

“Mining across Copper, Nickel, Lead & Zinc”

China (Western) Nonferrous Mining Forum 2006

Huhhot , 22-25 August 2006

Sven F. Tollin



1

Overview of the Presentation

- Study Group Rationalisation
- ILZSG (Lead & Zinc Study Group)
- INSG (Nickel Study Group)
- ICSG (Copper Study Group)
- Conclusions



2

Study Group Rationalisation

- 3 independent Study Groups co-located at same location: Lisbon, Portugal.
- Reduced costs for Members.
- Synergy effects between the Group's for example: sourcing of information.



3

Presentation

- Consists of mainly three parts
 - Lead & Zinc
 - Nickel
 - Copper
- Above includes short samples of what the study groups do and produce.

4



ILZSG Overview – Sessions/Conferences

- Forum for government and industry to discuss issues that affect the world lead and zinc markets
- Meetings twice yearly in April and October
- Conferences and seminars focusing on specific issues affecting the industry
- Seminar on Mining and Investment Policy in Southern Africa scheduled for Windhoek, Namibia in 2007



5



ILZSG Overview – Work of the Group

- Reports and presentations on environmental legislation
- Papers on economic issues of interest to members
- Close liaison with the Common Fund for Commodities (CFC) regarding the development of projects to encourage the use of lead and zinc
- Promotion of market transparency
- **Contact Paul White/Ian Burrell – tel: +351 21 359 2420**

6



ILZSG Market Transparency - Reports

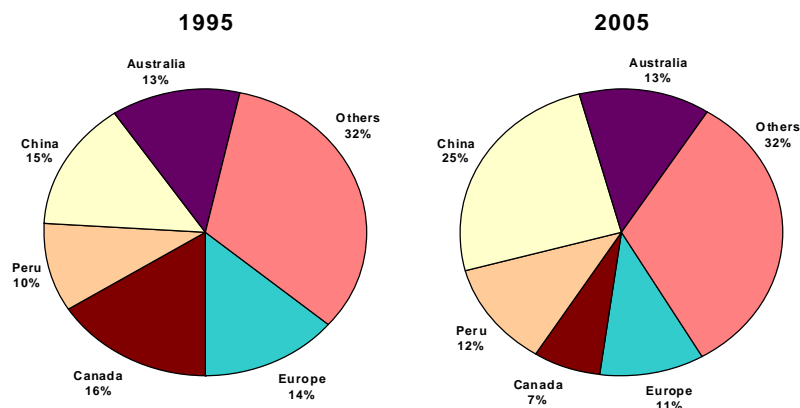
- Monthly Statistical Bulletin
 - production, consumption, prices, stocks, trade flows and market balances
- Supply
 - Annual New Mine and Smelter Projects Report
 - Plant and Mine Directories
- Demand
 - Annual Survey and reports on specific sectors
- Reports on Markets
 - The Zinc Market: The Fundamentals Driving Change



7



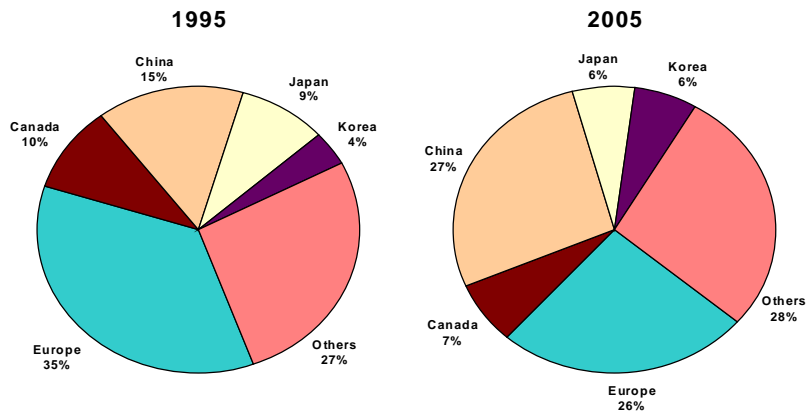
Distribution of Zinc Mine Supply



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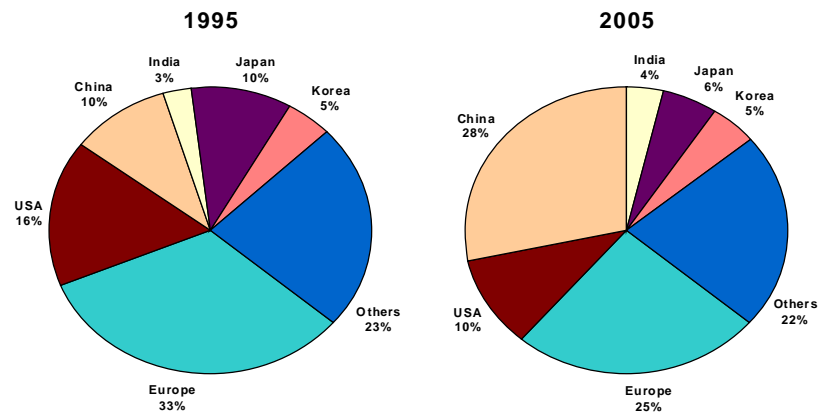
Distribution of Zinc Metal Supply



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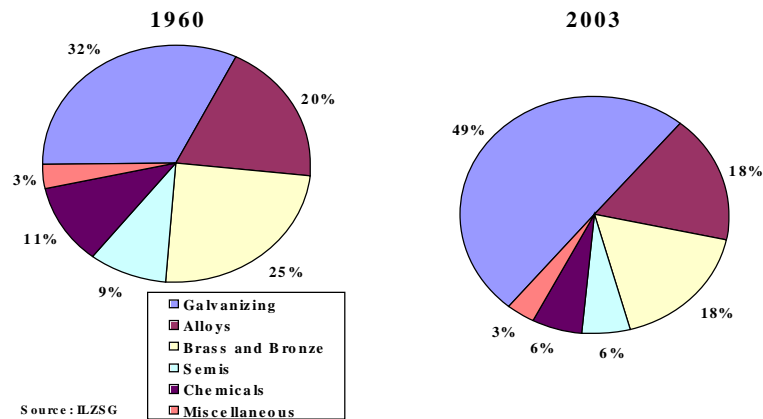
Distribution of Refined Zinc Usage



10



Zinc End Use Sector Breakdown



11



Longer Term Zinc Developments - Supply

- Further increases in metal output in India. Work on a second 170kt/yr smelter at Chanderiya has just begun.
- Many potential and ongoing mine and smelter projects in China.
- Lennard Shelf mine in Australia to reopen early in 2007.
- 215kt/yr capacity San Cristobal mine in Bolivia to open in 2007.

12



Longer Term Zinc Developments - Supply

- Several mine projects under consideration in the CIS, in particular in Kazakhstan.
- Production in Iran steadily increasing. Plans to construct a large new mine and refinery at Mehdiabad and a refinery at Angouran.
- Production in North Korea recovering.
- Possible commissioning in 2009/10 of 300kt/yr Gamsberg mine and refinery.

13



Longer Term Lead & Zinc Developments - Demand

- Many observers expect the most rapid growth to be in Brazil, Russia, India and China (BRICs)
- Usage is growing rapidly in Vietnam with recovery also in evidence in other parts of South East Asia

14



International Nickel Study Group (INSG)

- Membership and Contributions from 13 Countries, the European Community and Germany as Associate member.
- Meetings twice a year
- **Attendance to Meetings is limited**

15



What are the main Objectives

- To collect and publish Statistical and Quantitative information on the Nickel market.
- To provide a Forum on Nickel Issues of interest to Industry and Governments
- **No market intervention of any kind**

16



Supply & Demand of Primary nickel in '000 mt

	2003	2004	2005
Production	1192	1257	1285
Consumption	1219	1254	1243
Stock pile sales	0	1	0
Market Balance	-27	4	42

17



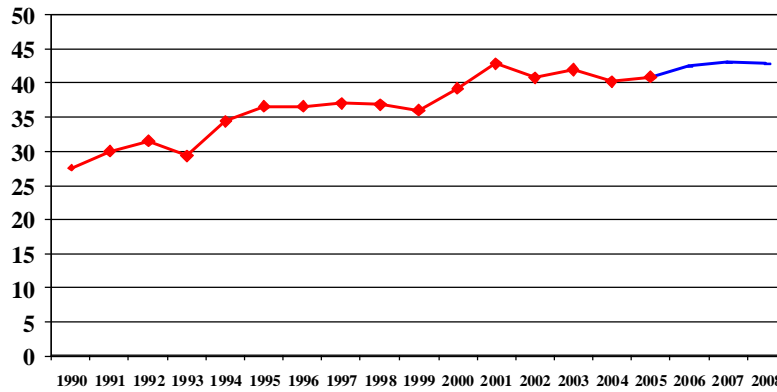
Supply & Demand 2006 of primary nickel

- According to information from INSG's April 2006 meetings and also later information, indicates that 2006 will achieve a balance between actual production and consumption, barring any unforeseen developments. Therefore, the production and consumption should be around 1.34 Mmt.

18



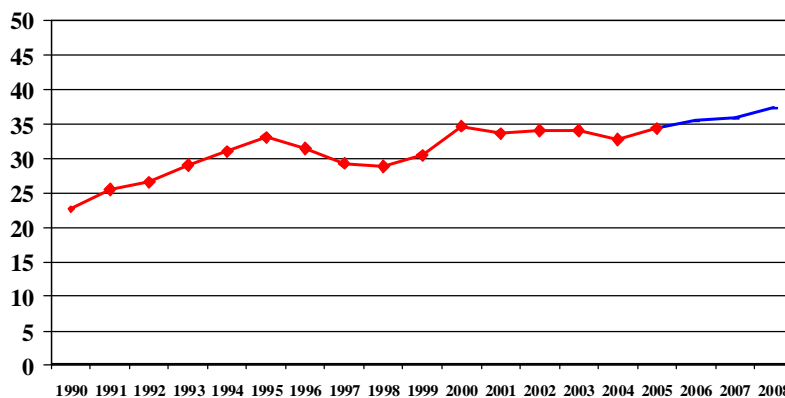
China, Asia & Oceania nickel ore production as a % of world production



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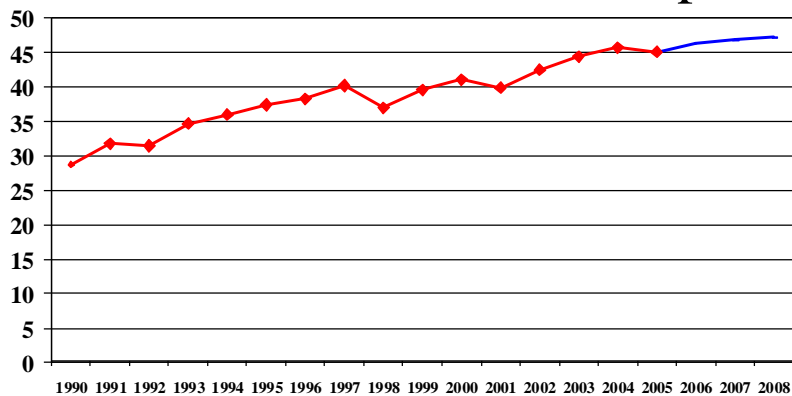
China, Asia & Oceania primary nickel production as a % of world production



20



China, Asia & Oceania primary nickel consumption as a % of world consumption



21



Nickel Projects

- One can see from the following listings that there are no shortage of nickel projects
- Difficulty to find “rich deposits”, most have a low to medium nickel content and limited quantity
- To obtain sufficient financing is a problem
- Actual timing to a possible realization of a deposit is virtually impossible to accurately forecast

22



Nickel Projects I 2004 Directory

- Committed Developments:
 - Ore & Concentrate: 85 500 tpa
 - Intermediate Products: 10 000 tpa
 - Refined products: 134 000 tpa

23



Nickel Projects II 2004 Directory

- Likely Project Developments:
 - Ore & Concentrate: 38 000 tpa
 - Intermediate Products: 50 000 tpa
 - Refined products: 227 000 tpa

24



Nickel Projects III 2004 Directory

- Potential Project Developments:
 - Ore & Concentrate: 134 000 tpa
 - Intermediate Products: 138 000 tpa
 - Refined products: 240 000 tpa

25



INSG'S Website
www.insg.org

Email: insg@insg.org

26



International Copper Study Group (ICSG) INTRODUCTION

- formally established in 1992, following a series of UNCTAD expert meetings on copper;
- headquarters in Lisbon, Portugal
- the Group is an United Nations affiliated intergovernmental organisation of 22 member government plus the European Commission, representing copper producing and using countries.

27



ICSG MAIN PUBLICATIONS/OUTPUTS

Copper Bulletin (monthly): includes annual and monthly statistics, by country, on copper mine, smelter, refined and semis production, copper usage and trade, as well as stocks and exchange prices, providing a global view of supply and demand.

Monthly Press Release on the state of the copper market (to be included in the email distribution list please contact mail@icsg.org)

World Copper Market Forecast: Prepared twice a year for the following two years.

28



ICSG MAIN PUBLICATIONS/OUTPUTS

Directory of Copper Mines & Plants (quarterly) : the Directory highlights current capacity and provides a five year outlook of forecasted capacity for over 700 existing and planned copper mines, smelters and refineries on a country by country basis, identified as Operating & Developing or Exploration & Feasibility stages.

Directory of Copper & Copper Alloy Fabricators – First Use (annual): provides a global overview of companies and plants involved in the first use of copper. Covers wire rod plants, ingot makers (for castings), master alloy plants, brass mills, and electrodeposited copper foil mills (over 1200 existing, developing and planned plants.

29



Important New China Copper Report: “The China Factor in Global Copper Usage and its Consequences” (now available for sale).

China is the biggest copper user in the world and the main driver of overall global copper usage. Due to China’s important role in the world copper industry it is essential to know how does China impact on the copper market?

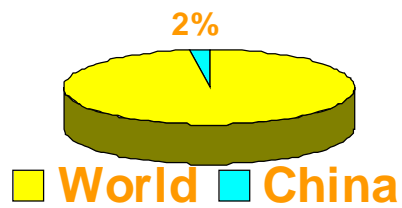
Initiated by the International Copper Study Group (ICSG), with the co-sponsorship of COCHILCO (Chilean Copper Commission) and MERIJ (Metal Economics Research Institute, Japan), a major report has been prepared by BGRIMM (Beijing General Research Institute of Mining and Metallurgy) aiming at identifying the impact of China and its rapid growth on the global demand for refined copper.

30

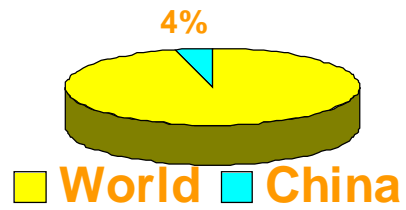


China in the overall copper market Copper Mine Production

1985



2005

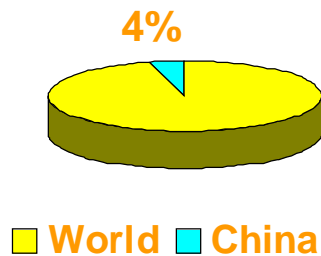


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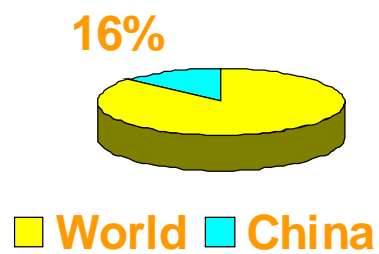


China in the overall copper market Copper Refined Production

1985



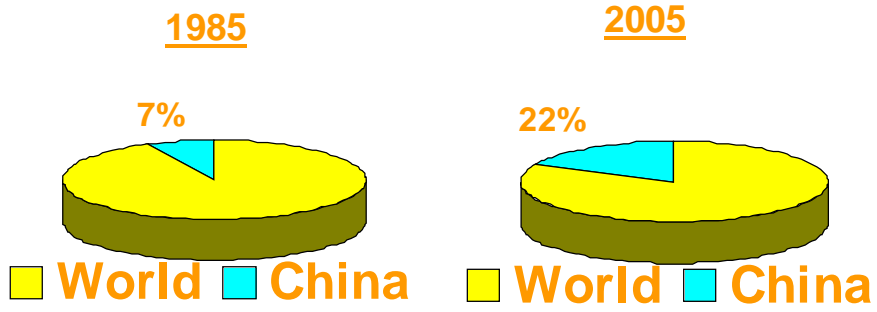
2005



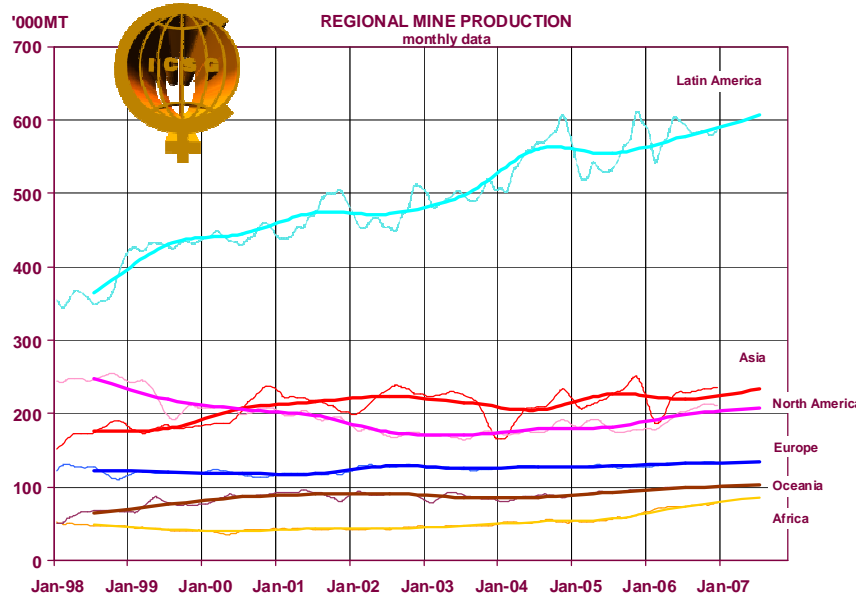
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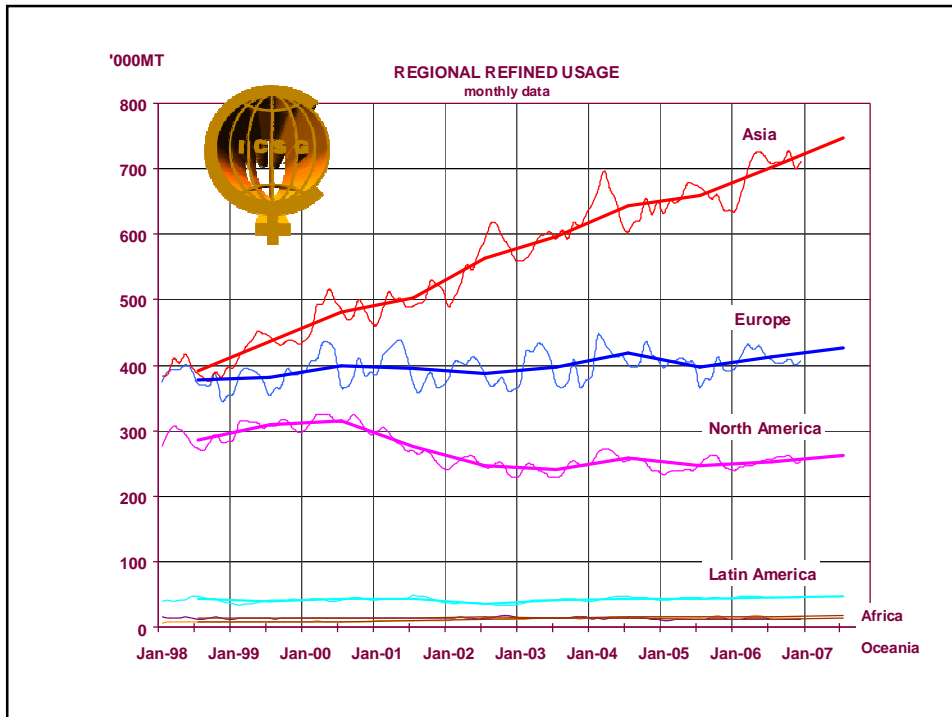
China in the overall copper market Copper Refined Usage



33



34



Conclusion I

- The three study Group's have a host of metals and minerals information to offer:
 - Monthly Bulletins
 - Directories
 - Special reports

Conclusions II

- China is a member of the Copper and Lead & Zinc Study Group's.
- Therefore, Chinese Industry is encouraged to contact the above two Study Group's if there is a need for information.
- With China recently becoming the largest consumer of primary nickel, China should consider membership in the Nickel Study Group.

37

End of Presentation

On behalf of the three Study Groups
Many thanks for your kind attention.



38