



Metals Despatch

Newsletter of the International Metals Study Groups

July 2012, Issue No. 13

LEAD AND ZINC FORECAST

The outlook for World supply and demand for lead and zinc was presented during the ILZSG Spring 2012 meeting held in Lisbon on 25 April 2012. Highlights include:

- **The global usage of refined lead metal** is expected to increase by 4.8% to 10.78 million tonnes in 2012. It is anticipated that Chinese lead demand will increase by 7.3% this year. Growth is forecast in other Asian countries, notably India, Japan, Republic of Korea, Thailand and Vietnam. Demand in Europe is expected to fall by 0.7% in 2012. In the United States usage is forecast to be at a similar level to that in 2011.
- **Global lead mine production** is forecast to increase by 4.9 % to 4.88 million tonnes in 2012 mainly due to China where production is expected to reach 2.54 million tonnes, accounting for 52% of world output.
- **Global production of refined lead metal** in 2012 is expected to increase by 4.4% to 10.9 million tonnes, particularly as a consequence of higher production in Europe particularly from Belgium, Sweden and the UK. Higher output is also forecast in Canada, China, India, Japan, Kazakhstan, Republic of Korea and the United States.
- It is expected that the global supply of refined lead metal will exceed demand by 114,000 tonnes in 2012.
- **Global zinc usage** is forecast to rise by 4.4% in 2012 to 13.41 million tonnes. Chinese demand is expected to grow 7% as the economy grows at a somewhat slower rate. Demand in Europe is expected to remain at a similar level to the previous year, while usage is anticipated to rise 5.1% in the United States. Usage in Japan is forecast to increase by 7.2% as a consequence of reconstruction following the earthquake in 2011.
- **Global zinc mine output** is forecast to increase by 3.9% to 13.45 million tonnes in 2012, with higher output in Australia, China, Finland, India, Kazakhstan, Peru, Portugal, the Russian Federation and Uzbekistan.
- **Global refined zinc production** is forecast to rise 4.4% to 13.66 million tonnes in 2012, driven primarily by increases in Asia. Production is expected to increase in China, Uzbekistan, Republic of Korea, India and Japan.
- The latest **forecasts** indicate the global refined zinc market will be in surplus for the sixth successive year with the supply of refined zinc metal exceeding demand by 249,000 tonnes in 2012.

For further details of the outcomes of the ILZSG meetings or questions on the market outlook please email Paul White at paul_white@ilzsg.org

NEXT STUDY GROUPS' MEETING DATES

The dates for the next International Study Groups' meetings are:

ICSG: 8-9 October 2012, Lisbon, Portugal
INSG: 8-10 October 2012, Lisbon, Portugal
ILZSG: 11-12 October 2012, Lisbon, Portugal

Joint Study Groups' Seminar 2:00 pm on 10 October 2012: "The Growing Importance of Mining and Metals in India" Lisbon, Portugal

ICSG: Industry Advisory Panel, London, 18 October 2012

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COPPER FORECAST

At the 38th Regular Meeting of the International Copper Study Group Statistical Committee in Lisbon on 26-27 April 2012 member countries reviewed their current outlook for trends in World supply and demand for copper during 2012 and 2013 and issued the following forecast:

- Global refined copper usage is forecast to increase by 2.5% in 2012 to 20.4 million tonnes (Mt) as apparent usage is expected to increase in most markets apart from Europe and Africa. World copper usage is expected to increase by a further 3.9% in 2013 to 21.2 Mt.
- Global copper mine production is expected to rise 5.1% in 2012 to 16.8 Mt as capacity ramps up and mine output is forecast to increase 7.6% in 2013 to 18.1 Mt.
- Global refined copper metal production in 2012 is predicted to increase by 2.5% to 20.1 Mt and to expand 6.9% in 2013 to 21.5 Mt with improved concentrate availability.
- ICSG anticipates that the refined copper market balance could show a deficit in 2012 of around 237,000 tonnes and a surplus of around 360,000 tonnes in 2013.

For further details of the outcomes of the ICSG meetings or questions on the market outlook please e-mail ICSG Chief Statistician Ana Rebelo at rebelo@icsg.org



Copper Tube

NICKEL FORECAST

The International Nickel Study Group (INSG) met on 23 and 24 April 2012 in Lisbon and reviewed the current outlook and trends in World nickel supply and demand. The following forecast was issued:

- Global **primary nickel usage** was 1.48 Mt in 2010 and increased to 1.57 Mt in 2011. For 2012 an increase to around 1.64 Mt is expected.
- World **primary refined nickel production** was 1.45 Mt in 2010, and increased to 1.60 Mt in 2011. With new capacity coming into production, 2012 production could increase to 1.69 Mt. The 2012 figure does not include any adjustment factor for possible production disruptions.
- INSG members also discussed **market trends** including the impact of recycled nickel units and Chinese nickel pig iron production. It was noted that nickel demand and usage was strong in the first part of 2012, with high production of stainless steel and good demand for primary as well as recycled nickel products.

INSG recognizes the significant impact of the current financial, economic and political uncertainty in many parts of the world. The effects of the above on both the supply and demand for nickel are not fully known. The Study Group cautions that future market developments could alter the forward-looking market balance.

For further details of the outcomes of the INSG meetings or questions on the market outlook please email Sven Tollin at sven.tollin@insg.org

JOINT STUDY GROUPS' SEMINAR

A Joint Seminar on "How Society Benefits from Mining and Metals Production" was held on 25 April 2012 in Lisbon through the combined efforts of the International Lead and Zinc Study Group (ILZSG), the International Copper Study Group (ICSG) and the International Nickel Study Group (INSG). The seminar was chaired by Mr. Salim Bhabhrwala (United States).

The Seminar opened with a Keynote Presentation by Dr. John Atherton, Senior Program Director, International Council on Mining and Metals (ICMM). Dr. Atherton cited case studies showing that mining often generates large benefits at the national level but benefits at the local level are more limited. At the same time, the local level suffers the largest negative impacts in terms of in-migration, environmental impacts, resettlement and other disruptions. Mining projects often involve a complex set of overlapping interests, with participants including governments, civil society and communities, drawn together because of mining activity.

Industry presentations were provided by Mr. Peter Kaumanns, of the International Stainless Steel Forum, who spoke on “Stainless Steel – A Cost Saver for Society and Environment”; Mr. Mark Mistry, EU Director for Sustainability at the Nickel Institute, gave a presentation on “Societal Benefits from Mining and Metallurgy: Nickel Example”; Mr. Tony Lea, Senior Vice President, International Copper Association, spoke on the wide range of copper applications, copper’s role in delivering societal benefits, how the industry is investing in local communities and plans for the Copper Foundation; Mr. Frank van Assche, Director of European Affairs at the International Zinc Association, presented “Zinc...Essential for Life”, emphasizing that zinc is used in products all around us and has health benefits as well; and Dr. Andy Bush, Executive Director of the International Lead Association made a presentation on “Societal Benefits of Mining and Metals: The Case for Lead”, noting its application in batteries used in road transport, air and sea transport, infrastructure protection and backup energy storage.

Presentations from governments were delivered by Mr. Chris Stamford, General Manager, Department of Resources, Energy and Tourism, Australia; Mr. Tom Dodd, CSR Team, Enterprise and Industry Directorate, European Commission, for the EU ; and Mr. Alfredo Franco, representing the General Directorate for Energy and Geology, Ministry of Economy and Innovation, Portugal.

In summing up, the Chairman noted that the seminar had highlighted the specific benefits to society that each of the metals makes as well as the overall benefits stemming from the mining and metals sector. He commented that the seminar had shown there was more work to do and more questions to answer with regard to how best allow our societies, governments and industries to share equally in the benefits from mining and metals.

For further details of work underway in the Study Groups please email paul.white@ilzsg.org (for lead and zinc), curtis.stewart@ilzsg.org (for nickel) and rebelo@icsg.org (for copper). The presentations given at the Seminar may be viewed by visiting: <http://www.ilzsg.org/static/home.aspx> and clicking on the ‘Presentations’ tab.

INSG MEETING 23-24 APRIL 2012

Delegates from INSG member countries, industry and observing countries/organisations met in Lisbon 23-24 April to review statistical, economic and environmental issues related to nickel.

Delegates reviewed the INSG primary nickel market statistics in detail, and discussed the market forecast, which was prepared by the secretariat based on

information provided by governments and industry. Details of the forecasts are provided on page 2.

The INSG Environmental and Economics Committee received presentations on topics related to environmental regulation and international policy initiatives that may affect nickel. Mr Peter Willis of Oakdene Hollins made a presentation on the draft report “Study of By-Products of Copper, Lead, Zinc and Nickel” with a focus on nickel. Ms. France Capon, Senior Advisor, Chemicals Management at the Nickel Institute, provided details of the impact of REACH on the nickel industry. Ms. Mariana Abrantes de Sousa, Financial Consultant at PPP Lusofonia, delivered a presentation on “Mining Trade and Project Finance in the Current Economic Crisis”. Mr. Paul Anciaux of the European Commission, Enterprise Directorate, outlined the EU’s new European Innovation Partnership on Raw Materials, which will cover innovation along the entire value chain from exploration through extraction to recycling.

The Statistics Committee reviewed the latest statistical data, and also received valuable input to its work through a series of presentations and discussions. Mr. Austin Brown, Portfolio Manager at Caxton UK, presented a paper on “Non Fundamental Factors in Nickel Pricing”. Mr. Peter Kaumanns of ISSF provided a presentation on global stainless steel markets. The Chief Statistician delivered a presentation from SMM of China on the “China Nickel Pig Iron Market Study” which had been contracted by INSG.

The INSG Industry Advisory Panel, comprised of representatives from the world’s nickel producing, using and recycling industries, once again provided valuable input on the Study Group’s work program priorities. The Panel heard from Mr. Nikhil Shah, Senior Analyst at CRU UK, who provided a presentation on “Nickel Supply and Demand in 2012 and 2013”. Mr. Heinz Pariser, Managing Director of Heinz H. Pariser Alloy Metals & Steel Market Research, Germany, spoke on the latest trends in the stainless steel and stainless steel scrap markets, and looked specifically at internal stainless steel scrap recycling.

Copies of the presentations are available on the INSG website www.insg.org

ILZSG SPRING MEETING, LISBON 2012

The International Lead and Zinc Study Group held its Spring meeting in Lisbon on 25 April 2012. The Head of Statistics and Forecasting presented a review of the current outlook for World supply and demand (See details on page 1). Meetings of the Standing Committee, Economic and Environment Committee and the ILZSG Industry Advisory Panel were held.

The Industry Advisory Panel meeting on 25 April provided an opportunity for an exchange of information between members and industry on the latest developments in the lead and zinc market. A presentation was made on "Prospects for Lead and Zinc Mine Output in Portugal" by Mr. Luis Martins, Director, Directorate General for Energy and Geology, Ministry of Economy and Innovation, Portugal. This was followed by a presentation on "Calculating Metal Recycling Rates Based on Material Flow Analysis" by Ms. Barbara Reck, Associate Research Scientist, School of Forestry and Environmental Studies, Centre for Industrial Ecology, Yale University, United States. Copies of the presentations are available on the ILZSG website.

The Study Group's Economic and Environment Committee met on 25 April. Mr. Peter Willis of Oakdene Hollins in the UK gave a presentation on the draft report of the joint Study Group project "Study of By-Products of Copper, Lead, Zinc and Nickel" being undertaken by Oakdene Hollins on behalf of the Study Groups. Mr. Brian Wilson, Manager at the International Lead Management Center, spoke on ILMC's work on the promotion of environmentally sound management of lead acid batteries in Africa and Central America. Copies of the presentations are available on the ILZSG website www.ilzsg.org.

ICSG WELCOMES IRAN AND ZAMBIA TO THE GROUP!

The International Copper Study Group welcomes two new members. Iran had previously attended ICSG meetings as an observer, and in April 2012 attended as a member for the first time.



Zambia, one of the largest producers of copper in Africa, rejoins ICSG.



ICSG welcomes Iran and Zambia!

ICSG CONVENES 38th REGULAR MEETING

Over 60 representatives from ICSG member governments and companies, observer governments and organizations attended the International Copper Study Group's 38th Regular Meeting at ICSG Headquarters in Lisbon on 26-27 April 2012. Meetings were held of the Environmental and Economic Committee (EEC), Statistical Committee, Industry Advisory Panel, Finance Committee and Standing Committee, followed by a Plenary Session.

At the EEC meeting ICSG staff presented the final reports of the survey of 95 Chinese semi-fabricators and the scrap supply surveys for NAFTA and China, as well as the 2012 edition of the ICSG Global Recyclables Survey. Mr. Simon Gloeser from the Fraunhofer Institute introduced ICA new global copper flow model that utilises data from ICSG. A presentation from Mr. Paul Settles from CRU highlighted the view that refined copper consumption will continue to be driven by China and other developing countries in the next five years. Mr. Philip Radbourne from Integer Research gave a presentation on the global wire and cable industry and its links to refined copper demand. Mr. Peter Willis of Oakdene Hollins made a presentation on the draft report "Study of By-products of Copper, Lead, Zinc and Nickel" that his company is undertaking on behalf of ICSG, ILZSG and INSG. The ICSG Head of Economics and Environment presented some findings from secretariat work on "EU-27 Copper Use and Trade Linkages with the Rest of the World".

At the Statistical Committee meeting the topic of growth in mine supply and the ability of producers to bring new copper supply on stream to meet future demand was addressed. Mr. Juan Cristobal Ciudad outlined Codelco's plans to expand capacity in Chile through to 2021. Mr. Alfonso Martinez, Mexican Geological Survey, outlined investments that could boost Mexico's production by 2015, and Mr. Tambwe, DRC Ministry of Mines, described DCR's extensive reserves that could enable production to exceed 1.4Mt/yr in the near future. Mr. O'Sullivan from Nautilus Minerals outlined the geologic and technical feasibility of their first-of-a-kind undersea extraction of massive sulphide material. These

presentations were complemented by a presentation by Mr. Allotey Odunton, Secretary-General of the International Seabed Authority (ISA), on progress in developing exploration regimes and mining licenses in international waters; a presentation by Ms. Xiao Fu, Deutsche Bank, who outlined the expected need for 11 Mt of new capacity by 2025 to meet an expected annual demand growth rate of 3%; a presentation by Ms Ana Rebelo, ICSG Chief Statistician, outlining the importance of emerging countries in copper mining supply; and a presentation by Ms Susanna Keung, ICSG Statistical Analyst/Economist, on the Zambian copper industry. Mr. Masato KOIE, Deputy Director of METI, reviewed the impact that the March 2011 earthquake and tsunami had on Japan's copper production and consumption. Mr. Ardeshir Mohammadi, Managing Director of Nicico, gave a detailed presentation on Iran's numerous planned projects and expansions that will significantly increase copper production in the country.

Presentations may be viewed at ICSG's web site www.icsg.org

ICSG PRESENTS AT METAL BULLETIN COPPER RECYCLING CONFERENCE IN BRUSSELS

At the Metal Bulletin Copper Recycling Conference, held in Brussels, Belgium on 13-15 May, ICSG Head of Economics and Environment, Mr. Carlos Risopatron, delivered a presentation entitled "Global Copper Scrap Flows: Where From, Where To, and How Much?" and participated in a field trip to Metallo-Chemique copper recycling facilities in Belgium.

ICSG ATTENDS IWCC MEETING

In May, the Secretary-General, Mr. Don Smale and ICSG Chief Statistician, Ms. Ana Rebelo represented the Study Group at the 59th International Wrought Copper Council (IWCC) Annual Meeting in Phoenix, U.S. involving both upstream copper producers and downstream users.

ICSG PRESENT IN CHILE CESCO WEEK 2012 AND CRU COPPER CONFERENCE

ICSG Statistical Analyst/Economist Ms. Susanna Keung attended CESCO Week 2012 in Santiago, Chile on 16-18 April 2012 and presented at a roundtable on copper scrap recycling at CRU Copper Conference. She also visited the Chilean Copper Commission offices in Santiago and met with industry representatives.

INSG IN NICKEL LIFE CYCLE TOUR

Mr. Don Smale, Secretary-General of the Study Groups, took part in the Nickel Life Cycle Tour sponsored by the Nickel Institute in Finland 18-19 June 2012. The tour highlighted the production and processing of nickel from the mine, through smelting

and refining and on to the retail level and end users. This initiative of the Nickel Institute aims to improve communications and understanding between governments and industry.

SECRETARY-GENERAL ADDRESSES ASIA PACIFIC ECONOMIC COOPERATION (APEC) MINING MINISTERS' MEETING

The Secretary-General addressed the 4th meeting of Ministers Responsible for Mining in the APEC region held in St. Petersburg, Russian Federation, on 27-28 June. The Russian Federation is the chair of APEC in 2012. The Secretary-General also participated in a panel discussion of regulatory aspects of the nickel industry held during an APEC Mining and Metals Seminar on 26 June.

MINING JOURNAL PUBLISHES INSG ARTICLE

INSG staff collaborated in writing an article on the world nickel market in 2011 and the outlook for 2012. The article was published in the 29 June 2012 edition of Mining Journal under the title 'Nickel: A Record Harvest'. The secretariat has distributed copies to all INSG member country delegations.

TRENDS IN GLOBAL ZINC MINE SUPPLY

ILZSG's Head of Forecasting and Statistics, Mr. Paul White, presented papers discussing the outlook for global zinc mine supply at the IZA's 2012 International Zinc Conference held in Palm Springs, USA, from 19 to 21 February and at Metal Bulletin's 16th Zinc and its Markets Seminar held in Milan, Italy, from 11 to 13 April.

The papers included a detailed assessment of new projects that were either currently committed or under consideration and discussed the possible impact of the expected closure of several large mines in the next 2-3 years. Copies of the papers are available from the Secretariat at paul.white@ilzsg.org.

STUDY GROUPS PARTICIPATE IN OECD WORKSHOP ON REGULATORY TRANSPARENCY IN TRADE IN RAW MATERIALS

The Study Groups were invited to participate in a workshop organised by the OECD Trade and Agriculture Directorate in Paris from 10-11 May to increase awareness of the benefits of improved transparency practices and to identify practical options for making progress in this area. A paper on the "Transparency Activities of the International Metal Study Groups" was presented by Mr. Paul White, Head of Forecasting and Statistics of the International Lead and Zinc Study Group (ILZSG). Copies are available from the Secretariat at paul.white@ilzsg.org.

ILZSG PRESENTS AT IZA'S 10th ZINC COLLEGE

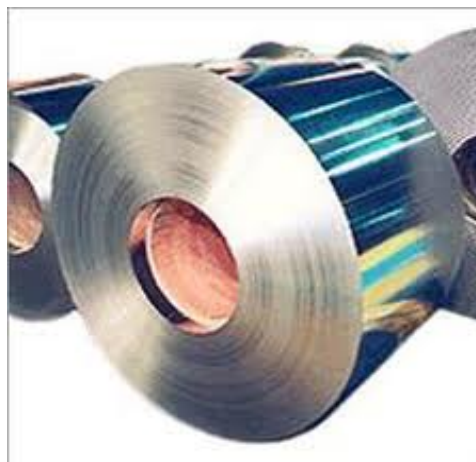
Mr. Paul White, ILZSG's Head of Forecasting and Statistics presented a paper during the opening session of the latest of the highly-regarded biannual Zinc College run by the International Zinc Association (IZA). The event, held in Rio de Janeiro, Brazil from 20 to 24 May, attracted 97 participants drawn from a variety of countries and disciplines. Copies of the paper entitled "Zinc Industry Facts and Fundamentals" presented by Mr. White can be obtained from the Secretariat at paul_white@ilzsg.org.

NEW COMMON FUND FOR COMMODITIES PROJECT APPROVED

At its January 2012 meeting, the Consultative Committee of the Common Fund for Commodities approved a proposal submitted by ILZSG for a new project, "Transfer of Technology and Promotion of Demand – Zinc Die Casting in India". The project executing agency will be the International Zinc Association. The aim of the project is to improve die casting industry competitiveness, increase domestic consumption and the share of global casting market, increase jobs and enhance the economic importance of the die casting industry in India. The total cost of the project is \$270,000 of which \$110,000 will be provided by a grant from the CFC. Further information is available from curtis_stewart@ilzsg.org.



Nickel Alloy Turbine Blades



Galvanized Sheet Metal

Forthcoming Events

MEETINGS, CONFERENCES and SEMINARS

- **The 13th European Lead Battery Conference** will be held in Paris, France 25-28 September 2012. More information can be found at the International Lead Association website <http://www.ila-lead.org/conferences>
- **Zinc Smelting and Recycling Conference, August 26-29, and General Galvanizing Technology Conference, August 29-September 1, 2012, in Qingdao, China, as part of 2012 IZA Zinc Week.** Organized by International Zinc Association. Further information at www.zinc.org or www.izachina.com

UPDATE ON JOINT STUDY GROUP PROJECTS

JOINT STUDY GROUPS' SURVEY OF SEMIFABRICATORS IN CHINA COMPLETED

The survey of Chinese Copper wire rod and brass mill plants was completed and the resulting report, ***Joint Study Groups' Survey of Semifabricators in China***, is available for sale to industry. This was a joint project of the three Study Groups. It covers copper, zinc, nickel and lead. Information on refined and scrap use and outputs from 95 operational facilities in China is included for 2005-2011 and 2012-2015 forecasts. The final report was distributed to member countries in April 2012.

NON FERROUS METALS BY-PRODUCTS: JOINT STUDY GROUPS' RESEARCH PROJECT

A project by the three Study Groups to generate information on the by-product metals of copper, lead, zinc and nickel was approved by member countries at their September 2012 meetings and launched in late 2012. A contractor was selected to gather information on production, usage, trade and other data, on by-product metals. By-products metals included in the study include bismuth, indium, germanium, scandium, cobalt, rhenium, tellurium, selenium, rare earths and molybdenum. The project resulted in the completion of a 221 page Study of By-Products of Copper, Lead, Zinc and Nickel as well as a Directory of Producers. These publications are being distributed to member countries.



PUBLICATIONS

*****AVAILABLE NOW*****

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NEW

Joint Study Groups' Survey of Semifabricators in China. This report was undertaken jointly by the three Study Groups and is based on a survey which measured scrap and refined use of copper, zinc, nickel, lead and tin by Chinese fabricators of copper and copper alloys, including brass. It validates and improves the ICSG Recyclables Survey for China and in cooperation with ILZSG and INSG provides data on nickel and zinc recycling and use in China. While focusing on refined and scrap copper use, the report provides useful information on quantities and trends in zinc and nickel usage for alloys in China. *Published April 2012.*

NEW

Copper Scrap Recovery in NAFTA

This report analyses the organisation of the copper recycling industry in the United States, Canada and Mexico. A database with over 500 plants recycling scrap is included and used to describe industrial organization, technologies used to recover old scrap, and yard management practices and inventories. The report on recyclers in the NAFTA region includes findings from interviews on factors driving the inventory decisions and outlines concerns of recyclers including theft, trade and environmental restrictions. *Published May 2012.*

NEW

ILZSG Investigation of the Indian Lead Market

This report was prepared for ILZSG by the Indian Lead Zinc Development Association (ILZDA), an organisation that has been closely involved with the Indian lead and zinc sectors for the past 50 years. It provides an up-to-date analysis of trends and developments in the rapidly expanding Indian lead market. A high proportion of the information provided in the report was obtained via direct contact with lead producers and recyclers, consumers, traders and relevant authorities. *92 pages. Published February 2012.*

NEW

Copper Scrap Supply Survey in China

This report describes the findings of a survey of key copper recyclers in China and includes copper scrap stocks and flows. The survey covers three groups of scrap importers and two groups of scrap dismantlers. Scrap importers include scrap traders, industries importing for internal use and scrap yard owners importing scrap. The sample of scrap dismantlers includes companies specialized in dismantling domestic scrap and companies dismantling imported scrap. More than one million tonnes of copper and copper alloy scrap traded in 2011 are included in the survey sample. *Published May 2012.*

NEW

Lead and Zinc New Mine and Smelter Projects 2012

This 69 page report covers lead and zinc mines and smelters opened or closed during 2011, firm projects currently committed and other projects under consideration. Developments in 46 countries spread throughout all the continents are covered with a total of over 200 separate entries. In addition, where available, estimates of ore reserves and the percentages of the metals they contain are also given. *Published January 2012*

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NEW

ICSG Directory of Copper Mines and Plants

The Directory of Copper Mines and Plants highlights current capacity and provides a five year outlook of forecast capacity for over 1,000 existing and planned copper mines, smelters and refineries on a country by country basis, including separate tables for SX-EW plants. Salient details for each operation are included and the Directory separates operations between Operating & Developing and Exploration & Feasibility stages. *Published February 2012.*

NEW

The Market for Lead: The Fundamentals Driving Change 2012

Comprehensive 61 page analysis of the world lead market. The report analyses the structure of mine and refined world lead production and identifies actual and future trends. It assesses lead usage patterns in the main market sectors and the impact of environmental regulations on the metal's usage. It also discusses international trade or concentrates and refined metal as well as the impact of the Basel Convention and other regulatory initiatives on the secondary lead industry. A special section is dedicated to the growing importance of China in the world lead market. *Published March 2012*

INSG World Directory of Nickel Production Facilities 2011

Comprehensive directory lists nickel mines, smelters and refineries as well as new nickel industry developments (committed, likely and potential) together with recent closures in more than twenty countries. *Published November 2011*

ICSG 2011 Statistical Yearbook

The ICSG Copper Bulletin yearbook includes annual statistics on copper and copper products, production, usage and trade by country, as well as stocks and exchange prices, providing a global view of supply and demand for the past 10 years. The Yearbook serves as a useful tool for consultations and analysis on the evolution of world copper production, usage, stocks and prices. *Published Sept 2011.*

World Directory 2011: Primary and Secondary Lead Plants

An overview and full detailed listing of over 270 primary and secondary lead smelters and refineries in 66 countries showing addresses, telephone and fax nos., e-mail, web addresses, types of plant operated and current capacities. Also includes, summary tables and graphs. 105 pages. *Published May 2011.*

Directory of Copper & Copper Alloy Fabricators (First Use) 2011

This directory provides a systematic global overview of companies and plants involved in the first use of copper. First users are mainly semis fabricators that process refinery shapes into semi-finished copper and copper alloy products. The Directory covers wire rod plants, ingot makers (for castings), master alloy plants, brass mills, and electrodeposited copper foil mills. Includes a complete update of the new plants operational in China in 2011. *Published July 2011.*

Environmental and Health Controls on Zinc: 2011

A review of current and proposed regulations controlling zinc in works, zinc in the atmosphere, zinc in water and recommended daily dietary allowance for humans and animals. Available in PDF or spreadsheet form. *Published June 2011.*

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Environment and Health Controls on Lead: 2011

A review of current and proposed regulations controlling lead in works, lead in the atmosphere and lead in water in 34 countries. Available in PDF or spreadsheet form. *Published June 2011.*

INSG Environment, Health and Safety (EHS) Regulations Relating to Nickel 2011

An update of the annual compilation of environmental, health and safety regulations affecting nickel. The listing of regulations is provided by country, state or province as well as separately for international organizations. The report is presented in a spreadsheet format and contains web links to regulations in various jurisdictions. 42 pages. *Published June 2011.*

Final Report of the ICSG Copper Scrap Project

Synthesizing the findings of an ICSG research project on the copper and copper alloy scrap markets approved by ICSG members and initiated in October 2007, this report presents a comprehensive picture of the global copper scrap market and its determinants. *Published August 2010.*

China Lead Acid Battery Market

This detailed study, prepared for ILZSG by the Beijing General Research Institute of Mining and Metallurgy (BGRIMM) provides an overview of current production and usage of lead-acid batteries in China together with a summary of likely rates of growth over the period 2009 to 2014. Much of the information contained in the report has been sourced directly from battery manufacturers, e-bikes producers and experts in renewable energy. 60 pages. *Published June 2010.*

China Zinc Recycling Industry

Prepared for ILZSG by the Beijing General Research Institute of Mining and Metallurgy (BGRIMM), this report provides a comprehensive assessment of the volume of zinc recovered from scrap in China. It also provides information regarding the main sources of secondary zinc material and likely future trends. Much of the data contained in the report has been sourced directly from zinc producers, consumers, traders and scrap dealers. 44 pages. *Published June 2010.*

Nickel Heap Leaching Study – 2010

A comprehensive analysis of heap leaching in nickel production prepared for INSG by consultants, this report provides up to date information on all aspects of heap leaching. It examines the various hydrometallurgical processes applied to nickel leaching. It also covers the economic and environmental impact of the use of heap leaching, including on CO2 emissions. 72 pages. *Published April 2010.*

ILZSG World Directory: Continuous Galvanizing Lines 2010

A full listing of continuous galvanizing lines with information from 62 countries. The Directory includes data on plant locations, annual capacities, annual zinc consumption and contact information. 95 pages. *Published in January 2010.*

Nickel Pig Iron Study - 2010

The report analyzes the driving forces behind the increasing use of nickel pig iron in China. Identifies current and new projects totalling over 150 000t per annum. Highlights possible substitution among nickel pig iron, ferro-nickel, stainless steel scrap and nickel metal. It also reviews the most important cost factors. 70 pages. *Published in May 2010.*

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Chinese Primary Nickel Stocks Study - 2010

A comprehensive study of Chinese primary nickel stocks providing data and information on nickel stocks held by first users such as stainless steel, specialty steel, battery materials producers, galvanizers and foundries, refined nickel producers, nickel pig iron producers, traders, exchanges and others. It identifies key factors impacting on market stock levels, such as price expectation and financing costs. The report also estimates stock changes taking place between 2009 and 2010. 40 pages. *Published December 2010.*

Copper Scrap Market in Japan, China's Scrap Usage Survey and Domestic Copper Scrap Generation in China, 2010-2015

Adding to ICSG's expanding body of research on scrap, ICSG commissioned three reports about scrap that provide information on two critical copper markets: Japan and China. The Japanese Report, prepared by MERI/J, provides a comprehensive overview of the refined copper and copper scrap markets and also covers Japanese copper scrap trade, material flows, how scrap is categorized and relevant regulations. The Chinese Reports, prepared by BGRIMM, provides insight into scrap usage in China at the smelters/refineries and fabricators and forecasts domestic scrap generation in China. *Published October 2009.*



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ICSG 2012 Statistical Yearbook

The ICSG Copper Bulletin yearbook includes annual statistics on copper and copper products, their production, usage and trade by country, as well as stocks and exchange prices, providing a global view of supply and demand for the past 10 years. The Yearbook serves as a useful tool for consultations and analysis on the longer term evolution of world copper production, usage, stocks and prices. *To be published September 2012.*

INSG World Directory of Nickel Production Facilities 2012

Comprehensive directory lists nickel mines, smelters and refineries as well as new nickel industry developments (committed, likely and potential) together with recent closures in more than twenty countries. *To be published September 2012.*

ILZSG Principal Uses of Lead and Zinc 2012

Based on data from ILZSG's extensive network of contacts, this publication provides a summary of aggregate demand by country and by market sector, analysis of first use, information on zinc alloys by country, zinc in galvanizing, alloys, brass and bronze, dust, chemicals and lead use in batteries, cables, rolled and extruded products, alloys. *To be published September 2012.*

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Directory of Copper & Copper Alloy Fabricators (First Use) 2012

This directory provides a systematic global overview of companies and plants involved in the first use of copper. First users are mainly semis fabricators that process refinery shapes into semi-finished copper and copper alloy products. The Directory covers wire rod plants, ingot makers (for castings), master alloy plants, brass mills, and electrodeposited copper foil mills. Includes a complete update of the new plants operational in China. *To be published July 2012.*

INSG China Nickel Pig Iron Market Study

This study, done by Shanghai Metals Market for INSG, provides an overview of the rapidly changing nickel pig iron market in China. NPI has become the major nickel source in China and accounts for a growing share of global production. The report looks at evolving trends in production and ore supply as well as furnishing information on major NPI producers and stainless steel producers. *To be published in August 2012.*

ICSG Directory of Copper Mines and Plants

The Directory of Copper Mines and Plants highlights current capacity and provides a five year outlook of forecast capacity for over 1,000 existing and planned copper mines, plants and refineries on a country by country basis, including separate tables for SX-EW plants. Salient details for each operation are included and the Directory separates operations between Operating & Developing and Exploration & Feasibility stages. *To be published in October 2012.*

The World Copper Factbook 2012

A comprehensive overview of copper, with statistics, graphs, flowcharts and other information providing details on production, usage, recycling, definitions and history. *To be published July 2012.*

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