



Metals Despatch

Newsletter of the International Metals Study Groups

December 2014, Issue No. 18

LEAD AND ZINC FORECASTS

The outlook for World supply and demand for lead and zinc was presented during the ILZSG 59th Session held in Lisbon on 15-17 October 2014. Highlights include:

- **The global usage of refined lead metal** is forecast to rise by 1.4% to 11.33 million tonnes this year and by a further 2.1% to 11.56 million tonnes in 2015.
- In China, demand growth is expected to slow to 2.5% in 2014 and 2.9% in 2015, mainly due to a slowing of the increase of output of e-bikes that account for a significant portion of lead-acid battery sales.
- **Global lead mine supply** is forecast to rise by 2.4% to 5.56 million tonnes in 2014 and 5.5% to 5.87 million tonnes in 2015, with increases in Australia, China and the United States more than offsetting a fall in Canada.
- **World production of refined lead metal** is expected to increase 1.5% to 11.29 million tonnes in 2014 and a further 2.2% to 11.54 million tonnes in 2015.
- The **forecast** by the International Lead and Zinc Study Group is for global demand for refined lead metal to exceed supply by a modest amount in both 2014 and 2015. The extent of the deficit is estimated at 38kt this year and 23kt in 2015.
- **Global demand for refined zinc metal** will rise by 5.1% to 13.65 million tonnes in 2014 and a further 2.9% to 14.05 million tonnes in 2015. These rises will be primarily driven by increased Chinese usage. Growth in the world excluding China is expected to be more subdued at 2.3% in 2014 and 1.3% in 2015.
- **World zinc mine production** is forecast to increase by 1% to 13.33 million tonnes in 2014 and 3.6% to 13.80 million tonnes in 2015. This is primarily due to increases in China with production in the world ex-China expected to fall by 2.2% this year before rebounding by 1.5% in 2015.
- **Global refined zinc metal production** is expected to rise by 2.9% to 13.25 million tonnes in 2014 and by 3.3% to 13.68 million tonnes in 2015 mainly as a consequence of a further expansion of output in China.
- The latest **forecasts** supplied by the Group's member countries indicate that global demand for refined zinc metal will exceed supply by a significant margin in both 2014 and 2015. The size of the deficit this year is estimated at 403kt, and in 2015 at 366kt.

For further details of the outcomes of the ILZSG meetings or questions on the market outlook please email ILZSG Director of Market Research and Statistics Paul White at paul.white@ilzsg.org

NEXT STUDY GROUPS' MEETINGS

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

INSG: 20-21 April 2015, Lisbon, Portugal

ILZSG: 22 April 2015, Lisbon, Portugal

ICSG: 23- 24 April 2015, Lisbon, Portugal

Joint Seminar 2:00 pm on 22 April 2015: "Trade Policy Issues in Mining and Metals", in Lisbon.

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COPPER FORECAST

During the 43rd Regular Meeting of the International Copper Study Group Statistical Committee in Lisbon on 14th October 2014, ICSG member countries reviewed the current outlook for trends in World supply and demand for copper during 2014 and 2015 and issued the following forecast:

- ICSG expects **world apparent refined demand** in 2014 to grow by about 5% from that in 2013 to 22.4 Mt partially supported by the tightness in the scrap market. Apparent demand in China is expected to increase by about 7% in 2014. Usage in the rest of the world is expected to increase by about 3.5%. For 2015, although industrial demand growth in China is expected at 5%, the growth in apparent refined usage is expected at 1.8%. Therefore, world apparent usage growth in 2015 is expected at around 1% although underlying industrial demand growth is expected to be higher.
- In 2014, **world refined copper production** is expected to increase by around 5% to 22.1 Mt compared with that in 2013 mainly supported by expanded capacity at electrolytic plants in China (and to a lesser extent from expanded SX-EW capacity in Africa). Primary refined production (excluding SX-EW) is expected to grow by 7% benefiting from adequate availability of concentrate while secondary production growth is foreseen at 2% impacted by tightness in the scrap market. In 2015, world refined copper production is expected to grow further by around 4% to 23.1 Mt.
- After a growth of 8% in 2013, **world mine production** is expected to grow by around 3% in 2014 to 18.6 Mt (million tonnes) compared with that in 2013. Operational failures combined with delays in ramp-up production and start-up of new mines are leading to lower than anticipated growth. Strong growth in world mine production is however expected in 2015 owing to additional output from expansions and new mine projects. After adjusting using historical disruption factors, world mine production is anticipated to grow by around 7% in 2015. Most of the new production is expected to be in the form of copper in concentrate.
- ICSG projections for 2014 indicate that **world apparent refined copper demand** is expected to exceed refined copper production by about 300,000 metric tonnes (t). According to ICSG projections for 2015, after five consecutive years of apparent deficits, the copper market could show a production surplus relative to demand. World production of refined copper is expected to exceed demand for refined copper by about 390,000 t, as demand will lag behind the growth in production.

- In developing its projections, ICSG recognized that the global market balances could vary from those projected owing to numerous factors that could reduce or enhance projections for both production and usage.
- For further details of the outcomes of the ICSG market outlook please e-mail ICSG Director of Market Research and Statistics Ana Rebelo at rebelo@icsg.org



Meleagre and Atlante, Lead sculpture by John Cheere (1755), at the Queluz Palace, Portugal

NICKEL FORECAST

The International Nickel Study Group (INSG) met 13-14 October 2015 in Lisbon and reviewed the current outlook and trends in World nickel supply and demand. The following forecast was issued:

- Global **primary nickel production** was 1.75 Mt in 2012, increased to 1.94 Mt in 2013 and could reach 1.93 Mt in 2014. INSG projects a production of around 1.95 Mt in 2015.
- World **primary refined nickel usage** was 1.66 Mt in 2012 and increased to 1.78 Mt in 2013 and could reach 1.92 Mt in 2014. For 2015 INSG estimates an increase to around 1.97 Mt.
- A significant **stock** build has been recorded in 2013 and 2014. Reasons for the increase include the number of new nickel projects that have started up, existing projects that have ramped up production, and in 2013 disappointing usage figures outside of China and India.

- INSG recognizes the significant impact of the current financial and economic 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 any questions on the market outlook please email INSG Director of Market Research and Statistics Salvatore Pinizzotto at s.pinizzotto@insg.org



The Arria sculpture in the UK uses galvanized steel

JOINT STUDY GROUPS' INTERNATIONAL METALS RECYCLING SEMINAR

A Joint Study Groups' "International Metals Recycling Seminar" was held on 15 October 2014 in Lisbon with the involvement of the three Study Groups and brought together experts from around the world. Mr. Salim Bhabhrawala of the United States served as chairman for the event. The keynote presentation was by Professor Thomas Graedel of Yale University who spoke on "Assessing the Criticality of Metals". This was followed by Ms. Lie Heymans, Policy Officer, Raw Materials Unit, DG Enterprise, European Commission, who delivered a presentation on the "Policy Framework for Metals Recycling in the EU". Mr. Wang Jiwei, Vice President and Secretary General of China Nonferrous Metals Association Recycling Metal Branch, then made a presentation on "The Development and Policy System of China's Recycling Nonferrous Metals Industry".

Mr. Joe Pickard, Chief Economist and Director of Commodities at US Institute of Scrap Recycling Industries (ISRI) provided an overview of scrap metal recycling in a presentation entitled "The Scrap Metal Recycling Industry: Evolution and Regulation". Mr. Ross Bartley, Environmental and Technical Director, Bureau of International Recycling (BIR), gave a presentation providing an overview of "Regulatory Initiatives" related to non-ferrous metals. This was followed by Ms. Marion Finney, Executive Director for Industry Solutions, Aurubis, who gave a presentation covering "New and Emerging Technologies for Metals Recycling, Challenges Faced by the Industry and the Economics of Metals Recovery". Aurubis is

the number one copper recycler in the world. In a presentation entitled, "Sustainable Excellence", Mr. Kristiaan Deckers of Rezinal covered two topics; 1) zinc scrap and zinc residues in the EU and, 2) legislative and environmental challenges for the zinc recycling industry. Ms. Lu Huicong, Assistant to Chairman, Jiangsu New Chunxing Resource Recycling Company, then gave a presentation "Best Practices of Green Lead Technology in China". Mr. Christian Jessen, Head of International Key Accounts, Cronimet provided a two part presentation giving an overview of Cronimet's activities. The first part was on "Dynamics of the European Stainless Steel Scrap Market and China's Role in Particular" and the second part on "High-End Separation of Metal, Alloy, Silicon Sludge, and Oil Cuttings". After a break for lunch, Dr. Katia Lacasse delivered a presentation on behalf of Géraud Servin, Assistant Director, Sustainable Development, International Copper Association (ICA). The title of the presentation was "Copper Stocks and Flows". Dr. Alistair Davidson, Technical Manager, International Lead Association (ILA), gave a presentation entitled "Lead Recycling: A Sustainability Success Story" in which he elaborated on why lead based battery recycling is so successful and spoke also about the recycling rates for lead sheet.

This was followed by Dr. Andrew Green, Director for Environment, Health and Sustainability, International Zinc Association (IZA) who spoke on the IZA Recycling Program, which is intended to ensure the zinc industry has reliable recycling data and statistics to communicate the sustainable attributes of zinc. Dr. Mark Mistry, Public Policy Manager, Nickel Institute, gave a presentation on "Enhancing Metals Recycling: Application of Metal-Specific Recycling Rates, Life Cycle Assessment and Other Industry Initiatives – The Nickel Perspective". Professor Markus Reuter, Director, Technology Management, at Outotec Oyj provided a presentation entitled "System Integrated Metal Production". Mr. Norbert Zonneveld, Executive Secretary, European Electronics Recyclers Association (EERA), made a presentation providing the industry perspective on the session topic entitled "Will Metals Still be the Driver for WEEE Recycling?" Mr. Guy Thiran, Secretary General of Eurometaux addressed the seminar with a presentation "The Environmental, Social and Economic Imperatives for Metals Recycling". In the final presentation, Dr. Kevin Brigden, Senior Scientist at Greenpeace Research Laboratories, University of Exeter, United Kingdom, gave a presentation entitled, "Greenpeace Activities to Promote Sustainable Management of Resources".

The Seminar included four separate panel discussions with participation by the various speakers. The final panel also included Ms. Natasha Kaneva, Executive Director, Global Commodities, J. P. Morgan. The panel discussions allowed the audience to raise points for clarification and allowed the presenters to elaborate on their presentations. There were several comments and suggestions from

the panel members. Among the questions that were raised in the panel discussions were the need for better coordination between industry and governments, either internationally or domestically, to improve the recycling of metals, and the identification of some of the particular challenges for each metal. In addition, the question of whether it is easier to arrange financing for a new recycling project or a new mine was debated. The seminar underlined that the three Study Groups have an important ongoing role in providing data to assist in better understanding the flows of metals and metal lifecycles.

For further details about the Seminar, please email paul_white@ilzsg.org (for lead and zinc), curtis_stewart@ilzsg.org (nickel) risopatron@icsg.org (copper).

The presentations given at the Seminar may be viewed by visiting each Study Group's website.

INSG MEETING OCTOBER 2014

Delegates from INSG member countries, industry and observing countries/organisations met in Lisbon from 13 and 14 October 2015 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 Economic Committee received presentations on a range of topics that impact nickel. Discussions in the Committee covered a wide range of topics including economic trends and changes in regulations on environment, health and safety relating to nickel. During the meeting the following presentations were made and discussed:

Dr. Mark Mistry, Public Policy Manager at the Nickel Institute, made a presentation on "Regulatory developments with relevance for nickel production & use"; Mr. David Wilson, Director for Metals Research and Strategy at Citi, made a presentation on "Nickel market overview"; Ms. Krisztina Kalman-Schueler, Managing Partner at DMM Advisory Group, made a presentation on "Nickel, a turbulent market – What can be expected from China?". Finally, Mr. Curtis Stewart, INSG Director of Economics and Environment, provided delegates with a status report on the Environmental and Economics Committee Work Program.

The Statistics Committee reviewed and discussed the latest statistical data. The Committee also received valuable input to its work through presentations and discussions. Mr. Kai Hasenclever, Director, Economics, Statistics and Long Products, ISSF, Belgium, made a presentation on latest developments in the world of stainless steel and its

markets. Ms. Xu Aidong, Chief Analyst Nickel, Beijing Antaika Information Development Co. Ltd. China P.R., made a presentation on "Looking for the New Balance: Analysis of Chinese Nickel Market after Indonesia's Mining Ban Policy". Dr. Tony Hart, Chairman and Managing Director, Hart Materials Ltd., United Kingdom, made a presentation on "Nickel Plating Can Be Essential – Not Just Attractive". Mr. Stefano Ferrari and Mr. Paolo Viganò, Siderweb and Centro Inox, Italy, made a presentation on "Italian Stainless Steel Industry: Market and Product Outlook".

The INSG Industry Advisory Panel, comprised of representatives from the world's nickel producing, using and recycling industries, provided valuable input on the Study Group's work program priorities. During the meeting of the Panel several presentations were made and discussed: Mr. Jim Lennon, Consultant to Macquarie Research, London, United Kingdom, made a presentation on the subject "The Nickel Roller Coaster". Mr. Shirou Imai, Chief Representative, London Office, Sumitomo Metal Mining Co. Ltd., Japan, made a presentation on "Overview of the Nickel Market in Japan". Mr. Wahyu Prasetyo, Vice Project Manager KKKU Nickel Pig Iron Project Hankang Co., China P.R., made a presentation on "New Nickel Processing Projects (NPI and Ferronickel projects) in Indonesia, the Case of Hankang Co. Ltd". Copies of the presentations are available on the INSG website www.insg.org



The Kelpies, made with stainless steel plates, near Falkirk Scotland, one of the largest equine sculptures in the world, standing 30 metres (100 feet) tall. Sculptor: Andy Scott. (photo Keith Hunter)

ILZSG 59TH SESSION, LISBON 2014

The International Lead and Zinc Study Group held its Fifty-ninth Session from 15 to 17 October 2014 in the conference facilities of the Altis Grand Hotel in Lisbon. Delegates were presented with a review of the current levels of world supply and demand and the outlook for 2015 at the meeting of the ILZSG Statistical and Forecasting Committee (See details on page 1). Meetings of the Standing Committee, Economic and Environment Committee, Mines and

Smelter Project Committee and the ILZSG Industry Advisory Panel were held.

The Industry Advisory Panel met on 16 October and provided an opportunity for members to comment on the latest developments in the lead and zinc market. Three presentations were made during the meeting. The Panel received a very interesting and instructive presentation from Mr. Nicholas Rouet on "Galvanized Steel Sheet in the Automotive Sector as a Barometer of Zinc Market Growth". Ms. Raquel Parra Sánchez, Business Development Manager at Técnicas Reunidas in Spain then presented a highly informative paper which discussed the topic of "A New Generation of Refineries for Zinc and Lead Recycling. Finally, Ms. Zhang Weiqian, Metals Analyst at Beijing Antaike Information Company, made a presentation on "The Chinese Primary and Secondary Lead Sector". Copies of these presentations are available on the ILZSG website.

The Mine and Smelter Projects Committee was convened on 16 October. Information was provided on the openings and closures of lead and zinc mines and refineries in 2014. Delegates received an informative presentation from Mr. John Anderson, Senior Smelter Analyst at Wood Mackenzie, UK on "The Zinc Smelting Industry – Challenges and Drivers". This was followed by a very interesting presentation by Mr. Erasmus Shivolo, Mining Commissioner, Directorate of Mines, Ministry of Mines and Energy, Namibia on "Prospects for Lead and Zinc Mine Output in Namibia".

The Study Group's Economic and Environment Committee met on 17 October. Mr. Curtis Stewart, Director of Economics and Environment, presented the work program, reporting on activities undertaken in 2014 and those proposed for 2015. This was followed by a presentation from Mr. Richard Diment, Executive Manager, of the Lead Sheet Association Limited, on 'The Lead Sheet Industry in Europe'. Two presentations were made on the topic of conflict minerals, the first by Curtis Stewart and the second by Salim Bhabhrawala of the United States. Ms. Claire Hassall, Director and Zinc Market Specialist, CHR Metals, spoke on "The Long Term Outlook for Zinc Demand". This was followed by Mr. Kevin Smith, Technical Director, East Penn Manufacturing, who spoke on "Extra Carbon in Lead-acid Batteries – Revolutionizing the Industry!" which provided very interesting information on recent developments in the use of carbon in lead acid batteries. Dr. Andrew Green, Director for Environment, Health & Sustainability at the International Zinc Association, gave a presentation on "Zinc Fertilizer Project in Malawi", in which he reported on increased crop yields resulting from the use of zinc. Dr. Geoffrey May of Focus Consulting spoke on "Recent Trends in the Automotive Battery Market". Finally, the Director of Economics and Environment reported on progress in work carried out under a contract from ILZSG on the recovery of zinc from Electric Arc Furnace dust

and provided an overview of a forthcoming report. Copies of the presentations are available on the ILZSG website.



The Statute of Liberty is covered with copper sheets only 2.4 mm thick

ICSG ECONOMIC, ENVIRONMENTAL AND STATISTICAL COMMITTEE MEETINGS: 13-14 OCTOBER 2014

Representatives from ICSG member governments, industry associations, companies and observer governments attended the International Copper Study Group's Regular Meetings at ICSG Headquarters in Lisbon.

In the International Copper Study Group Environmental and Economic Committee Mr. Paul Dewison, Base Metals Director, SNL Metals & Mining, London UK, analysed the situation of the global copper value chain. He estimated global industrial demand for copper at more than 25.8 million tonnes in 2013 and analyzed it by end use sector and product, with the construction sector using more than 8.1 Mt-Cu, infrastructure using 4.1 Mt-Cu and all other sectors using 13.8 Mt driven by industry, transport, air conditioners and refrigeration.

Mr. Carlos Risopatron, ICSG Director of Economics and Environment, presented a global overview of ICSG data on refined supply and scrap direct melted that reached 26.3 million tonnes of copper worldwide in 2013. He presented selected findings of the 2014 Edition of the ICSG Directory of Copper and Copper Alloy Fabricators, where new plants under construction might expand the global copper and alloys capacity by 5.5 million tonnes in 2014. For China the capacity of over 14 million tonnes IN 2012 (Mt) was augmented by over 1.75 Mt in in 2013 and a

further 3.7 Mt in projects under construction might be operational in 2014.

Ms. Wang Di, Metal Analyst of Beijing Research Institute of Mining and Metallurgy (BGRIMM), presented key findings of the recently-completed ICSG/BGRIMM survey of Chinese brass mills and copper fabricators ex-wire rod. She also summarized findings of the copper wire rod survey undertaken last year, and presented recent updates on copper use in Chinese industry. Ms. Wang Di highlighted that in 2014 the use of copper might achieve 10.8 million tonnes, after reaching over 10.3 Mt in 2013. She expects that scrap imports to China might not increase fast over the coming years with global scrap generation weak in the US and Europe, and strict customs inspection aimed at restricting scrap smuggling in southern China.

Two presentations were made on the topic of conflict minerals. ICSG Secretary-General, Mr. Don Smale, briefed the Committee on work undertaken by the secretariat and preparation of a list of smelters processing gold, tin, tantalum and tungsten. Mr. Salim Bhabhrwala of the U.S. Department of Commerce then made a presentation on a directory of smelters compiled by the United States government in the context of the conflict mineral reporting required by the US Dodd-Frank legislation.

Mr. Risopatron, Director of Economics and Environment, summarized the outcomes of the 2014 ICSG Survey of Regulatory Developments Affecting Copper, covering regulatory changes expected to have an impact on the copper industry. He outlined how Indonesia is now implementing the Mining Law approved in 2009, with copper foreign mining companies based on concessionary export duties linked to the development of copper smelting capacity.

Finally ICSG Secretary-General Mr. Don Smale, provided a report on progress in relation to the activities in the approved 2014/2015 EEC Work Program. A new research project on "Copper Use Study in ASEAN, India and Australia" had recently commenced and is expected to be completed before the next ICSG Session. A list of new project initiatives is being considered for the 2015/2016 EEC Work Program.

At the Statistical Meeting, the topics of factors affecting the Chinese copper market and the outlook of world refined copper usage were addressed. Ms Ana Rebelo, ICSG Director of Market Research and Statistics, presented the results of the preliminary forecast of global copper mine production and the balance of refined copper production and consumption and explained the main assumptions behind it. She summarised the development of global copper mine production in the first half of 2014, and covered the probable mine projects starting during

2014 to 2015 that will contribute to the strong growth in mine production expected for 2014 and 2015.

Ms. Li Lan, Head of Marketing Research at BGRIMM, gave a detailed presentation on the current situation and outlook for the Chinese refined copper market. She started by showing the rapid growth in Chinese refined production due to additional capacity brought on stream. A number of slides were presented on the performance of Chinese copper end-use markets, including the transportation, building and power industries. Based on this and other exogenous factors, she concluded that China's refined copper consumption growth is slowing down and that growth will remain between 5-6% over the next two years.

The ICSG Industry Advisory Panel met on 23 October in London. Industry advisers from Australia, Chile, China, Germany, Italy, Japan, Portugal, Spain, Sweden and the United States were present along with the industry association and Study Group representatives. Topics discussed included the latest copper forecast, the ICSG work program, the latest studies on scrap, ICSG Directories and the 2014 Survey of Regulatory Developments Affecting Copper. Mr. Paul Dewison, Base Metals Director, SNL Metals & Mining, made a presentation on the World Copper Market from a Fabricators Viewpoint.

ICSG 2014 DIRECTORY OF COPPER AND COPPER ALLOY SEMIFABRICATORS

ICSG launched the 2014 Edition of the Directory of Copper and Copper Alloy Fabricators – First Use in September 2014. The 2014 edition provides detailed information on plants processing refined copper and scrap to produce copper and copper alloy semi-fabricated products and also ingot based castings. The Directory is available for sale at mail@icsg.org

NEW ICSG STUDY ON INDUSTRIAL USE OF COPPER IN THE MIDDLE EAST AND NORTH AFRICA (MENA REGION)

This regional study completed in June 2014 covered over 2.34 million tonnes of copper and copper alloy semi-fabrication capacity in the region and a regional output reported of 1,731.3 kt for 2013. This 92 page MENA region report includes a plant by plant database, a country by country discussion of recent industrial copper use trends, and a country by country database of copper and copper alloy scrap trade in the region. The plants included in the study covered most of the known MENA capacity to process refined copper and scrap and included the most important regional users of refined and scrap copper. Turkey and the United Arab Emirates constitute 42.9% and 21.6% respectively of total installed capacity studied in the report. Saudi Arabia constitutes 12% of total installed capacity included in the study with 212kt. Iran has a small number of semi-fabricators, contributing 11% to total installed

capacity (327.5kt) and Egypt accounts 13% of total installed capacity (304kt). Iraq, Oman, Kuwait, Israel and are also included. For purchases please contact mail@icsg.org.

CHINA COPPER WIRE ROD AND BRASS MILLS SURVEYS AVAILABLE FOR SALE

After completing surveys for all the Chinese industry using refined copper and scrap as a raw material ICSG has been able to cover more than 90% of the industrial copper use in China in 2013 and 2014. A 20% discount is now being offered for the sale of both surveys and database that allow analysts to obtain a detailed overview of the situation of copper and alloys fabrication in China. For purchases please contact mail@icsg.org.

ICSG PRESENTS AT THE 2014 CHINA INTERNATIONAL COPPER CONFERENCE

Mr. Carlos Risopatron, ICSG Director of Economics and Environment presented a detailed outlook on the global copper market in 2013-2014 and future perspectives, at the well-attended China International Copper Conference in Chengdu, Sichuan province in October 2014, which was organised by the China Non-ferrous Metals Industry Association (CNIA) and Antaike.

ICSG PRESENTS AT THE 10th ASIA COPPER CONFERENCE

Mr Don Smale, ICSG Secretary General, made a presentation on the current situation and outlook of the copper market at the Metal Bulletin 10th Asia Copper Conference, in Shanghai, in November 2014, which was part of the major CESCO 3rd Asia Copper Week.

ICSG PRESENTS ON FUTURE COPPER MINES SUPPLY IN LONDON MINES AND MONEY CONFERENCE 2014

Mr Carlos Risopatron, ICSG Director of Economics and Environment, delivered a presentation on medium term perspectives for future world copper mine supply in the Mines and Money Conference on 1-4 December 2014 in London, United Kingdom. The presentation was based on current capacity expansion plans and new copper mine projects pipeline for 2015-2020.

ILZSG NEW INTERACTIVE MINES AND SMELTERS INTERFACE ON THE ILZSG WEBSITE

In early 2014 ILZSG launched its Interactive Mines and Smelters Interface. The new interface is located on the ILZSG website and enables users to easily access information from the ILZSG mine and smelter databases. The system uses state-of-the-art technology to provide a user-friendly experience to users. Results of queries may be exported to pdf

format and to print. A fact sheet containing useful detailed information is available for each mine/smelter including a map of its geographical location. Data is available on all openings and closures of mines and smelters from 2000 to the present as well as all mine and smelter projects currently committed or under consideration. The secretariat would welcome any feedback on this service regarding possible future improvements, addressed to paul.white@ilzsg.org or joao.jorge@ilzsg.org.

ILZSG SUPPORTS CNIA/ANTAIKE 17th CHINA INTERNATIONAL LEAD AND ZINC CONFERENCE

The 17th China International Lead and Zinc Conference and Exhibition was held from 4-6 November in Wuhan, China. The conference was hosted by China National Nonferrous Industry Association (CNIA) and organised by Beijing Antaike Information Development Company. As in the past, ILZSG was pleased to be able to support this important event and a paper on the topic of "The Global Lead and Zinc Market Outlook" was presented by Paul White the Group's Director of Market Research and Statistics. Details of the paper presented by Mr. White can be obtained from paul.white@ilzsg.org.

ILZSG PRESENTS AT IZA 2014 ZINC COLLEGE

The Group's Director of Market Research and Statistics, Paul White, made a presentation on "Zinc Industry Facts and Fundamentals" at the International Zinc Association's (IZA) 2014 Zinc College which was held in Udaipur, Rajasthan, India at the beginning of September. The college was attended by more than 80 people from a variety of backgrounds within the zinc industry. Other topics covered over the course of the college included Zinc and Health, Country Risk Analysis, Zinc Metal Marketing and Sales, Geology and Exploration and Sustainable Development. Copies of Paul White's paper are available at paul.white@ilzsg.org.

ILZSG SUPPORTS 2nd ASSOFERMET DAY AND STEEL ORBIS CONFERENCE

ILZSG was invited to present at the 2nd Assofermet Day and Steel Orbis Conference held in Milan on 21st November 2014. The conference provided an interesting and informative overview of different aspects of the European base metals and steel sectors including likely future trends and developments. During the course of the conference Paul White, Director of Market Research and Statistics at ILZSG made a presentation on "Zinc and Copper from 2009 to Date: Reshaped Markets and Flows". Copies of this presentation are available from paul.white@ilzsg.org.

INSG PARTICIPATION IN FerroAlloyNet 7th INTERNATIONAL CHROME AND NICKEL PRODUCTS SUMMIT

FerroAlloyNet-7th China International Nickel & Cobalt Industry Forum was held in Hangzhou, China, from September 12-13. The INSG Manager of Statistical Analysis, Mr. Ricardo Ferreira, attended and made a presentation "The Outlook for the Global Nickel Market". For copies of the presentation please contact ricardo.ferreira@insg.org

INSG PARTICIPATION IN 2014 CHINA INTERNATIONAL NICKEL AND COBALT INDUSTRY FORUM

The 2014 China International Nickel & Cobalt Industry Forum was held in Shenzhen, China, from November 13-14 2014 hosted by the China Non-ferrous Metals Industry Association (CNIA) and organized by Beijing Antaika Information Development Co. The INSG Director of Market research and Statistics, Mr. Salvatore Pinizzotto, attended and made a presentation "The Outlook for the Global Nickel Market". For copies of the presentation please contact s.pinizzotto@insg.org

Forthcoming Events

MEETINGS, CONFERENCES and SEMINARS

The 2015 International Zinc Conference and Zinc Oxide Industry Conferences will be held February 15-18, 2015 in Orlando, Florida, USA. The conference covers key industry trends and challenges. The 2015 International Zinc Oxide Industry Conference is being held in conjunction with the International Zinc Conference, providing an opportunity to learn about new research and market trends.

http://www.zinc.org/about/2015_zn_zno_conference

The 19th International Lead Conference (Pb2015) will be held in Lisbon, Portugal on 22-24 April 2015. This conference will be held concurrently with the April 2015 ILZSG meetings in Lisbon. For information on the International Lead Association conference, visit <http://www.ila-lead.org/home> or contact mcdermott@ila-lead.org



Brass (Cu/Zn) Sculpture of two Dodo Birds

UPDATE ON JOINT PROJECTS CONDUCTED BY THE STUDY GROUPS

The co-location of the three Study Groups in Lisbon has enhanced the ability to conduct joint projects. Highlighted here are some of the recent joint projects which have been completed or are currently underway.

COBALT AS A BY-PRODUCT OF COPPER AND NICKEL

A joint report of the International Nickel Study Group and the International Copper Study Group providing improved information on cobalt, and the relationship between nickel, copper and cobalt production, refining and use. Nearly half of cobalt mine production comes from primary copper producers, while one third comes from primary nickel producers. The work was carried out by Roskill Consulting Group on behalf of the Study Groups and is intended to be a reference document for governments and companies. Copies of the report are available for purchase

BY-PRODUCTS OF COPPER, LEAD, ZINC AND NICKEL

This project provides information on the by-product metals of copper, lead, zinc and nickel encompassing data on production, usage, trade, REACH status and more. By-products metals 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 have been distributed to member countries. A follow up Joint Seminar was held in Lisbon during the October 2013 Study Group meetings.

JOINT STUDY ON TAXATION AND FISCAL INCENTIVES

This joint project was approved by each of the Study Groups in October 2012 and a contract was awarded to RMG of Sweden to conduct the study. A preliminary report on the project was presented at the April 2013 Joint Seminar in Lisbon. The final report of the project provides a wealth of information on taxation and fiscal incentives and gives a comparison of taxation regimes in 38 mining countries as well as analysis of trends in taxation. The report is available for sale to the public.

JOINT STUDY ON RISK FACTORS

The Study Groups jointly conducted a project to examine the main risk factors likely to inhibit companies' ability to meet production targets or to develop planned mining and metals projects. A contract was awarded to the consulting group Oakdene Hollins to conduct the study. A presentation with a preliminary report on the study was delivered during the October 2013 meetings. The final report is available for purchase.

STUDY GROUPS PUBLICATIONS RESULTING FROM JOINT PROJECTS

- Study Groups' Survey of Semifabricators in China
- By-Products of Copper, Zinc, Lead and Nickel
- Joint Study on Risk Factors
- Joint Study on Taxation and Fiscal Incentives
- Cobalt as a By-Product of Copper And Nickel
- Individual Reports on By-Product metals for Bismuth, Indium, Germanium, Scandium, Cobalt, Rhenium, Tellurium, Selenium, Rare Earths And Molybdenum.

In addition to the above publications, several joint Insight Reports have been published. The latest, issued in September 2014, was a joint ILZSG/INSG Insight on the topic of *The Global E-bike Market*.

(More details on publications can be found in pages 10-13)



PUBLICATIONS

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NEW

INSG World Directory of Nickel Production Facilities 2014

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 December 2014.*

NEW

ICSG 2014 Statistical Yearbook

The 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. *Published October 2014*

NEW

Nickel – A Surface Technology Material

This study, carried out by Heinz Pariser on behalf of INSG, provides a comprehensive overview of the use of nickel in the plating and surface treatment industry, a sector accounting for about 10 percent of nickel usage. Several processes used in nickel plating are described, including electroplating, vapor deposition and zinc-nickel plating. Data is furnished on the industry by region and by major uses of plating such as the automotive sector, electro and electronics. 82 pages. *Published May 2014.*

NEW – Continuously Updated!

Lead and Zinc Mine and Smelter Database

An interactive interface on the ILZSG website provides access to the comprehensive records contained in the extensive ILZSG mine and smelter databases. Information on operating mines and smelters includes contact details, capacities and location. Listings of both currently committed and under consideration mine and smelter projects are provided as are details of all mine and smelter openings and closures back to 2000. Information can be filtered by country and date and downloaded in various formats including Excel. *Continuously updated.*

NEW

Directory of Copper & Copper Alloy Fabricators (First Use) 2014.

This is a systematic global overview of companies and plants involved in the first use of copper. First users are mainly semi-fabricators processing refinery shapes into semi-finished copper and copper alloy products. The report covers wire rod plants, ingot makers (for castings), master alloy plants, brass mills, and electrodeposited copper foil mills. This edition includes a complete update of Chinese, Russian, India and Brazilian copper wire rod plants and projects. *Published September 2014.*

NEW

Study on Industrial Use of Copper in the Middle East and North Africa (MENA Region) 2014

This regional study covers over 2.34 million tonnes of copper and copper alloy semi-fabrication capacity in the region and a regional output reported at 1,731.3 kt for 2013. The 92 page report includes a plant by plant database, a country by country discussion of recent industrial copper use trends, and a country by country database of copper and copper alloy scrap trade in the region. *Published June 2014.*

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The Directory highlights current capacity and provides a five year forecast of capacity for over 1,000 existing and planned copper mines, smelters and refineries on a country by country basis, with separate tables for SX-EW plants. Details for each operation are included and the Directory separates operations between Operating & Developing and Exploration & Feasibility stages. *Published July 2014.*

NEW

ICSG World Copper Factbook 2014

A comprehensive overview of copper, with statistics, graphs, flowcharts and other information providing details on production, usage, recycling, definitions and history. *Published September 2014.*

2014 China Brass Mills Survey: Copper Users ex-Wire Rod.

The ICSG March 2014 survey covers 343 Chinese producers with 6,345 ktpy capacity for copper and copper alloy products (excluding copper wire rod). The report provides details of past, current and expected capacity, output and use of copper scrap and refined copper. The relative importance of scrap versus refined copper in every industry group is explained in detail. Scrap availability, scrap spreads, prices and other factors impacting the industry are discussed. Forecasts for the period 2014-2016 are included for each product included in the survey. *Published May 2014.*

Cobalt as a By-Product of Copper and Nickel

This joint INSG/ICSG report provides information on cobalt, and the relationship between nickel, copper and cobalt production, refining and use. The report, done by Roskill, has data on production and usage through 2012 as well as an outlook for cobalt mine capacity and production for the 2012 to 2018. Data on end-of-life recycling rates for cobalt-bearing products is also included. *Published March 2014.*

China's Nickel Mine and Refined Nickel Production 2014

This report, prepared for INSG by Beijing General Research Institute of Mining & Metallurgy (BGRIMM) provides the latest information on Chinese nickel mine production, reserves and resources as well as data on primary nickel production. Figures for refined nickel, nickel salts and nickel pig iron are provided. Trade data including imports of laterite and import and export of refined nickel are detailed. *Published March 2014.*

Nickel Ore Market of Southeast Asia 2013

This report provides essential information on the rapidly changing laterite ore market and the nickel pig iron industry. The report lists existing and planned mines and smelters in Indonesia, the Philippines, Myanmar, Papua New Guinea and the Solomon Islands, giving information on capacity, ore grades, export destinations, smelter process and more. 56 pages. *Published August 2013.*

Taxation, Royalties and Other Fiscal Measures Applied to the Non-Ferrous Metals Industry

A joint report of the ILZSG, INSG and ICSG providing an in-depth analysis of taxation and fiscal incentives applied to non-ferrous metals in the major mining and metals producing countries. The research was carried out by Raw Materials Group (RMG) of Sweden on behalf of the Study Groups and is intended to be a valuable reference document for governments and companies. 50 pages. *Published January 2014.*

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Study on Chinese Zinc First Use Market 2012

This study comprises a detailed examination of the recent evolution of the zinc first use market in China and discussion of likely future trends. The work was undertaken on behalf of ILZSG by the highly-regarded Beijing General Research Institute of Mining and Metallurgy (BGRIMM) and includes in depth analysis of all the major first use sectors. The majority of information contained in the report is based on extensive direct contact with industry experts, zinc users in the different sectors and the relevant Chinese associations. 87 pages. *Published June 2012.*

World Directory: Primary and Secondary Zinc Plants

This report provides a fully updated, detailed listing of primary and secondary zinc smelters and refineries throughout the world including extensive coverage of China. The directory contains a total of 152 plants comprising 121 primary refineries and 31 secondary operations spread over 35 countries. Information listed includes addresses, telephone and fax nos., e-mail and web addresses, processes used and current capacities. 56 pages. *Published January 2014.*

Individual Reports - By-Products of Copper, Zinc, Lead and Nickel

Separate reports on the production, usage, trade and outlook for 11 by-products metals (bismuth, germanium, indium, cobalt, platinum group metals, scandium, molybdenum, rhenium, selenium, tellurium and rare earth metals). Each report contains information on sources, refinery processes, recycling, markets, historic pricing, uses, government regulations, REACH status of compounds, government stockpiles and trade restrictions. A directory of mining and producing companies with capacities is included. *Published January 2014.*

Report on Risk Factors

An authoritative study examining a wide range of issues and risks currently affecting the development of mineral and metals projects. The approach is global with a particular focus on copper, lead, zinc and nickel. The report covers all aspects of the metals producing sector including mining, smelting and refining and was undertaken by Oakdene Hollins of the UK on behalf of the ILZSG, ICSG and INSG. 84 pages. *Published January 2014.*

World Directory: Lead and Zinc Mines

This comprehensive 72 page report covers mines located in 43 countries and includes information on ownership, type of mine and start-up date, with full contact details. Data regarding annual production capacities for lead and zinc is provided. Extensive coverage of mines located in China. *Published January 2014.*

Report on Chinese Lead and Zinc Mining Sector

This report was prepared for ILZSG by Beijing Antaike Information Development Co. It provides a detailed overview of Chinese lead and zinc resources and the government institutions responsible for developing them. It also discusses rules and regulations governing foreign investment in the Chinese lead and zinc mining sector and includes an in-depth analysis of Chinese lead and zinc mine output. 45 pages. *Published November 2013.*

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Copper and Copper Alloys Scrap Supply Survey in the European Union (EU-27) 2013 The survey covers most of the copper scrap and copper alloys scrap supply chain in Europe, small and large traders, direct collectors and recyclers of scrap in the EU-27. The consultants contacted 227 companies with a 25% response rate and 58 industry players comprising interviews with copper scrap and alloy scrap traders, recyclers, direct collectors and industry experts. The study summarizes the findings from both secondary and primary statistics. One section provides a look into a top down approach to estimate material availability, copper content in trade and the economic logic of copper scrap dismantling. *Published May 2013.*

*****COMING SOON*****

Lead and Zinc New Mine and Smelter Projects 2015

This report will cover lead and zinc mines and smelters opened or closed during 2015, firm projects currently committed and other projects under consideration. Developments in 46 countries 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. *To be published January 2015*

ICSG Directory of Copper Mines and Plants

The Directory highlights current capacity and provides a five year forecast of capacity for over 1,000 existing and planned copper mines, smelters and refineries on a country by country basis, with separate tables for SX-EW plants. Details for each operation are included and the Directory separates operations between Operating & Developing and Exploration & Feasibility stages. *To be published December 2014.*

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