# **EXPOMIN 2012**

Challenges and Opportunities for China in the Mining Market of Latin America

Diego Hernández C. **CEO** 

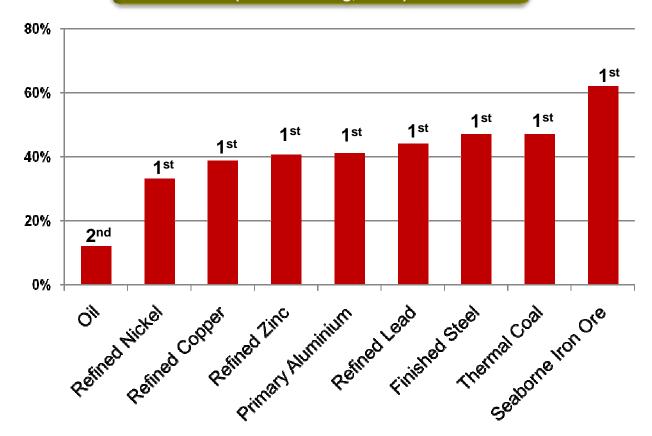
April 10<sup>th</sup>, 2012



# China: The World's Largest Consumer of Minerals Development of Infrastructure, Urbanization and Fixed Assets

CHINA s CONSUMPTION OF COMMODITIES

Share of World Total
(World Ranking, 2010\*)



<sup>\*:</sup> Oil and thermal coal data from 2009. Source: Morgan Stanley estimates; IEA; The Beijing Axis Analysis.

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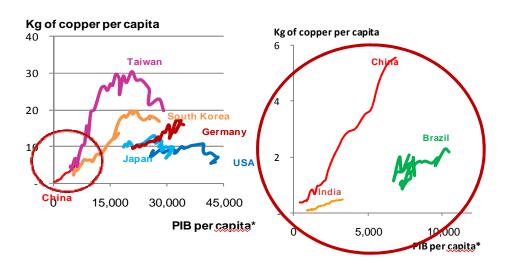


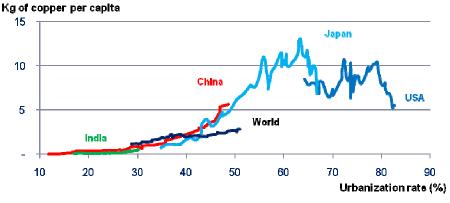
# **China: A Dominant Force in Global Copper Demand**

#### **Consumption of Refined Copper: 1950-2011**

#### '000 tonnes 20,000 15,000 China 10,000 Developing Countries **Developed Countries** 5,000 1950 1960 1970 1990 2000 1980 2010

#### GDP per Capita and Copper Consumption per Capita, 1980-2011





Sources: WBMS, IMF, World Bank, United Nations and Codelco. (\*): PPP, 2005 US\$.

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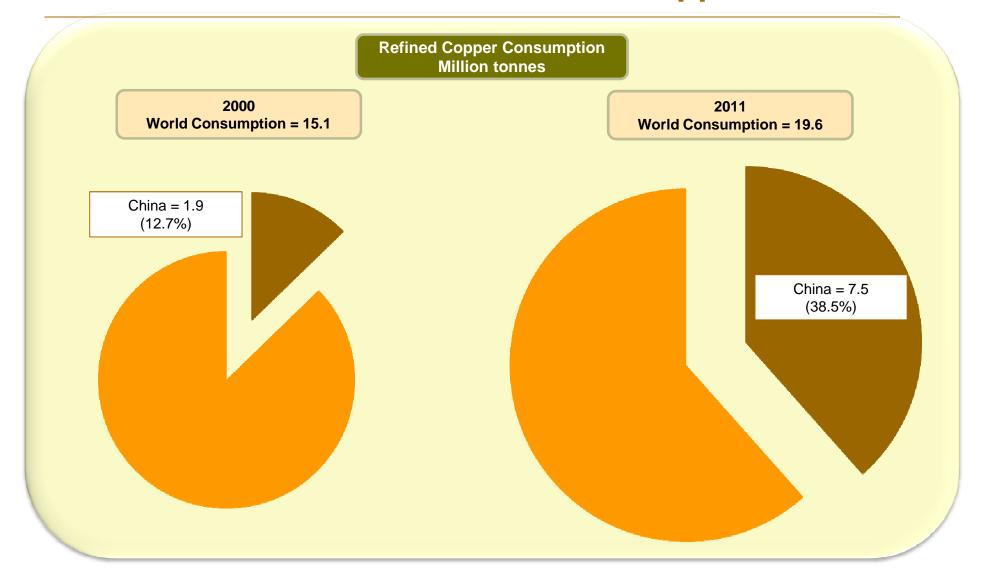








# **China: A Dominant Force in Global Copper Demand**



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## **Future Scenario for China**

- Compound annual growth rate (CAGR) of consumption during the last 20 years is equivalent to 13.6%.
- Great increase of consumption mainly explained by the economic growth phase intensive in investment and exports.
- Transition to growth mostly based on domestic consumption rather than investment and exports, raises some doubts about a possible slowdown in China's growth during coming years.
- However:
  - Generation process of infrastructure and urbanization is far from complete.
  - Higher growth based on domestic consumption will also be intensive in the use of copper.
  - Even with a growth rate of consumption eventually lower than the historical rate, impact in tonnage will remain significant.
  - A conservative projection of China's consumption in 2021: 6.5 million tonnes of additional consumption.

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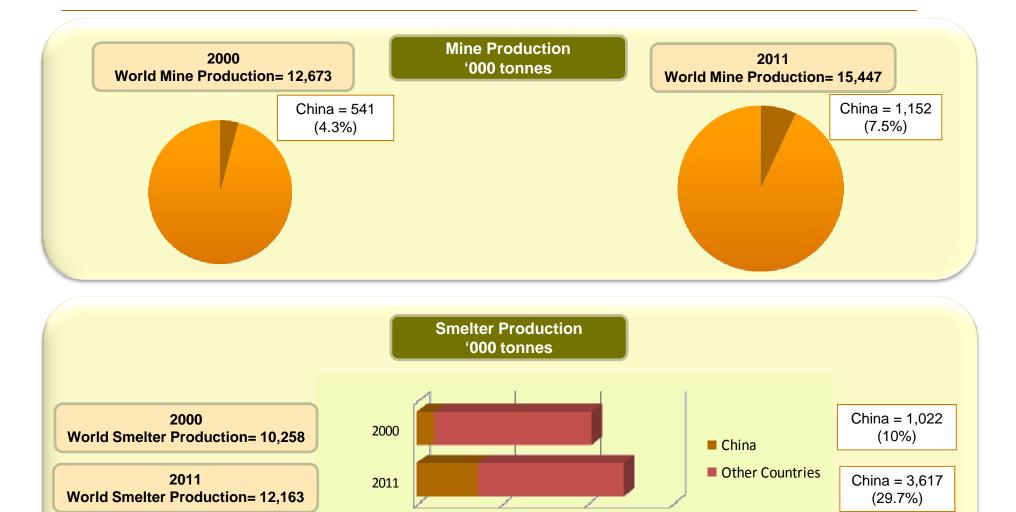








# China: An Important Player in Global Copper Production



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5,000

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0



10,000



15,000

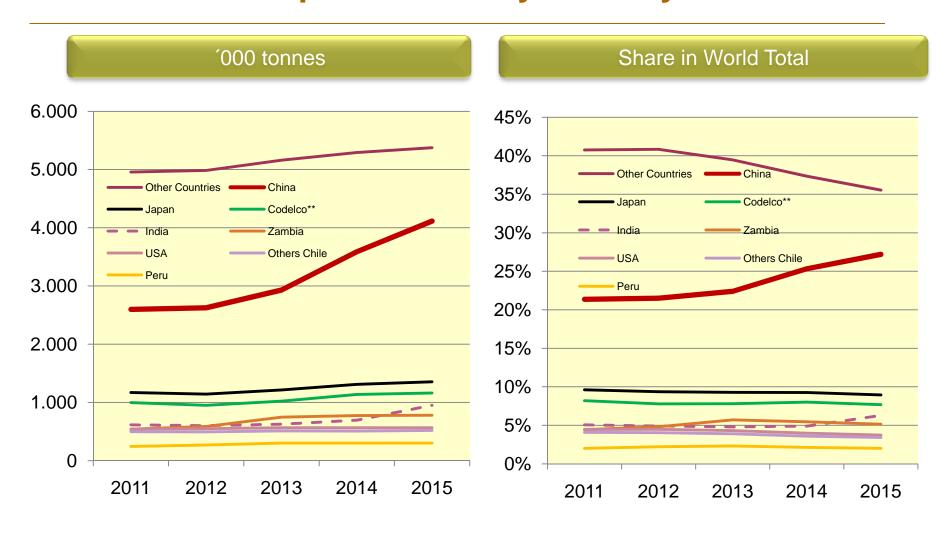








# **Concentrate Requirements\* by Country**



Source: Codelco. (\*): Requirements after adjustments. (\*\*): Includes 49% stake in El Abra, 5 Years Plan 2012 (Preliminar) and PND 2011.

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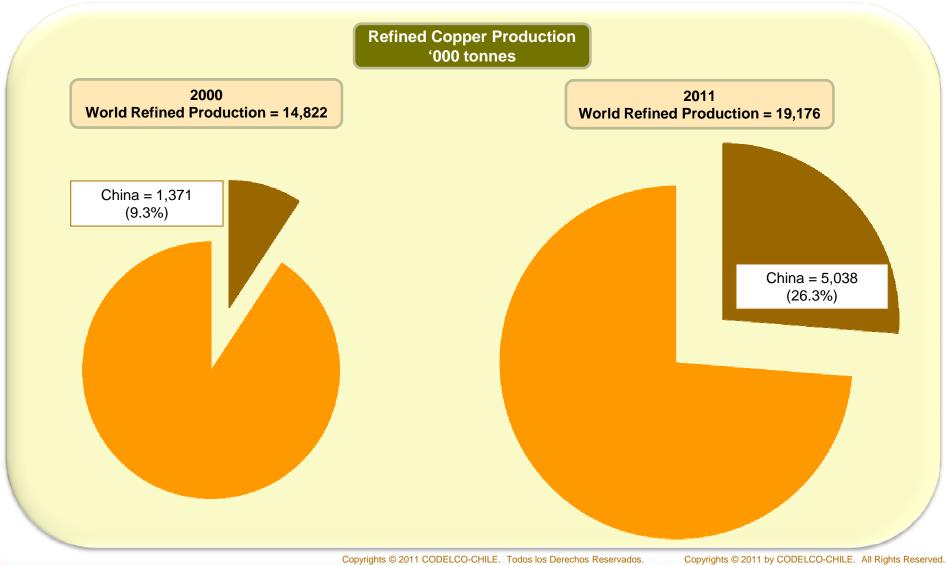








## China: An Important Player in the Global Refined Copper Market















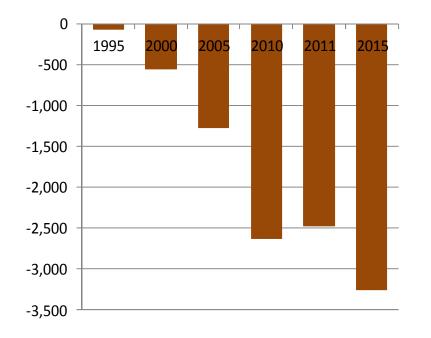


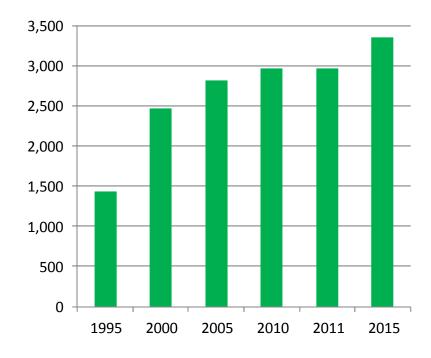
# China Has a Huge Deficit in Refined Copper

## Matched Mainly by the Surplus in Latin America

CHINA
Refined Copper Balance
'000 tonnes

LATIN AMERICA
Refined Copper Balance
'000 tonnes





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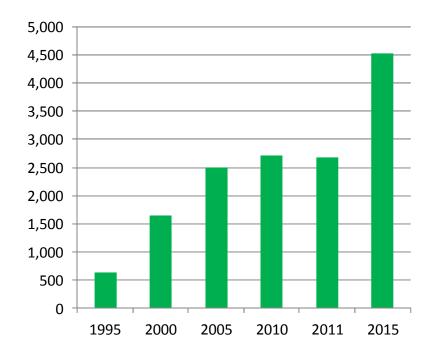


# **Deficit in Concentrates-Blister Nearly as Big**

# CHINA Copper Concentrate Balance '000 tonnes

# 1995 2000 2005 2010 2011 2015 -500 -1,000 -2,000 -2,500 -3,000

# LATIN AMERICA Copper Concentrate Balance '000 tonnes



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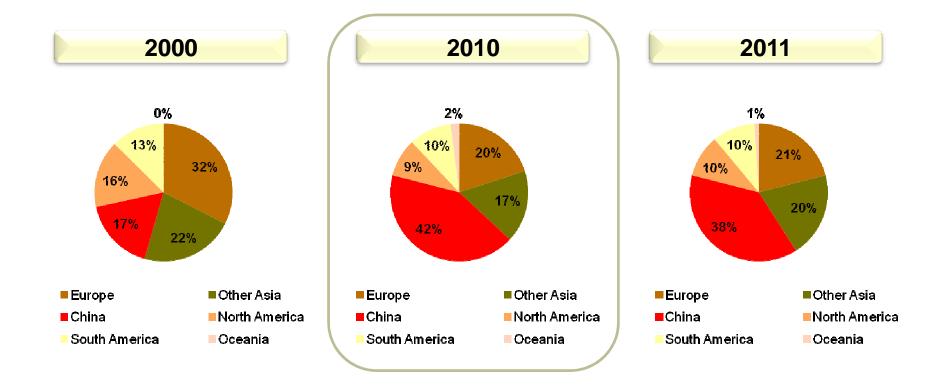






# Codelco's Copper Sales by Market

'000 tonnes



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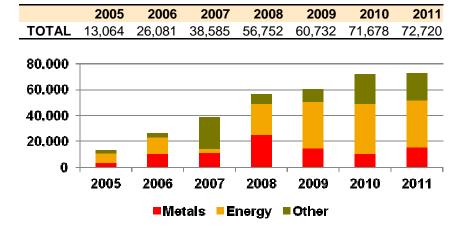


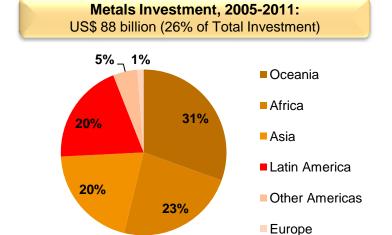


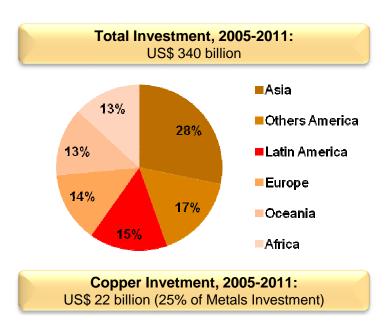
## Chinese Outward Investment: 2005-2011\*

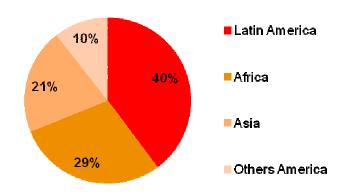
2011 currency

US\$ million









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<sup>\*:</sup> Year 2011 estimated. Source: www.heritage.org

# **China Investments in Offshore Copper Mining**

#### **Project Investments:**

Mine	Country	Company	Start-Up Date	Туре	Expected Production (ktpy)
Chambishi	Zambia	CNMC	Ongoing Expansion	Concentrates & SxEw	70
Toromocho	Peru	Chinalco	2014	Concentrates	250
Mirador	Ecuador	Tongling/China Railway	2015	Concentrates	60
Anyak	Afghanistan	MCC/Jiangxi	2016	Concentrates	180
Galeno	Peru	Minmetals/Jiangxi	2019	Concentrates	200
Panantza	Ecuador	Tongling/China Railway	2020	Concentrates	190

**Recent Copper Producing Companies Acquisitions:** 

Acquired	Countries of Operation	Acquirer	Acquisition Period	Expected Production in 2020 (kt)
Metorex	DRC, Zambia	Jinchuan	July – December 2011	60
<b>Anvil Mining</b>	DRC	Minmetals	September 2011 – March 2012	30

Source: Bloomsbury, Codelco and MEG.

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# **Challenges Associated with China Investments in Offshore Mining**

- In countries with a consolidated mining sector, Chinese companies face competition for mining resources and exploration from established companies.
- This does not prevent the possibility of alliances or collaboration with established companies.
- Accommodation to expectations and demands from local communities, regional governments and central governments.
- Adapting to different regulatory frameworks.
- Need to improve mining safety standards and environmental practices.
- More transparency: people want to know how companies are run.













# Other Opportunities for China in Latin America:

Capital Funding, Infrastructure Development, Procurement, Technology and Marketing.







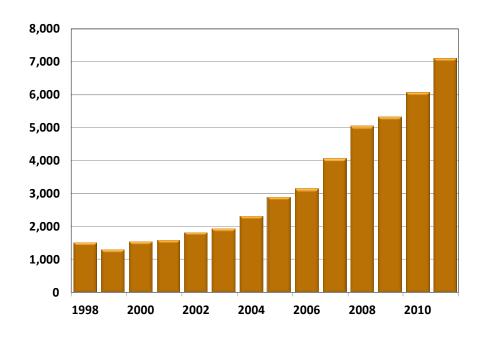






# **Consumption of Goods and Services in Codelco**

US\$ million, each year currency



	2006	2007	2008	2009	2010	2011
Goods						
Operation	953	1,049	1,356	1,291	1,349	1,663
Investment	159	323	356	335	415	410
Total Goods	1,112	1,372	1,712	1,626	1,764	2,073
Services						
Operation	1,518	1,734	2,433	2,714	2,921	3,783
Investment	517	950	897	982	1,368	1,243
Total Services	2,035	2,684	3,330	3,696	4,289	5,026
Total Goods and Services	3,147	4,056	5,042	5,322	6,053	7,099

Note: Corresponds to consumption from operations and investment.

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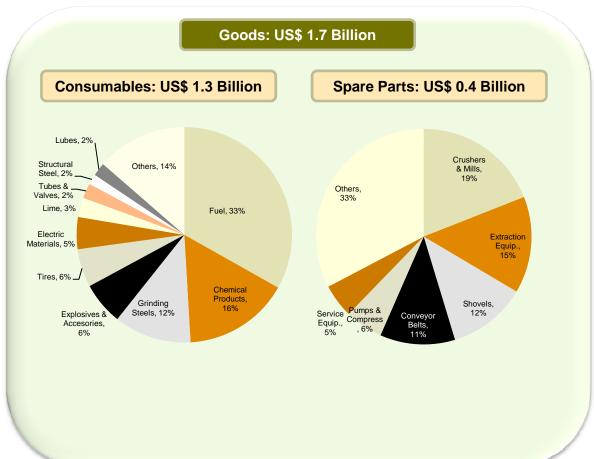


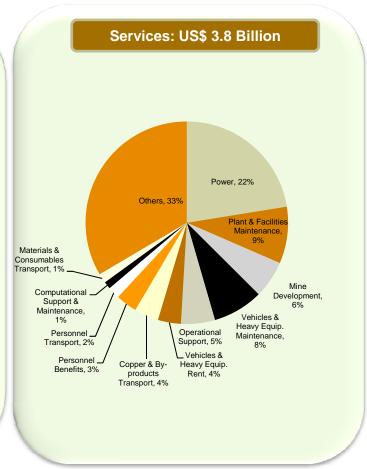


# Codelco:

# **Consumption of Goods and Services for Operation**

2011, Share in Value, %





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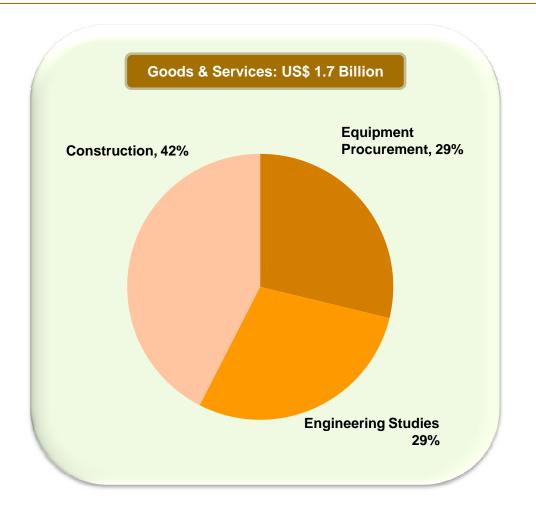




# **Codelco:**

# **Consumption of Goods and Services for Investment**

2011, Share in Value, %



Note: Corresponds to APIs.

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**Emerging Markets Office** 

#### **STRATEGY**

#### **GOAL**

2012 Targets in place

- US\$ 50,000,000 Codelco's operational spend in China through Emerging Markets Office, no including dealers.
- All selected divisional bidding process engaging Chinese suppliers

**Key Activities** 

- Identify and development business opportunities in China market
- Build-up a strong supply base, securing of supply in view of shortage times.
- Conduct on-site quality assessments and develop suppliers as needed. On-going process.

**Business Model** 

- No Procurement Agent. Being a service provider for all our assets and projects.
- Work together with EPCM companies based in China.

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Current and Potential Purchases

Annual Spend CY 2011 ('000 US\$)		
93,373		
80,818		
67,524		
48,600		
19,100		
15,000		

These figures could increase with the addition of new categories under review

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# Research & Innovation Activities

# Continue Working through Current Technical Cooperation Agreements

- Trade Associations:
  - China Non Ferrous Metals Industry Association (CNIA).
- Institutes (Technical Support):
  - China Non Ferrous Engineering and Research Institute (ENFI).
  - Nanchang Engineering & Research Institute of Non Ferrous Metals (NERIN).
  - General Research Institute for Non Ferrous Metals Beijing (GRINM).
- Companies (Work Issues until Now):
  - Minmetals (smelting and refining project).
  - Jiangxi Copper (professionals and technology exchange).
  - Jinchuan Group (smelting technology project in China).
  - Dongying Fangyuan (smelting and conversion technologies).
  - Yantai Penhui.
  - Binlong (preconcentration of minerals).

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# Commercial Activities

- From a Representative Office to a Wholly Foreign Owned Enterprise (WFOE).
  - Enhance our business operations:
    - Imports and exports of copper, molybdenum and other byproducts.
    - Agency services for sales of copper,
       Molybdenum and other by products.
    - Procurement of materials and products for mining.
  - Better services to our customers.
  - Explore new business opportunities.
  - Example: leasing of copper alloy farming systems to the aquaculture.
    - Potential China market: 6,400 cages per year.





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