



# **The Industrial Metals Markets: Copper, Zinc, Lead and Nickel**

**Patrick Chevalier**

*Department of Natural Resources/Ministère des Ressources naturelles  
Government of Canada/Gouvernement du Canada*

**On behalf of ICSG, ILZSG and INSG**

*Intergovernmental Forum*

**Geneva**

**November 2011**

# The Study Groups

- Three independent intergovernmental organisations set up within the UN system:
  - International Lead and Zinc Study Group (1959)  
30 members
  - International Nickel Study Group (1990)  
15 members
  - International Copper Study Group (1992)  
21 members



# Data Provision

- Monthly Bulletins of Statistics on Copper, Lead & Zinc and Nickel
- Biannual/annual reporting on mine, smelter and refinery start-ups, closures, expansions and planned development
- Reporting on smelting and refining capacity and other plant details
- Publication of data on principal end uses of metals
- Studies on trends in downstream metals sectors
- Interactive data on lead and zinc accessible through internet
- Historical data series available on request
- Monthly press releases distributed widely



# A Forum for Discussion

- **Markets:** forecasts of supply and demand for metals a year ahead
- **Trade:** monitoring of international trade in metals
- **Environmental policy:** sharing information on approaches to regulation
- **Industry Advisory Panel:** metals industry executives provide input to member governments
- **Study Group Sessions:** up to 200 participants at ILZSG (the largest)



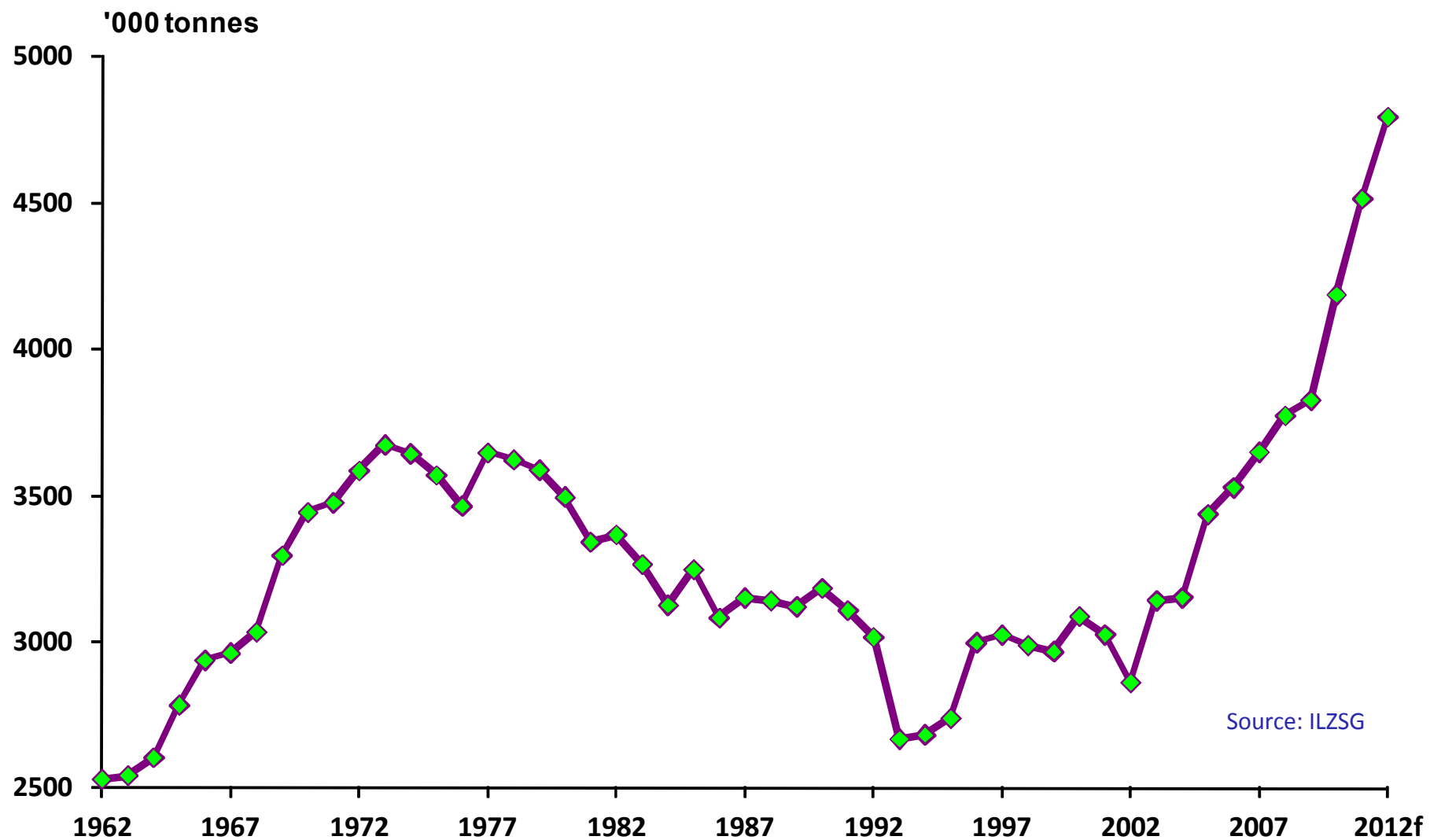
# Attending the Study Group Meetings

- All industry representatives from member countries are welcome and encouraged to participate in Study Group Sessions
- Industry or government delegates from non-member countries can request participation in Study Group Meetings
- The Study Groups are unique forums where mining ministries can meet their global counterparts and the international metals industry





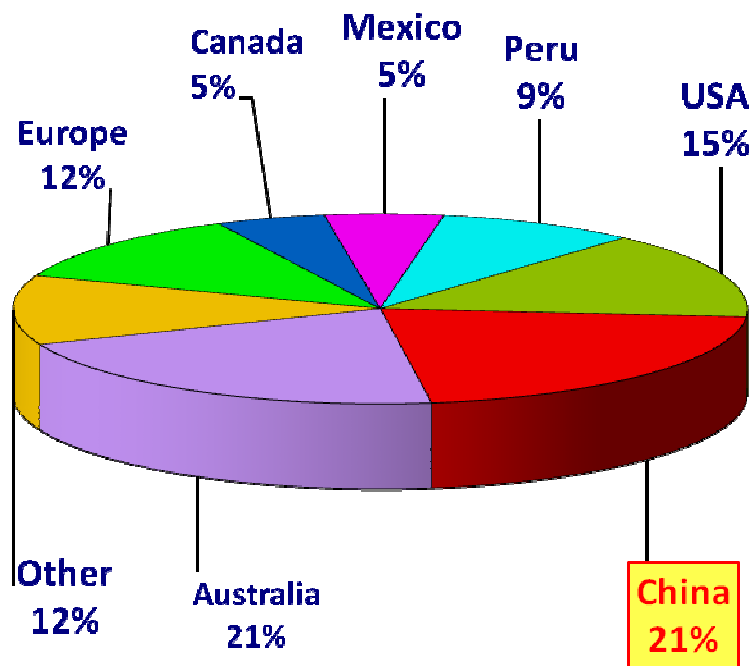
# Lead Mine Output 1962-2012f



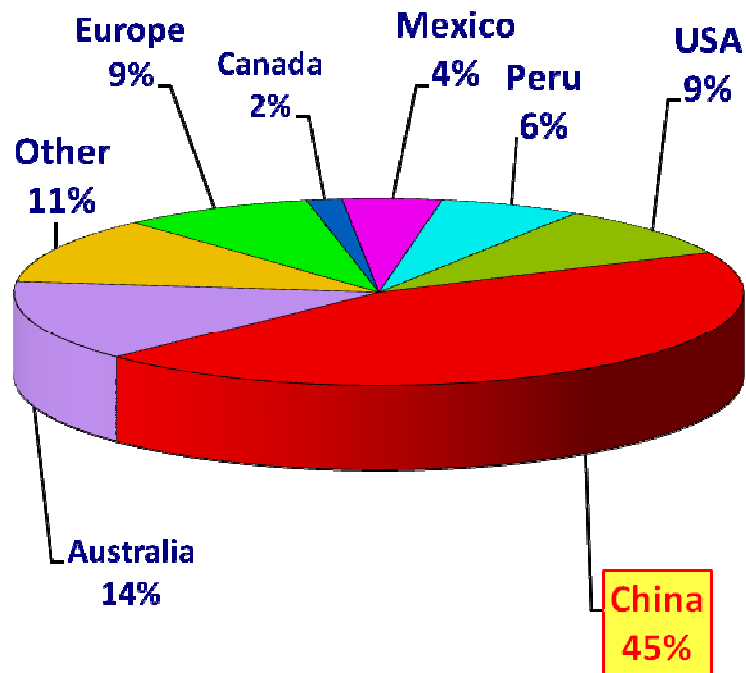


# Distribution of Lead Mine Supply

2000



2010

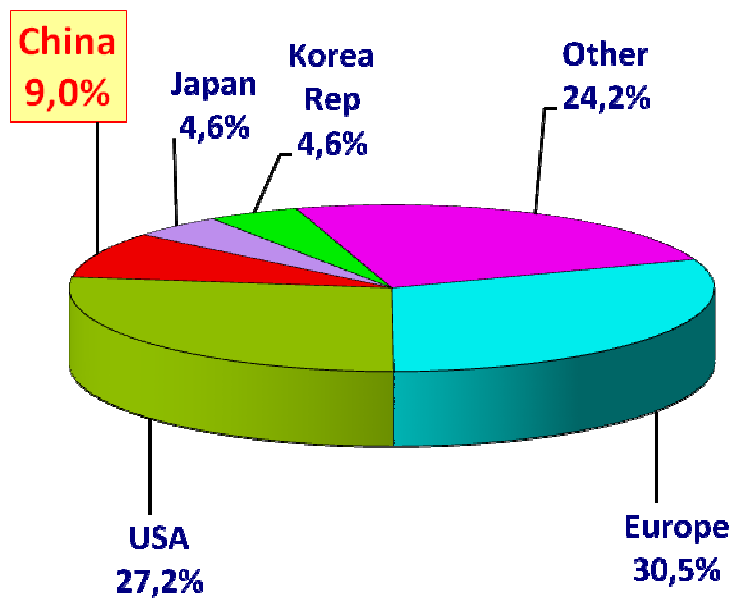


Source: ILZSG

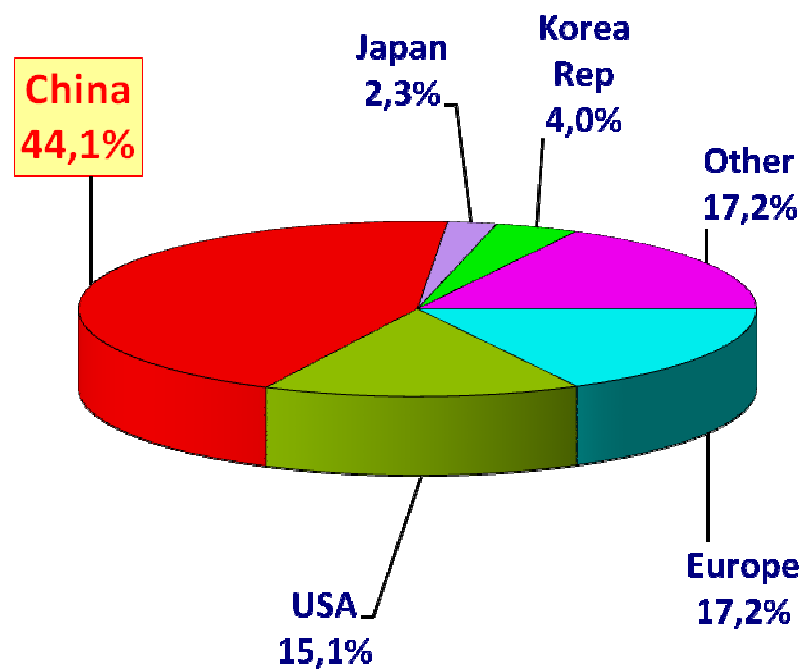


# Distribution of Refined Lead Usage

2000



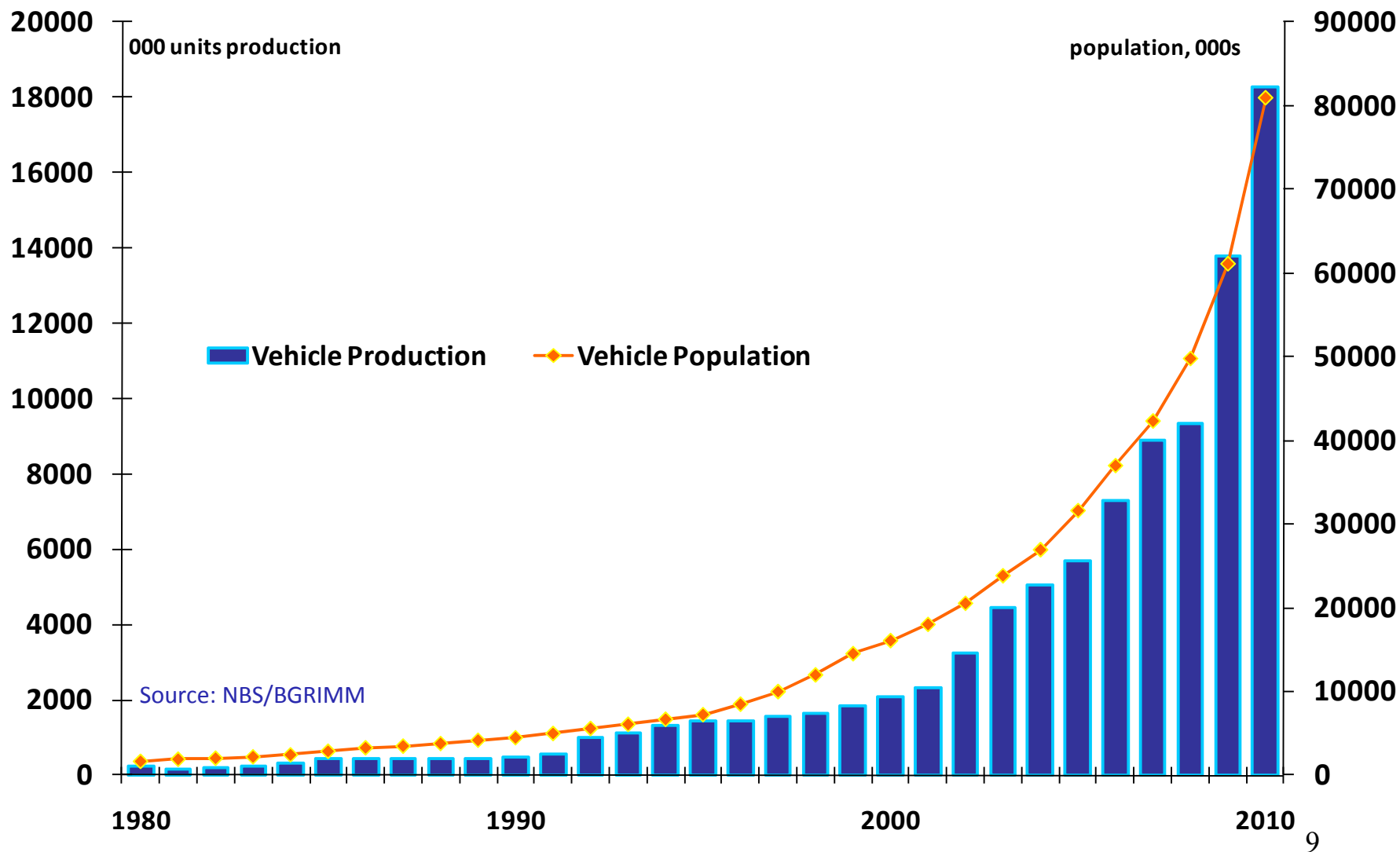
2010



Source: ILZSG

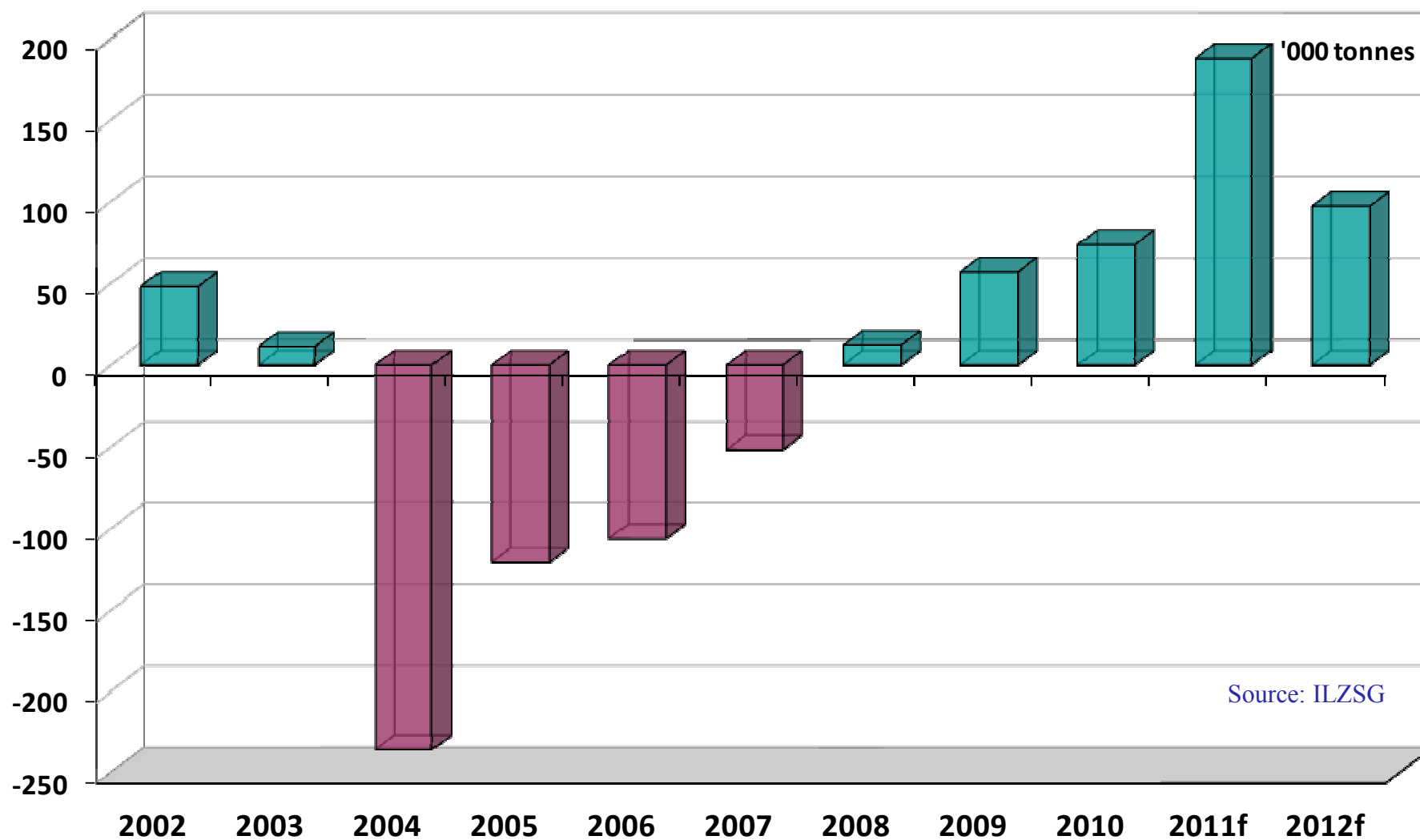


# Chinese Vehicle Population and Production 1980-2010





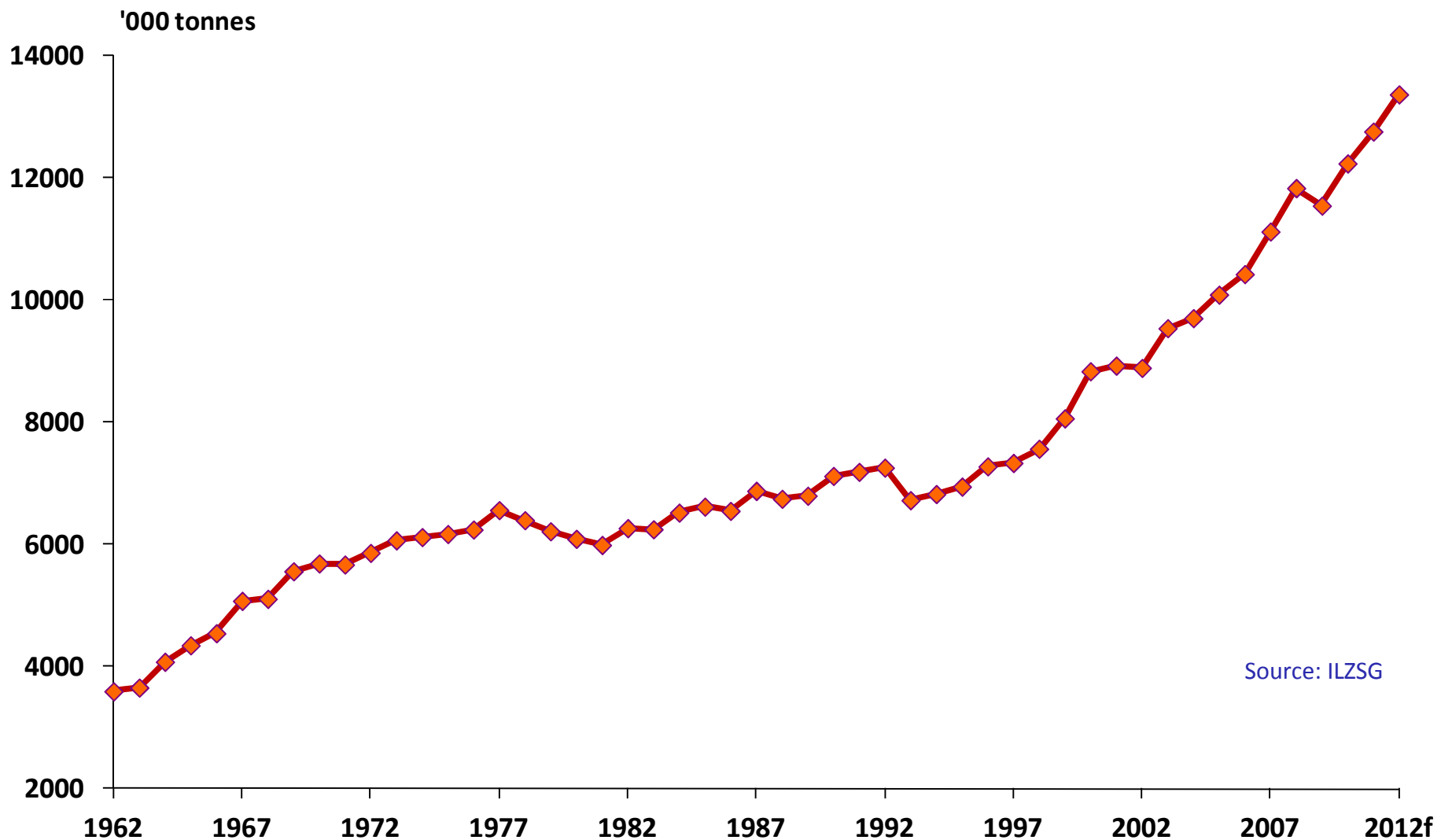
# Lead Metal World Balance



Source: ILZSG



# Zinc Mine Output 1962-2012f



Source: ILZSG

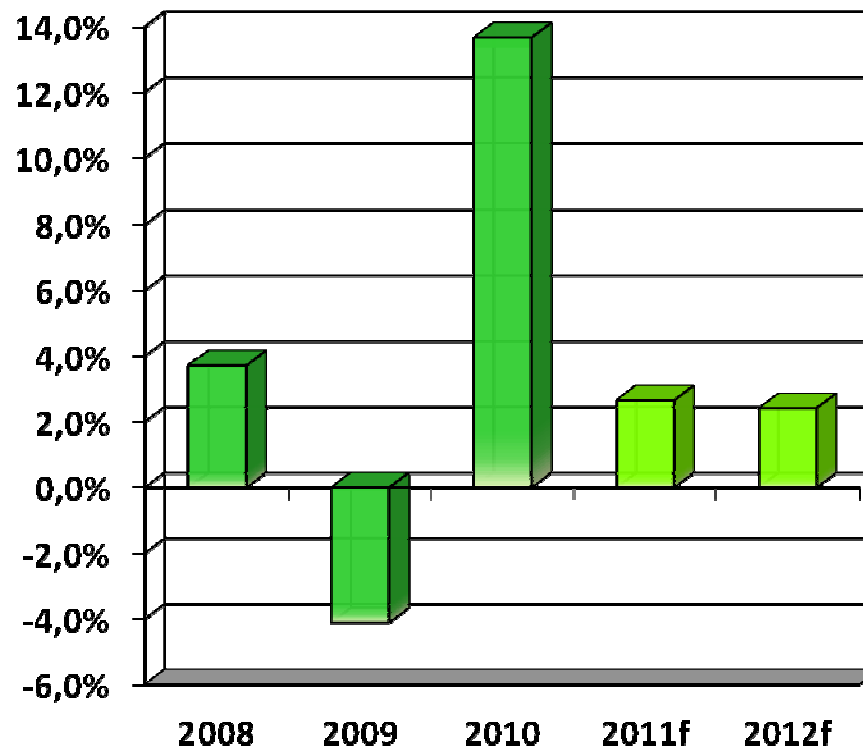


# World Zinc Metal Supply Forecast

## ILZSG Forecast

- **2011**      **2.7 %**
- **2012**      **2.4%**

## Annual Change

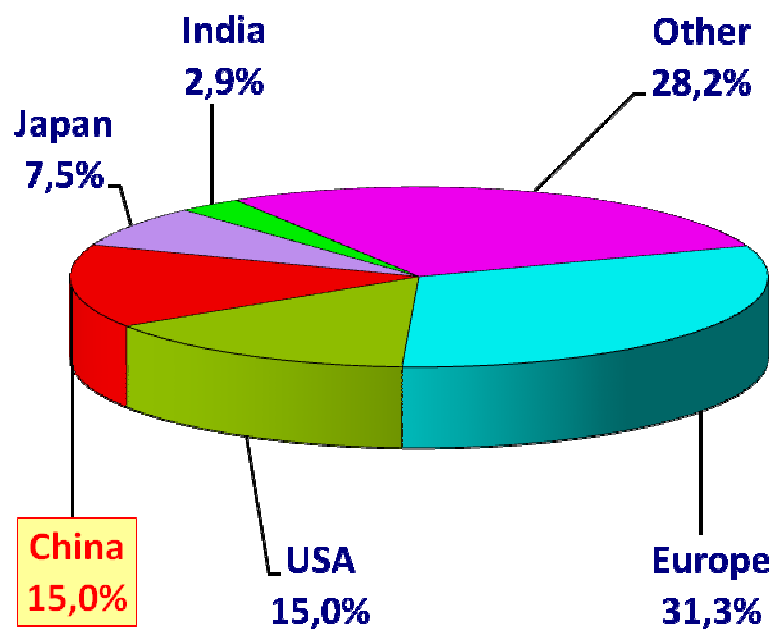


Source: ILZSG

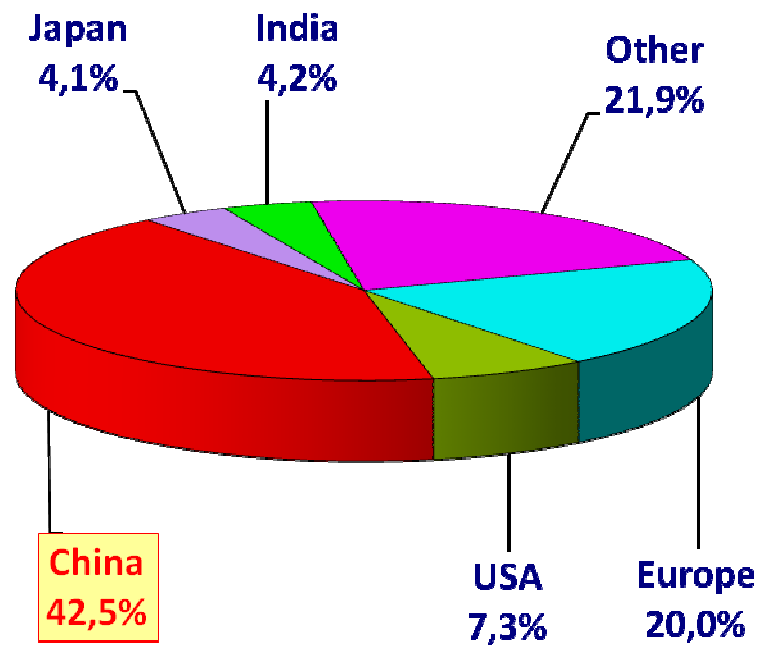


# Distribution of Refined Zinc Usage

2000



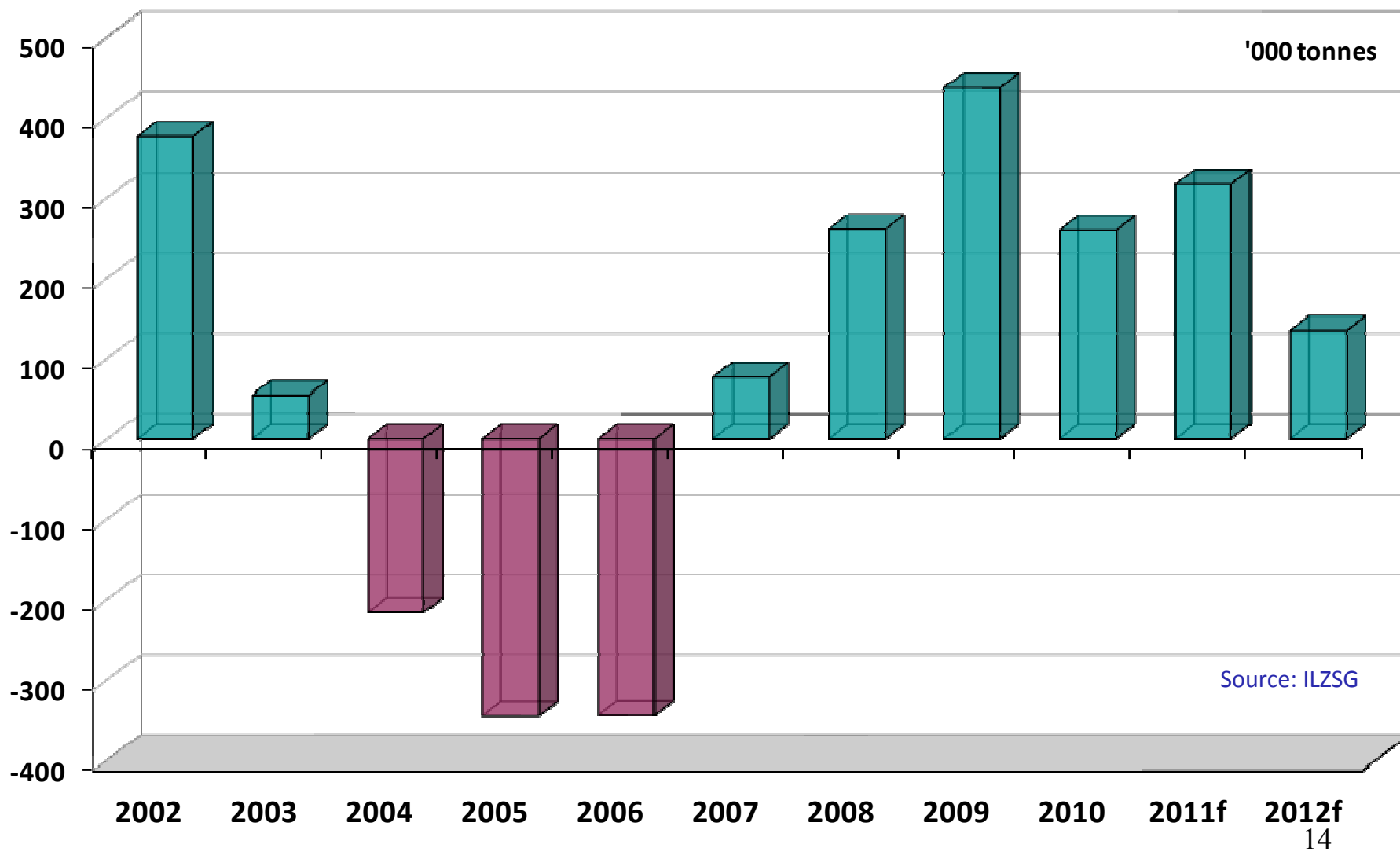
2010



Source: ILZSG

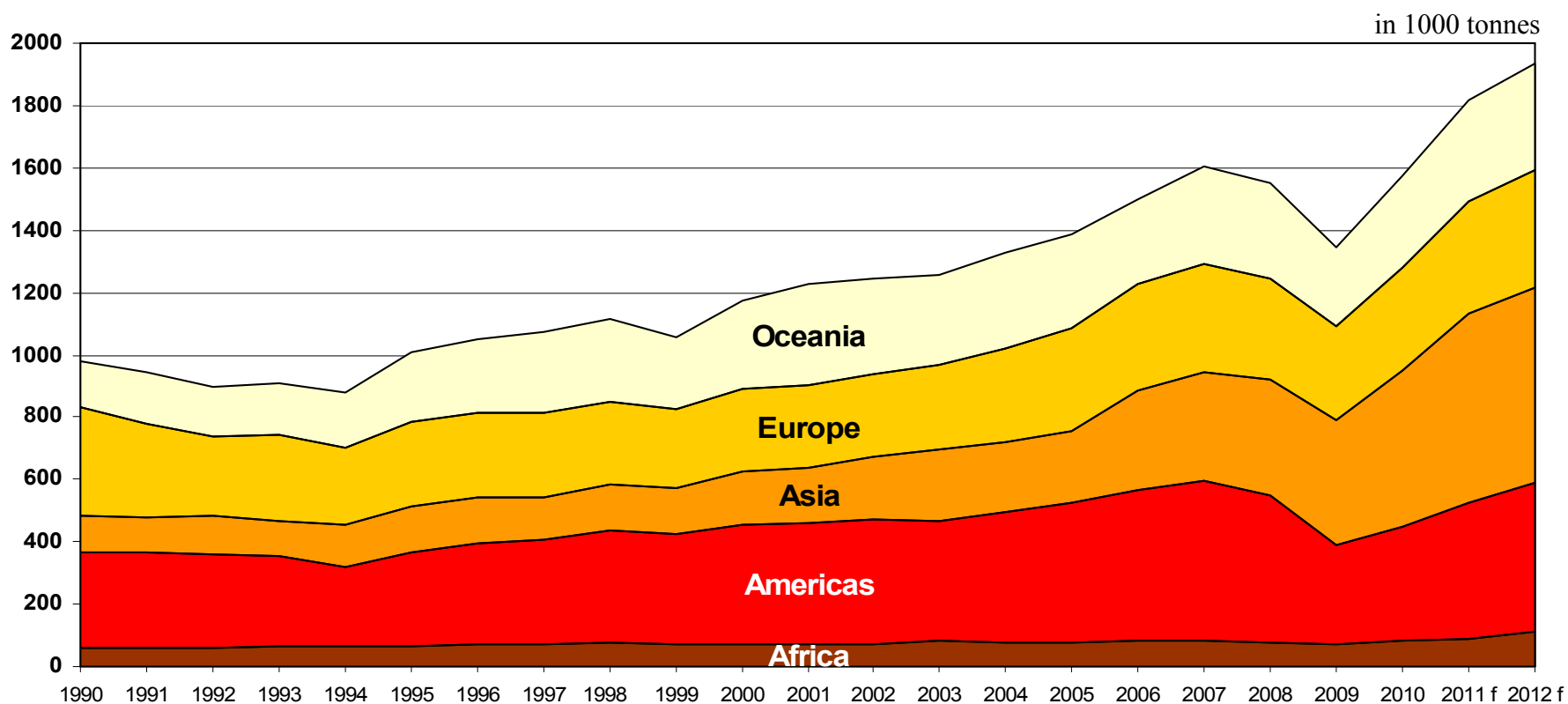


# Zinc Metal World Balance





# World Nickel Ore Production

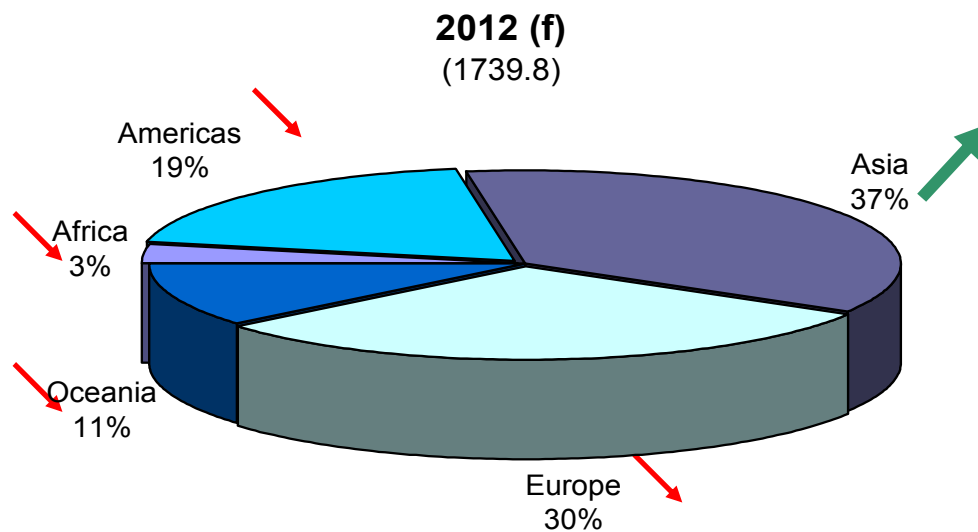
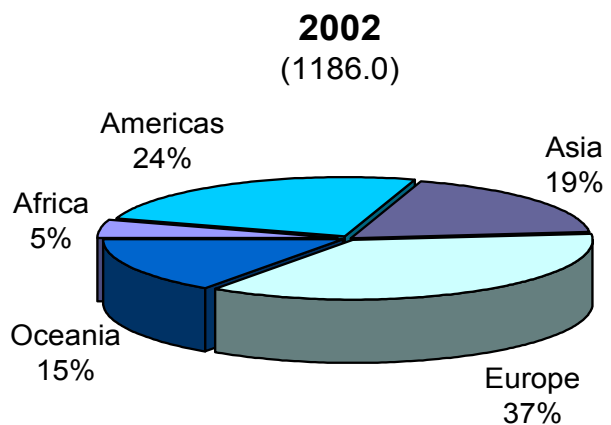


(f) forecast September 2011



# World Primary Nickel Production

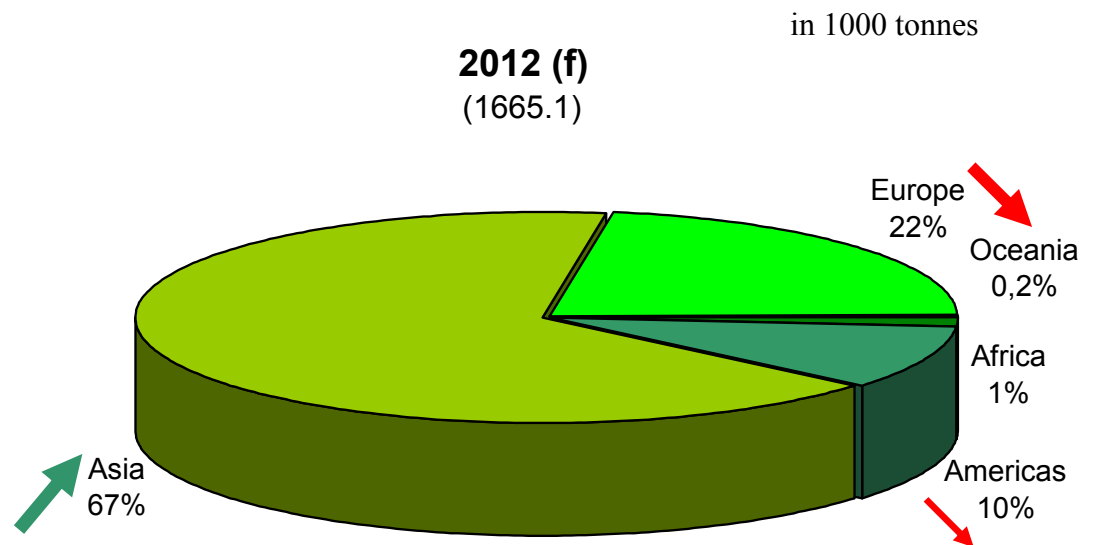
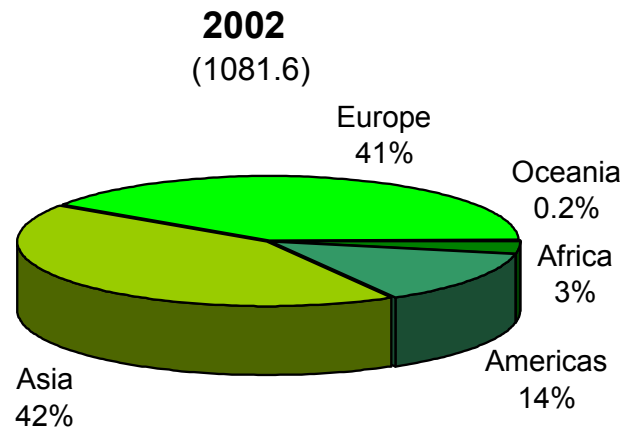
in 1000 tonnes



(f) forecast September 2011



# World Primary Nickel Usage

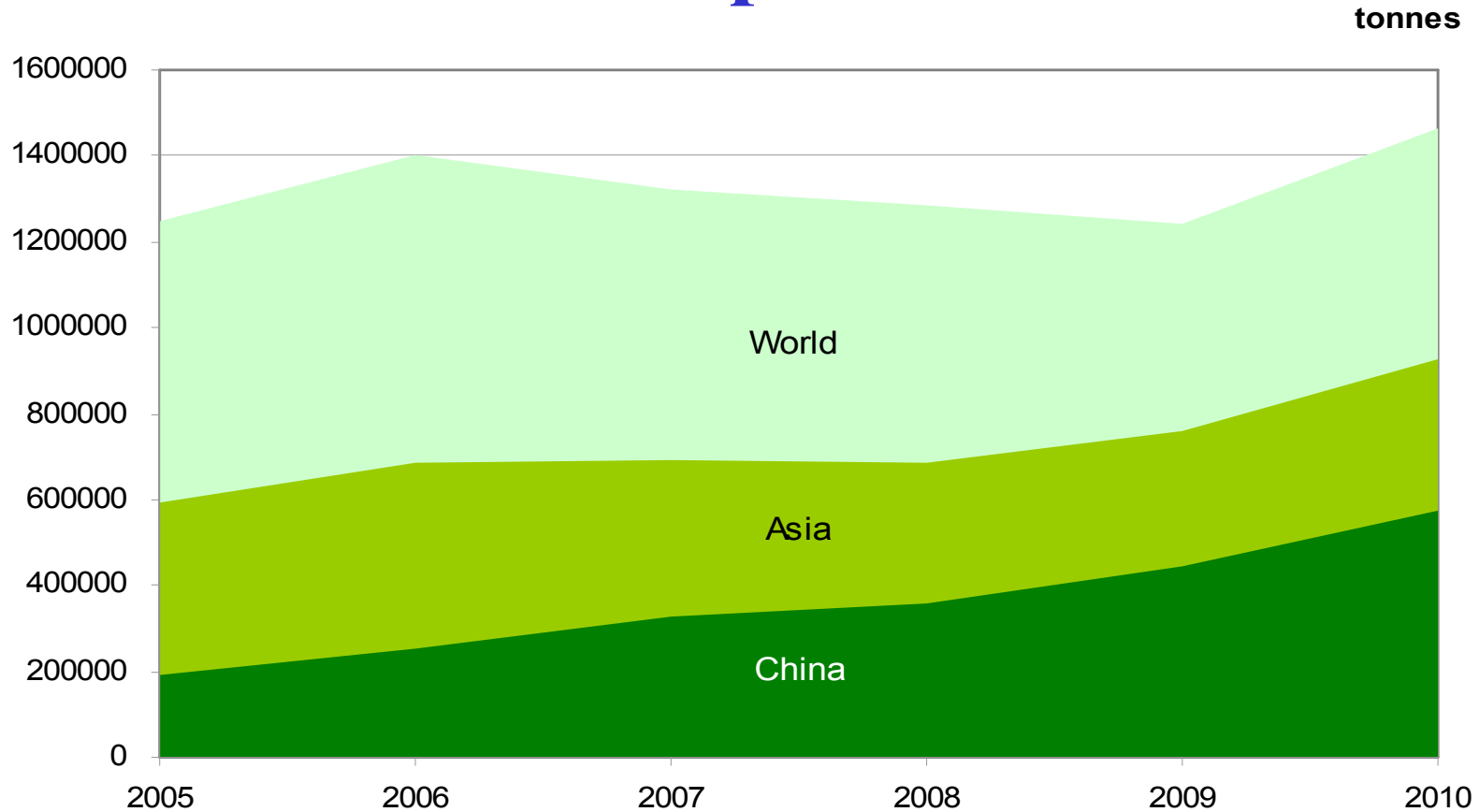


(f) forecast September 2011



# Nickel Usage (Consumption)

## The impact of China



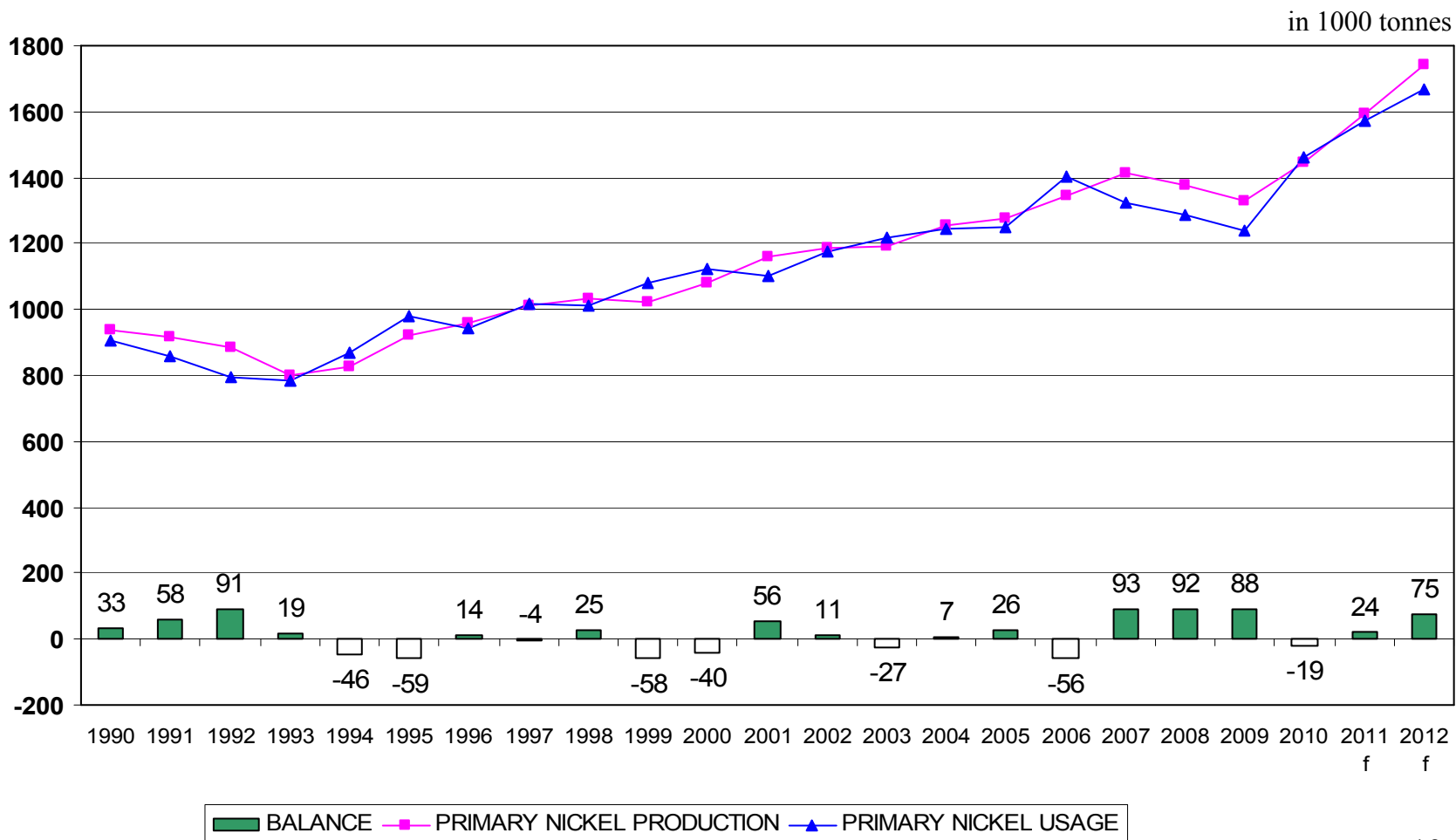
**2005**  
Asia: 47%  
China: 15%



**2010**  
Asia: 63%  
China: 39%



# World Primary Nickel Balance



(f) forecast September 2011 19



# Nickel Capacity on Stream / Ramp Up in 2011

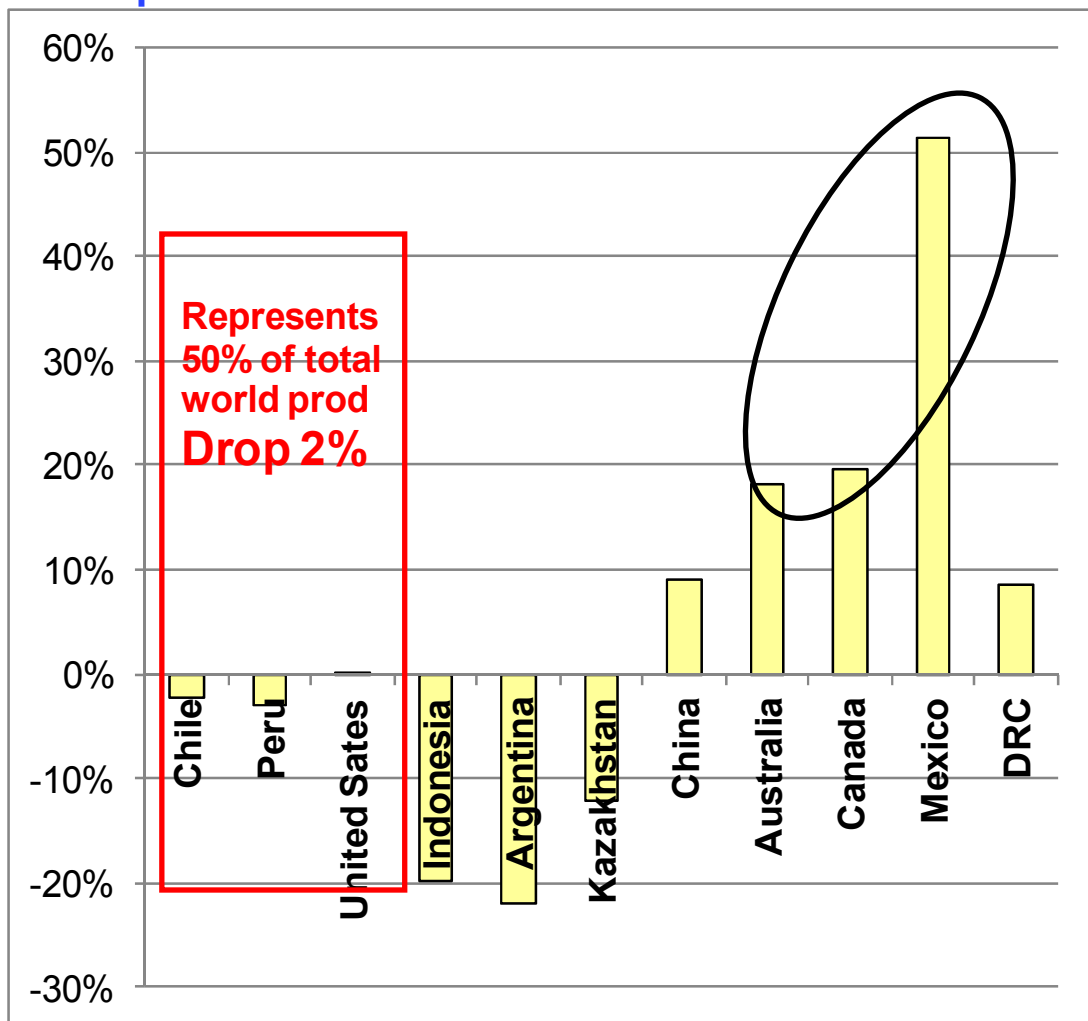
Project Name / Country	Product	Mode	Estimated Production	Projected Total Production	Remarks
Ambatovy / Madagascar	Class I	Construction	0	60 000	Open market
Tagaung Taung / Myanmar	FeNi	Start Up	≈ 5 000	22 000	China
Onça Puma / Brazil	FeNi	Start Up	≈ 20 000	58 000	Open market
Barro Alto / Brazil	FeNi	Start Up	≈ 20 000	36 000	Open market
Goro / New Caledonia	Semi / Class I	Ramp Up	≈ 10 000	60 000	Australia & China
Talvivaara / Finland	Semi	Ramp Up	≈ 15 000	35 000	Finland
Ramu / PNG	Semi	Start Up	≈ 5 000	30 000	China & Other
Raventhorpe / Australia	Semi	Start Up	Small	39 000	Australia & Other?
Santa Rita / Brazil	Conc.	Ramp Up	≈ 15 000	18 500	Brazil & Finland
Munali / Zambia	Conc.	Ramp Up	≈ 4 000	8 500	China

Note: no Chinese NPI projects included.



## 1<sup>st</sup> half 2011 : Constrained copper mine supply

Mine production growth in major world copper mine producers: 1st Half 2011 vs 1st Half 2010



- In the 1<sup>st</sup> half of 2011, operational problems, lower head grades, adverse weather conditions and labor unrest combined to constrain mine production.
- Production in Chile the biggest world copper mine producer was down by 2%
- Indonesia continues to be affected by operational issues restricting access to higher ore grades.
- Growth in Australia and Mexico due to recovery from constrained 2010 output.
- Chinese mine production increased by 9%
- World mine production increased by less than 1% in 1H 2011 (concentrate was up by 0.9% and SX-EW by 1.2%)
- Capacity utilization rates in 1H were at 77% (87% average over the last 10 years) which shows the underperformance of mine production



## ICSG World Copper forecast – summary table

REGIONS (1000 t)	MINE PRODUCTION			REFINED PRODUCTION			REFINED USAGE		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Africa	1,215	1,350	1,619	859	996	1,188	285	285	301
N.America	1,915	2,080	2,353	1,690	1,661	1,833	2,182	2,230	2,279
Latin America	7,031	6,985	7,727	3,897	3,917	4,048	646	628	657
Asean-10	1,087	851	786	534	569	573	748	758	772
Asia ex Asean/CIS	1,626	1,655	1,741	7,558	7,806	8,301	11,052	10,990	11,556
Asia-CIS	491	474	501	413	440	497	96	101	101
EU-27	758	784	792	2,624	2,704	2,771	3,348	3,346	3,362
Europe Others	826	836	847	1,035	1,086	1,119	897	1,198	1,223
Oceania	1,030	1,084	1,246	424	498	510	131	140	141
<b>TOTAL</b>	<b>15,979</b>	<b>16,098</b>	<b>17,612</b>	<b>19,035</b>	<b>19,676</b>	<b>20,840</b>	<b>19,386</b>	<b>19,676</b>	<b>20,392</b>
Adjustment for Primary Feed Shortage 1/					-110				
Allowance for Disruptions 2/					-91	-704			
<b>World</b>	<b>15,979</b>	<b>16,098</b>	<b>17,612</b>	<b>19,035</b>	<b>19,475</b>	<b>20,136</b>	<b>19,386</b>	<b>19,676</b>	<b>20,392</b>
% change	0.5%	0.7%	9.4%	4.2%	2.3%	3.4%	7.1%	1.5%	3.6%
<b>Refined Production - Usage Balance</b>							<b>-351</b>	<b>-201</b>	<b>-256</b>

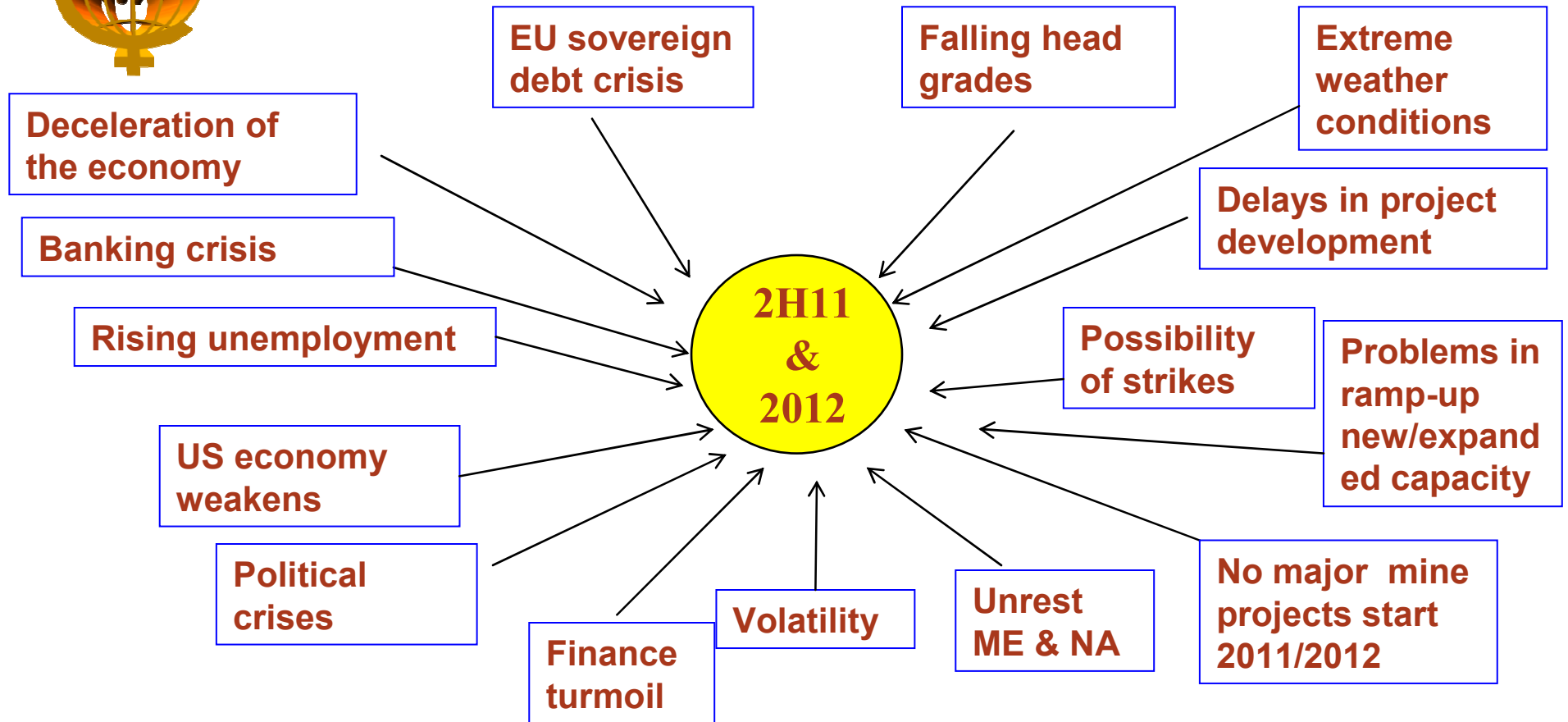
1/ based on a formula for the difference between the projected copper availability in concentrates and the projected use in primary refined production. 2/ Based on capacity utilization of mines and refineries

**Based on the current assumptions, the market will remain in deficit in 2011 and 2012 and with improved supply the market is foreseen to return to balance in 2013**

The International Copper Study Group recognized that numerous factors including a world economic slow down, European Union sovereign debt issues, political disturbances in the Middle East and North Africa, and market price volatility create significant uncertainty, and that the global market balances could vary from those projected



## 2<sup>nd</sup> half 2011 and 2012: uncertainty is the key



- With the recent deterioration for the economic global outlook, uncertainty exists on how the world economy will evolve in 4Q2011 and in 2012 and how it will impact the copper market (dejà-vu?)
- The situation is more complex now as we are facing a banking crisis, a sovereign debt crisis, an employment crisis and a political crisis
- However the IMF latest data forecasts world GDP growth at 4% for 2011 and 2012 (5.1% in 2010) but growth in 3 of the major copper consuming countries expected to be much lower.



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