The Chinese Copper Industry During the Global Crisis

By BGRIMM
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Questions about China’s copper industry among world economic crisis

1. How the stimulus plan of non-ferrous metal industry impact China’s copper industry?

2. Whether China’s copper production will keep sustainable development?

3. Whether China’s copper consumption will continue to drive world’s copper consumption?
Stimulus plan on China’s copper industry-I

- **Chinalco**
  - Toromocho project in Peru, (210kt/a concentrate, under construction)
  - Rio Tinto?

- **Minmetals**
  - Galeno Cu-Moly project in Peru (144kt concentrate under construction), joint with Jiangxi copper
  - OZ Minerals?

- **(CNMC) Investment in Africa**

- More deals in the near future... ?

Supporting the industry leading companies to make investment outside of China

Stimulus plan on China’s copper industry-II

- Consolidating China’s copper industry

Government target:

*Form 3–5 comprehensive groups (90% of copper production by 2011)*

Come back the age of CNNC?

Not so easy!!

- More players have been involved in copper production in last 10 years
- The attitudes and objectives of the provincial governments are more important
Stimulus plan on China’s copper industry-III

Rejecting the smelting capacities with the backward technology

- Government target:
  - Elimination of 300kt/a smelting capacity with backward technology over the next three years

Rejecting backward technology is always in line with new capacity expansion

Smelting capacity might increase by around 900 kt/a within the next 3 years

<table>
<thead>
<tr>
<th>Smelting Projects</th>
<th>Location</th>
<th>Capacity</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Project under construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yunnan Tin Group</td>
<td>Yunnan</td>
<td>100kt/a</td>
<td>Under construction, might put into production in 2010/2011, EIA was approval in August, 2008</td>
</tr>
<tr>
<td>Huli Kunpeng</td>
<td>Sichuan</td>
<td>100kt/a</td>
<td>Under construction, might put into production in 2010/2011, EIA was approval in June, 2008</td>
</tr>
<tr>
<td>China Gold</td>
<td>Inner Mongolia</td>
<td>100kt/a</td>
<td>Feasibility study was completed in Jan, 2008, waiting for the approval of EIA</td>
</tr>
<tr>
<td>Zijn Mining</td>
<td>Fujian</td>
<td>200kt/a</td>
<td>Got the approval from central government in Jan., 2009, EIA was approved in this January. Might start production in 2012</td>
</tr>
<tr>
<td>Fubang Copper</td>
<td>Inner Mongolia</td>
<td>100kt/a</td>
<td>Plan to start trial production in Sep., 2009</td>
</tr>
<tr>
<td>Xiangguang Copper</td>
<td>Shandong</td>
<td>200kt/a</td>
<td>Second phase. EIA was approved in 2008</td>
</tr>
<tr>
<td>Daye Ausmelt smelter</td>
<td>Hubei</td>
<td>300kt/a</td>
<td>Under construction</td>
</tr>
<tr>
<td>Huludao Ausmelt</td>
<td>Liaoning</td>
<td>100kt/a</td>
<td>Planned to put into production in December, but delayed</td>
</tr>
</tbody>
</table>

Total 1200kt/a

Source: BGRIMM
Stimulus plan on China’s copper industry-IV

- Adjusting the foreign trade policy to promote export
  - Reopening the tolling business with the imported concentrate
  - Tax rebate for exports of semis returned to 13%

  ➢ It might not increase China’s export of cathode and domestic cathode usage, considering China’s current position as a net importer of cathode and semis.

  ➢ It will be helpful for the fabricators to improve their product quality for high end products.

Stimulus plan on China’s copper industry-IV

- Setting up strategic reserve on non-ferrous metals
  - Official statement on Al and Zn purchasing plan
  - No official statement about Cu yet

  • If SRB bought copper reserve?
  • How many have SRB bought?
  • If SRB will continually buy in high price level?

  Guess
  • No fixed target number for SRB.
  • SRB should be flexible according to the price
China’s Copper Production

Flow sheet of copper production by quarter 2007~2009 Cu-kt

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum</td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
</tr>
<tr>
<td>Cons production</td>
<td>910</td>
<td>202</td>
<td>263</td>
</tr>
<tr>
<td>Net import Concentrate</td>
<td>1287</td>
<td>590</td>
<td>373</td>
</tr>
<tr>
<td>Net imports of other materials (Matte, reverts)</td>
<td>163</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>Net import of blister</td>
<td>173</td>
<td>65</td>
<td>37</td>
</tr>
<tr>
<td>Stock changes of material</td>
<td>34</td>
<td>61</td>
<td>4 (43)</td>
</tr>
<tr>
<td>Re-smelting scraps</td>
<td>30</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Cathode production</td>
<td>2499</td>
<td>899</td>
<td>995</td>
</tr>
<tr>
<td>GR rate %</td>
<td>18</td>
<td>17</td>
<td>2.8</td>
</tr>
</tbody>
</table>

In which

Secondary production | 1050 | 260 | 312 | 210 | 257 | 1139 | 200 | 245 | 260 | 300 | 100 |

SX-EW | 62   | 18  | 22  | 24  | 16  | 82   | 16  | 16  | 21  | 21  | 76  |

Source: BGRIMM

Review of China’s Copper production in 2008

Mine production slightly increased by 20kt.

Concentrate import increased by 15% YoY

Falling imports of copper reverts and matte

Production/capacity increasing of some primary smelters such as Xiangguang Copper and Jiangxi smelter

Cathode production growing was mainly driven by the secondary production

(Primary production +7%        Secondary production +10%)

High acid price in H1 2008 encouraged the production of primary smelters although TC/RC was relative low.

Production in Q4 fell by around 1% due to the closure or production cutting of some secondary smelters.
Short term outlook of China’s cathode production-I

- Mine production will be in the same level as that of last year
- Some mine projects are delayed
- Some high cost small mines stopped production since end of last year
- Some big integrated groups prefer to mining low grade ore when copper price is quite low.

Concentrate imports will increase by 16% in 2009, reflecting

- Increasing demand due to the aggressive production plan of some major primary smelters
- Imported copper matte and reverts from Africa will continue fall
- Positive arb between SHFE/LME offset the impacts of low acid price on the primary smelters.

Short term outlook of China’s cathode production-II

- Cathode production might increase by 2% in 2009

Primary production will increase by 7% while the secondary smelter production will fall by 12% in 2009.
Some secondary smelting projects are delayed or canceled due to financing issues
SX-EW production will fall by around 13kt in 2009

- Secondary smelter production might pick up in the H2 2009 and cathode production would recover by 9% in 2010.
Review of China’s cathode usage in 2008

• Cathode consumption kept healthy growing in the first 3 quarter last year.
• Falling copper price made many down stream consumers very cautious to give order in the fourth quarter.
• China’s copper consumption in 2008 was mainly driven by the strong investment on power grid. Copper consumption for power cable industry increased by 10% in 2008.
• Copper consumption for ACR tube, connector strip and general consumer goods was in flat growing.

Cathode consumption in 2008 increased by 6% YoY

cathode usage

due to

Short term outlook of China’s cathode Consumption-I

Flow sheet of copper consumption by quarter 2007~2009 Cu-kt

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<th>2007</th>
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<tr>
<td>Cathode production</td>
<td>3499</td>
<td>869</td>
<td>995</td>
</tr>
<tr>
<td>Net Cathode import</td>
<td>1366</td>
<td>379</td>
<td>246</td>
</tr>
<tr>
<td>Cathode import</td>
<td>1494</td>
<td>391</td>
<td>296</td>
</tr>
<tr>
<td>Cathode export</td>
<td>126</td>
<td>12</td>
<td>50</td>
</tr>
<tr>
<td>Cathode Consumption</td>
<td>4547</td>
<td>1228</td>
<td>1241</td>
</tr>
<tr>
<td>re-stocking of SRB &amp; others</td>
<td>320</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>GR %</td>
<td>12%</td>
<td>9%</td>
<td>9%</td>
</tr>
</tbody>
</table>
Tight supply of scraps

1. The speed of scraps generation in western country is becoming slow
   - Some new projects are delayed or canceled
   - The lifecycle of some appliances is extended

2. Scraps merchants are trying to reduce their reliance on Chinese market
   - Some contracts were broken end of last year
   - 50%~70% down payment for new contract

3. Capacity shortage of scrap pretreatment since many scraps dismantling yards were closed
   - Many scraps yards lost a lot due to sharply price falling

1. Falling secondary cathode production
2. More cathode usage for brass mills or wire rod mills to replace scraps

Cathode imports

China: the breakdown of cathode import in 2008
Major factors impacting cathode imports

<table>
<thead>
<tr>
<th>Major factors</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortage of scraps</td>
<td>★★★</td>
</tr>
<tr>
<td>Recovering of domestic demand</td>
<td>★★★</td>
</tr>
<tr>
<td>Sufficient liquidity and restocking of consumers</td>
<td>★★★</td>
</tr>
<tr>
<td>Rumors about SRB restocking</td>
<td>★★★</td>
</tr>
<tr>
<td>Low growth rate of domestic cathode production</td>
<td>★</td>
</tr>
</tbody>
</table>

Positive arbitrage between SHFE/LME & Strong Imports

Tight physical market

Negative factors:
- Weak demand outside of China.
- Direct and indirect exports of copper and copper alloy containing products will fall
- Uncertain world economy will impact the market sentiment

Cathode usage +6.5% in 2009

Positive factors:
- Making effort to keep 8% GDP growth
- Copper usage will be encouraged by domestic demand due to the package stimulus plan to
- Shortage of scraps
- Continual imports substitution of copper and copper alloy semis
**Short term outlook of China’s cathode Consumption-III**

- Cathode usage +6.5%
- Scraps direct usage by the fabricators -15%
- Net imported copper and copper alloy semis -15%

Total copper usage -1%

- Domestic market for individual industry
- Oversea market with exported end users

**Copper consumption in each major field**

<table>
<thead>
<tr>
<th>Field</th>
<th>Cu usage in power cable +12%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power industry</td>
<td>- 580 billion RMB investment, double of 2008</td>
</tr>
<tr>
<td></td>
<td>- Rebuilding of power grid which was destroyed during snow and earthquake in 2008.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Cu usage no growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>- Low growth rate of newly started projects</td>
</tr>
<tr>
<td></td>
<td>- Investment might pick up in H2 2009 after a package of new policies to promote real estate industry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Cu usage -5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durable goods</td>
<td>- Low demand from overseas market</td>
</tr>
<tr>
<td></td>
<td>- Subsidy program for farmers will promote domestic demand of home electrical appliance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Cu usage +15%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecom industry</td>
<td>- 3G program will develop new market</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Cu usage +5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>- Auto production &amp; sales ended the consecutive falling in Jan.</td>
</tr>
<tr>
<td></td>
<td>- The annual investment in railways between 2010 and 2012 will be no less than 600 billion yuan</td>
</tr>
</tbody>
</table>
Copper consumption impacted by exports

Copper content in export products accounted for 22% of total Cu usage in 2008

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper hardware and parts</td>
<td>Export fell by 10% in 2008 and will continual fall in 2009</td>
</tr>
<tr>
<td>Wire &amp; Cable</td>
<td>Exports increased by over 20% in 2008</td>
</tr>
<tr>
<td>Home electrical appliance</td>
<td>Export might fall by 15% in 2009 due to the weak world economy</td>
</tr>
</tbody>
</table>

Summary

The non-ferrous metal industry stimulus plan will:
- Promote Chinese companies to make overseas investment
- Consolidate China’s copper industry
- However, copper smelting capacity will continually increase in the next three years.

The non-ferrous Cathode production will increase by at least 2% in 2009
- Primary production will increase by 7%
- Secondary production will fall by 10%

Although cathode consumption might increase by 6.5% this year, total copper consumption might fall by 2% in 2009
- Cathode consumption is mainly to offset the falling direct usage of scraps and falling net imports of copper and copper alloy semis

Cathode production in 2010 might increase by 9% in 2010
- Cathode consumption might increase by 5.8% in 2010
Summary

- The non-ferrous metal industry stimulus plan will promote Chinese companies to make overseas investment.
- Consolidate China’s copper industry.
- However, copper smelting capacity will continually increase in the next three years.

- The non-ferrous cathode production will increase by at least 2% in 2009.
- Primary production will increase by 7%.
- Secondary production will fall by 10%.

- Although cathode consumption might increase by 6.5% this year, total copper consumption might fall by 2% in 2009.
- Cathode consumption is mainly to offset the falling direct usage of scraps and falling net imports of copper and copper alloy semi-products.

- Cathode production in 2010 might increase by 9% in 2010.
- Cathode consumption might increase by 5.8% in 2010.

Thanks for your attention!

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