



# CNMC Mining in Africa: Opportunities and Challenges

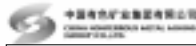
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- A Booming Copper Market In China
- Introduction to CNMC
- CNMC Mining in Copperbelt, Zambia
- Opportunities and Challenges



## A Booming Copper Market In China

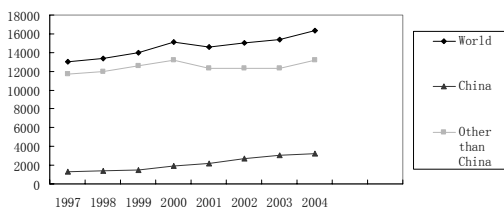


	1997	1998	1999	2000	2001	2002	2003	2004
<b>World</b>	13020.6	13400.6	14023.5	15103.9	14561.5	15052.5	15365.5	16355.4
<b>Growth rate(%)</b>		2.92	4.65	7.70	-3.59	3.37	2.08	6.44
<b>Increment</b>		380	622.9	1080.4	-542.4	491	313	989.9
<b>China</b>	1269.7	1397.4	1484.2	1928.1	2210.5	2736.9	3083.7	3200.3
<b>Growth rate(%)</b>		10.06	6.21	29.91	14.65	23.81	12.67	3.78
<b>Increment</b>		127.7	86.8	443.9	282.4	526.4	346.8	116.6
<b>China rate of Increased</b>		33.61	13.93	41.09	>100	107.21	110.80	11.78
<b>Other than China</b>	11750.9	12003.2	12539.3	13175.8	12351	12315.6	12281.8	13155.1
<b>Growth rate(%)</b>		2.15	4.47	5.08	-6.26	-0.29	-0.27	7.11
<b>Increment</b>		252.3	536.1	636.5	-824.8	-35.4	-33.8	873.3

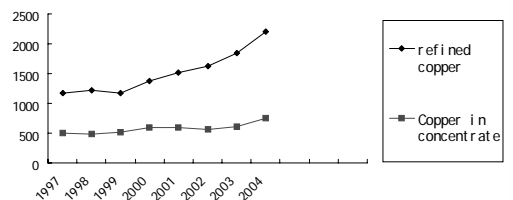
Data source: the yearbook of nonferrous metals industry of China 2005, 2002,2001.  
China played a very significant role in refined copper consumption in recent years. Every year growth rate of refined copper consumption ranged from 3.78% to 29.91% in China, comparing the rate ranging from -6.26% to 7.11% in other part of world. Yearly increment of copper consumption was dominated by China market. The rate of China to total world in increment is from 11.78% to 100%.



## Refined Copper Consumption By Region

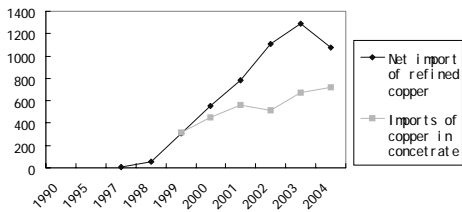


## Production of refined copper and copper concentrate In China



The gap between Curves of refined copper and copper concentrate grows quickly. It means more copper raw material is demanded to imported to supply copper refinery, such as copper concentrate and copper scrap.

### Imports of Refined Copper and Copper Concentrate In China



Import of refined copper also grows quickly.

### Recent trends in copper mining in China

Hiking copper price drives some copper deposits with lower copper grade and poor infrastructure putting into development pipeline, and pushing more active exploration for copper inside China.

Major copper Projects under development in China:

- Pulan copper project :

Resource and reserve : 3 million ton copper contained, copper grade 0.68%;

Construction began in October 2005;

Planning Phase I : 50,000 ton copper in concentrate annually

Commence to produce : 2008

Phase II : 100,000 ton copper in concentrate annually

### Recent trend in copper mining in China

- Yulong copper project, Tibet:

Discovered in 1965

Resource and reserve : 6.26 million ton copper contained;

Construction began in August 2005;

Phase I : 30,000 ton cathode copper annually

Commence to produce: 2008

Phase II : 100,000 ton copper in concentrate annually

- Wunuketu copper project, Inner Mongolia

Discovered in 1978

Under feasibility study;

Resource and reserve :Copper ore tonnage: 67 Mt at Cu 0.47%, Mo 0.02%

Molybdenum ore tonnage: 110 Mt at Cu 0.14%, Mo 0.06%

Planning production rate: 30000 TPD

### Recent trend in copper mining in China

A world-class porphyry-skarn copper mineralization belt has discovered in Tibet in recent years.

Drilling has confirmed more than ten copper prospects with great potential, such as Chongjiang, Tinguang, Chulong, Baiyong.

### Copper Market In China

China is not a short-term copper demand market. The consumption for raw copper products such as refined, anode, scrap, and copper concentrate will continuously growing:

- Manufacturing Giant in current world
- Economical growth has accelerated urbanization in China

The strong copper price pushed by the strong demand of copper drives more and more international mining company to expand their business activity into China, and more and more Chinese company to search copper supply abroad.

### Introduction to CNMC

CNMC is abbreviation of China Nonferrous Metal Mining (Group) Co., LTD, which is a wholly state-owned company Group. Its core business covers nonferrous mining & metallurgy, Engineering projects contracting, and nonferrous mining products trading.



## History

- Established in 1983, named as China Nonferrous Metal Industry's Foreign Engineering and Construction Co.
- Frontier Company to go abroad, supported by exploration, engineering, mining, metal urging enterprises und CNNC;
- Put part of its assets to establish China Nonferrous Metal Industry's Foreign Engineering and Construction Co., Ltd (NFC), which was listed on the Shenzhen Stock Exchange of China in April, 1997. NFC got into the list of the world's 225 largest international contractors by the US-based Engineering News Records in 1997;
- Traditionally a Engineering projects contractor in Nonferrous Metal Industry;
- Expanded its activity to mining, wining the bid of Chambishi copper project, 1998;
- Renamed as China nonferrous metal mining (Group) COLTD in 2004



## Mining and metallurgy sector

### Projects in Operation

- Chambishi Copper Mine project, Zambia,
- Chambish SX/EW plant
- Tumurtin-Ovoo Zinc Mine, Mongolia
- Hongtoushan copper mine, china
- Guangdong Pearl River Rare earth Smelting plant
- Thai-China lead- Antimony Alloy Plant



## Mining and metallurgy sector

### Projects under development

- Tagaung Taung Nickel project, Myanmar
- Huishan copper rehabilitation project, Korea
- Chambishi copper smelter, Zambia



## CNMC Mining in Copperbelt, Zambia



## CNMC's Strategy in Zambia

- Focused on copper/cobalt mineralization in Zambia
- Further exploration of already-found mineral occurrences with application of modern evaluation techniques
- JV with local company
- Develop and grow with local community and local people
- Engaged Chinese experienced companies to invest jointly into Zambia mining sector



## Operations in Zambia

### Chambishi Copper Mine, Zambia,

- Construction beginning in 2000;
- Commercial production beginning in 2003;
- US\$150 million Capital
- Employment: about 2000 local employees;
- Underground mining;
- Designed mining and milling capacity: 6500tpd
- Annual production: 20,000 ton copper in concentrate (2005)
- 2005 year end ore reserve: 27 Mt at Cu 2.69%
- 2005 year end ore resource: 39 Mt at Cu 2.27%, Chambishi west 102 Mt at Cu 2.2%, Co 0.11%, Chambishi Southeast



## Operations in Zambia

### **Chambish SX/EW plant**

- Construction beginning in November 2004;
- Commercial production beginning in September 2005;
- US\$25 million Capital
- Employment: about 300 local employees;
- Designed annual production rate: 8000 ton cathode copper

### **Chambishi copper smelter**

Under feasibility



## Opportunities and Challenges

### Opportunities

- Rich copper resources potential
- Modern Mines Act
- Stable Government
- Strong mining practice and Skilled local manpower
- Abundant database of exploration and geological data
  
- Low hydro-power costs



## Opportunities and Challenges

### Challenges

- Language and Culture
- Transportation:
- Health: such as AIDS/HIV, malaria
- Supply



Thank you!