

Brazil: A recent proposal aims to amend the existing battery take-back regulation to include domestic electric and electronic products.

Japan: The Law for Recycling of Specified Kinds of Consumer Electronic Goods requires industry to establish a take-back scheme for White Goods and TV sets. An extension to cover IT equipment is anticipated, with financing based on end-user fees.

Taipei (China): Amendments to the Waste Disposal Act requires importers and manufacturers of certain electronic products to pay recycling fees to finance collection and recycling. To date, the amendments target large household appliances, televisions and computers.

US: A broad range of state, regional and voluntary industry initiatives exist or are underway, but there is no nation-wide WEEE regulation.

Initiatives Dealing with Transparency of Payments in the Extractive Industries (February 2003)

A series of emerging international initiatives call for the disclosure of payments from extractive industries to governments. Several alternative approaches for implementing transparency guidelines are being discussed:

- Broad multi-stakeholder approach versus unilateral government and/or industry approach
- The choice between a voluntary versus a mandatory approach
- Focus solely on the extractive industry versus a broad approach including other sectors
- Focus solely on economic contribution versus broad sustainable development approach
- Definition of relationships among ongoing initiatives to avoid overlapping and duplication.

The "Publish What You Pay" initiative (PWYP) is a coalition of 60 NGOs calling for the mandatory disclosure of net payments made to national governments by oil, mining and gas companies in every country of operation ("revenue transparency") in order to promote the financial accountability of governments relating to extractive industries.

The "Extractive Industries Transparency Initiative" (EITI) was announced by UK Prime Minister Tony Blair at the World Summit on Sustainable Development in Johannesburg. Its aim is to increase transparency in payments by companies in the mining, oil and gas sectors to governments and government-linked entities, and transparency in revenues received by governments.

Some organizations (particularly NGOs) regard the World Bank Group (WBG) to be a key driver for improving transparency of payments in developing countries. Recognising this, the NGO "Global Witness" has provided input to the World Bank's Extractive Industries Review (EIR) suggesting to pick up on the ideas laid out in the PWYP. It is possible that one of the EIR's outcomes could be the recognition that the World Bank Group is a unique body for establishing itself as the leading 'clearing house' for revenue information and for building and maintaining civil society's capacity to call governments to account over the management of resource revenues.

In June 2003, the Group of Eight Summit included in its final communiqué a recommendation in line with EITI to introduce a voluntary code to improve transparency and reduce corruption.

The ICSG Info Circular on Initiatives Dealing with Transparency of Payments in the Extractive Industries provides an overview of these initiatives and how they could affect ICSG member countries and their sectors.

Update: Survey of Regulations Affecting Copper-Bearing Products

ICSG's latest flagship publication: "Survey of Regulations Affecting Copper-Bearing Products" provides an overview of regulations and initiatives affecting copper-bearing products on a worldwide scale and is published bi-annually. The ICSG Secretariat monitors government policies and regulations across 30 countries, including the European Commission. Key issues emerging:

- 1) *Waste Electric & Electronic Equipment (WEEE)*: (featured on page 2 under ICSG Info Circulars).
- 2) *EU End-of-Life Vehicles Directive*: To date Austria, Denmark, Germany, The Netherlands, Spain, Sweden and Portugal have introduced the requirements of the EU Directive. Assuming 10 millions cars are recycled annually in the EU, this provides a theoretical copper scrap availability of 150,000 tonnes per year.
- 3) *Trade of End-of-Life Vehicles*: According to the Institute of Scrap Recycling Industries, ISRI, China may increase the waste threshold for the import of crushed cars for recycling. This may significantly increase imports from Northern America due to low Chinese hand-sorting costs, versus costly mechanical and automated sorting in North America.
- 4) *Environmentally Sound Management of End-of-Life Mobile Phones*: Major mobile phone manufacturers have signed a declaration addressing issues related to the recovery of end-of-life mobile phones. This is the first initiative to be developed between governments and companies under the framework of the Basel Convention. The global theoretical scrap availability contained in this product category amounts to about 300,000 tonnes of copper per year.
- 5) *EU New Chemicals Policy*: A consultation document concerning Registration, Evaluation, Authorisation and Restrictions of Chemicals (REACH) was issued. To date, copper and its related products have not been listed as priority substances. However, to respond actively to these challenges, the European copper industry is conducting a voluntary risk assessment for copper products. Products under potential threat may include among others, applications such as, copper plumbing tube, copper roofing, copper powders and some copper compounds in dissipative

uses.

- 6) *US Electronics Product Stewardship Initiatives*: A number of significant voluntary initiatives and regulatory proposals have emerged in the US to tackle the challenges associated with recycling of waste electric and electronic equipment. It is estimated that there are 300,000 tonnes of copper per year in US WEEE, and that 80% (unconfirmed estimate) of WEEE is exported to Asian countries.

The most prominent US recycling initiatives are:

- a. *Product Stewardship Institute at University of Massachusetts/Lowell (PSI)*: Principles cover themes such as Responsibility, Internalization of Costs, Incentives for cleaner products and sustainable management practices, Flexible management strategies, and Roles and Relationships.
- b. *National Electronics Product Stewardship Initiative (NEPSI)*: In the context of the forum sponsored by the Product Stewardship Institute, a draft Product Stewardship Action Plan for Discarded Electronics has been developed as a starting point for discussion with government.
- c. *US Congress*: A bill introduced to US Congress in 2003 (HR 1165) calls for the establishment of a national infrastructure for recycling of computers and monitors. Furthermore, the bill proposes measures, such as, EPA grant programs for organisations who follow environmentally sound techniques, recycling fees on retail sale, further investigation of EPA on WEEE challenges, and identification of incentives for promoting take-back of waste computers by computer manufacturers.
- d. *State Initiatives*: A series of bills for tackling WEEE were proposed in various US states.
- e. *NGO approaches*: In contrast to governmental and industry initiatives, NGO "model legislation" in the US call for national approaches in line with the recently published WEEE Directive of the European Union including calls for producer responsibility, collection and reuse targets, labelling and export ban of WEEE containing hazardous substance, and phase out of hazardous substances in electronics.

Sustainable Development Overview

ICSG's Environmental Affairs Officer was invited in May 2003 to address "Product Stewardship and the Reporting Practice in the Copper Industry", at the "Sustainable Development Indicators in the Mineral Industries Conference" organized under the auspices of the Hellenic Ministry for the Environment, Physical Planning and Public Works, Greece.

ICSG presented the results of its internet survey of existing environmental and social reporting practice in the copper mining, smelting, refining and fabricating industry, with particular emphasis on products and product performance over the lifecycle. The survey findings indicated that consideration may be given to:

- increase credibility and acceptance of reports through increased stakeholder dialogue, comparability of reports and use of objective appraisal of performance;
- increase the use of measurable indicators to assess product performance using a lifecycle approach that considers benefits and activities;
- extend content of corporate reports through reporting on product stewardship policies, principles, objectives and activities;
- increase coverage of reporting by small and medium enterprises by providing exemplary policies and guidelines.

ICSG also presented the principles and criteria it helped develop, through the Non-Ferrous Metals Consultative Forum on Sustainable Development, to facilitate voluntary product stewardship. The principles covered five themes of stewardship: governance, information, and communication, product design, recycling, and research and knowledge base. The criteria are indicative, and show how principles are capable of being translated into measurable indicators for progress.

The Conference dealt with concepts to develop sustainable development indicators for the mining industry. The conference concluded by raising several questions:

1. Will there be a voluntary exercise like the ISO auditing scheme, or an authorized, or even governmental body imposing

Regulations Affecting Copper Bearing Products: EU Building Construction Case Study

The objective of this ICSG study was to identify the impact on product use as a result of new regulations. A draft indicator set for measuring the potential regulatory impact on copper use was developed. Impact on market structure, competitiveness, international trade, social issues, and environment issues were assessed by lifecycle stage. However, the proposed indicators can only lead to a preliminary assessment and identification of issues, and should be complemented by consideration of regional, product and sector specific issues.

Three regulations were targeted. In the following, the key issues affecting copper use are summarised.

1. *Product Design:* EU Harmonised Product Standards for Environmental Product Declarations and Building Assessment (under consideration in the European Commission DG Enterprise – Construction Unit)

- The inclusion of water quality criteria in product and building assessment tools such as heavy metal content may restrict the use of copper plumbing and roofing due to public procurement considerations and material choice of end users.
- To carry out lifecycle assessments (LCAs) of building products, generic data for building materials such as copper will need to be provided for metals and/or semi-fabricated products.
- For copper, it has to be assured that any assessment considers the use phase appropriately as many of the environmental benefits and challenges are associated with the use of the product.

2. *Product use:* German Action Plan for Sustainable Water Management (Action plan as proposed in a study commissioned by the Environmental Federal Agency in Germany)

- The proposed measure in the Action Plan may affect

future copper usage in Germany through:

- Promoting use of polyethylene, polypropylene and stainless steel plumbing tubes versus zinc-coated steel pipes and copper tube
- Discouraging use of copper tubes for supply of drinking water from domestic fountains
- Discouraging use of lead, zinc and copper as outdoor construction materials including roofing
- Informing architects, construction companies, plumbers and consumers on competitive and health advantages of alternative materials such as plastic, aluminium and stainless steel

- Whether the proposed measures will be accepted has yet to be announced. The recently released Strategy paper on “Sustainable Water Supply Germany” recommends the reduction of inflows of nutritious and hazardous substances without presenting detailed measures on sectors or applications.

3. *Product End-of-life management:* Working Document Management of Construction and Demolition Waste (under consideration in DG Environment addressing construction & demolition waste as priority waste stream)

- Limit use of dangerous substances (e.g. lead, cadmium, mercury)
- Promote re-use of heating, ventilation and air-conditioning equipment
- Restrict or ban the landfill of construction and demolition waste
- Demands selective dismantling and waste sorting in the light of the techniques available and of the local recovery system
- Establishes target recovery figures
- Demands public procurement policy for promoting use of recycled materials and products.

Profile of Indonesia's Copper Sector

Copper is a highly competitive industry, leading to frequent changes in the copper industry structure of some countries. ICSG is developing copper sector country profiles to better understand changes in terms of their scope and consequences. Here are some highlights of ICSG's most recent country profile.

Indonesia is the fourth most populated country in the world with 217 million persons, and a GDP per capita (at purchasing power parity) of US \$3,180 (2001). In 2000 mining contributed 13% to its GDP. Indonesia became the world's second largest copper mining country in 2002. About 21,000 persons are directly employed in Indonesia's copper mining and manufacturing industry.

Indonesia was one of the largest recipients of foreign direct investment during the 1990's, with American companies investing in copper mines, and Japanese companies in copper refining and fabrication, largely dominating the investment flows in the Indonesian copper sector. (Namely Freeport and Newmont from the USA, and Sumitomo, Furukawa and Showa Electric from Japan).

Indonesian refined copper usage has increased strongly since

1983 reaching 155,000 tonnes per year in 2002, with intensity of use exceeding 800 kg per million \$GDP, compared to the world average of near 500 kg per million \$GDP (2002). So far copper usage in Indonesia is mainly limited to producing wire rod, which is then processed into wire and cable. Additional growth would require the emergence of more semi fabricators in the region. Due to the transition of population from rural to urban areas (see ICSG's Info Circular “Trends in Development and Energy”), an expected additional 60 million people living in Indonesian cities by 2020 could fuel higher copper usage through urban development. However a “threshold income level” must be attained to launch domestic driven copper usage in Indonesia.

The 1997 Asian economic crisis strongly affected Indonesia. Until the reform process is concluded, new significant growth in Indonesian copper production and usage is unlikely.

Indonesia has attracted the interest of NGO's over the years. Due to the location and geography of Indonesia in terms of high and valuable vegetation, abrupt landscape, and cultural environment, copper mining is conducted under challenging conditions. The way in which sustainable development challenges are addressed in Indonesia certainly serves as an example worldwide.



(continued from page 3)

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Forward Agenda

16-18 June 2003

11th ICSG General Session, including "Copper in India" Seminar (16/06), Lisbon, Portugal

10-12 September 2003

Workshop: Enhancing Metals Recycling in Emerging Markets, St. Petersburg, Russia

18-19 November 2003

ICSG 22nd Regular Session, Lisbon, Portugal

30 November to 3 December 2003, Cobre/Copper 2003, Santiago, Chile

- mandatory sustainability reporting on companies? Who would be the auditors?
- How far does one have to carry the assessment? Will the scope be limited to mining and processing over the life of the operation, or will assessments be required throughout the product lifecycle, or become fully holistic with both approaches being applied?
- Reliability and comparability of data in different sectors of the extractive industry and between different countries is vital. Standardization will become important and necessary. Very little so far has been said of acquisition and availability of data of relevant quality.
- Do the target groups have confidence in the presented indicators and the supporting data? Will there be a legal body to certify the credibility of such reports? Who is going to be in charge of this institution? How can communities of interest become engaged in this process?
- Depending on the sector and size of the industry, there are examples of very good reporting, but others lag behind. There are some in the profession who do not have the same depth of knowledge. In addition we have to intensify communication with individuals from the biological, social and geo-sciences.
- How can we implement the idea of sustainability into our daily work? How can we improve management practices in the sense of sustainability without losing the view for the operational profit? How can SMEs handle the issue of sustainability?

These questions are indicative of the issues confronting stakeholders and interested parties.

Enhancing Metals Recycling in Emerging Markets

The workshop will be held in St. Petersburg, Russia, 10-12 September 2003. The workshop objective is to identify issues and outline possible solutions towards the development of national and international policies or strategies to encourage the sustainable management of recoverable metal-bearing materials and resources. For further information and registration contact Martin Ruhrberg (ruhrberg@icsg.org).



ICSG Publications: ICSG is dedicated to increasing market transparency, researching and publishing intelligence relevant to copper production, usage and trade. The following publications are available in PDF and/or printed format. For details on obtaining copies, or for subscription information contact Ms. Fatima Cascalho (cascalho@icsg.org).

Directories:

Copper Bulletin (monthly PDF): Provides the very latest statistics on copper and copper products production, usage and trade by country. Also includes stocks and exchange prices.

Directory of Copper Mines and Plants (quarterly PDF): Highlights current capacity and provides a five year outlook of forecasted capacity for the world's copper mines, plants and refineries, by country.

Other Publications

Survey of Regulations Affecting Copper-Bearing Products: An analysis of regulatory trends, including list of regulations for 30 countries for major end use products, showing first use and lifecycle step affected.

Surveys of Environmental and Social Reporting Practice: 1. Copper Mining, Smelting and Refining Industry Survey; 2. Copper Fabricating Industry Survey: These surveys (internet-based, baseline 2000 data, Western countries) highlight achievements of industry and establish a baseline for future benchmarking in relation to sustainable development.

Economic Overview for the European Union Copper Sector

ICSG Country Profile: Indonesia

Case Study of Regulatory Impacts on Copper

Use in Building Construction within the European Union

Reporting on Product Stewardship in the Copper Industry (ICSG Paper for SDIMI 2003)

World Copper Factbook (1999): Provides a broad overview of all facets of copper: from how it is produced, traded, used and recycled, to health, environmental and sustainable development issues.

ICSG Info Circulars:

- Waste Electric and Electronic Equipment (WEEE)
- Initiatives Dealing with Transparency of Payments in the Extractive Industries
- Indonesia's Mining Experience 1990-2002
- World Summit on Sustainable Development: Impact on Copper Sector
- UNCTAD 2002: Trends on the Most Dynamic Products on World Exports
- Trends in Development and Energy
- World Bank Extractive Review
- How are E-Marketplaces Changing the Copper Industry Supply Chain Infrastructure? (November 2000)

Also available are various market research reports, proceedings of ICSG World Conferences and Seminars, and custom data sets.