Review of China’s copper fabricating industry

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Introduction

- ICSG signed contract with BGRIMM Lilan Consulting, Ltd (BLC) for a study in Nov, 2016
- Three research outputs have been obtained
  - A updated database of fabrication capacity (2016)
  - A survey of copper (refined copper and scraps) usage in the fabrication industry (2016)
  - A market study covering major semis production, market status, demand, downstream application industries (2016-2017)
- BLC submitted the final report in July, 2017
- This presentation is to summarize the main findings of this study.
1. China’s Copper Fabricating Industry
2. China’s Cu & Cu Alloy Semis Production
3. China’s Cu & Cu Alloy Semis Demand
4. New Projects
China’s Cu Fabricating Industry

Chart Number of fabricators and capacity breakdown in 2016

- 113 fabricators with 861kt/yr capacity in the previous survey left the industry; 31 fabricators with 1,634kt/yr capacity suspended production temporarily in 2016.
- 405 operational plants (including uncertain ones) with 19 million t/yr capacity are covered by the updated survey.

Source: BGRIMM LiLan Consulting (BLC)

*: Some fabricators own several mills for different products, resulting in the unmatched total plant number
*: All of fabricators are first copper usage plants based on 2016 survey. The fabricators with buying-in mother tube, mother coils and billets are not included in.
Between 2013-2016, Cu and Cu alloy semis production increased av. 6.2% annually;

Wire rod production, rose av. 5% annually in 2013-2016, but production growth should lose the momentum in 2017-2020.
10% of Cu materials of China’s copper fabricators were scraps in 2016 and the rest 90% were refined copper.

Directly scrap usage by fabricators has been down in recent years because of scrap shortage, upgrading of wire rod facilities and the improved requirement for high-end product quality.

Scrap usage increased by 5.7% to 1,189kt in 2016, of which 71% was used by brass mills and the rest 29% for wire rod. Increased copper prices encouraged scrap usage in 2016.
Wire rod production and demand

- Wire rod demand increased 6.0% YoY and 4% in 2016 and 2017, respectively. Production growth will be slower over the next few years.
- Wire rod demand growth in power cable was 3% YoY for 2017 given the double-digit growth in spending on the power distribution grid.
- Magnet wire production increased 10% in 2017 driven by strong aircon and auto production.
- Wire rod demand for building wire rose by 4% in 2017 driven by the increased demand in both home renovation and new housing completions.

China wire rod application fields 2016

- Power cable 40%
- Magnet wire 24%
- Building wire 19%
- Electrical equipment 10%
- Telecom cable 2%
- Bare wire 5%

Source: BGRIMM Lilan Consulting (BLC)
Chinese wire rod capacity increased by av. 9% between 2010~2017. Nearly 1Mt new capacity was added every year.

In 2017, capacity increased 7.2% to 15.5 Mt, while production rose 4% to 7.95 Mt, driven by the infrastructure, housing, electronic goods, white house goods, auto, etc. Wire rod capacity utilization rate was about 51% in 2017.

Wire rod overcapacity resulted in a mixed production trend. Well-financed wire rod mills reported stable production.
148 wire rod mills with 12,840kt/yr. capacity in the survey. Average size of wire rod mills was 88kt/yr in 2016. In 2013-2016, 24 wire rod mills with 5,005kt/yr capacity were commissioned, which most adopted imported SCR or ContiRod lines.

5 wire rod mills with 1,100kt/yr capacity were launched in 2016. and 8 wire rod mills with 1,006kt/yr capacity were commissioned in 2017.

More CCC projects were out in 2017, encouraged by the widened scrap spreads.

3 projects with 285kt/yr are expected to be commissioned in 2018.
Sheet/strip demand grew 9.0% in 2016, and 5% YoY in 2017, and will slow down in 2018-2020.

In 2016, refined copper strip demand increase was mainly from the power transformer strip and power cable shielding strip. Copper alloy sheet/strip demand increases were driven by a better than expected demand for connectors for automobiles, home electrical appliances, mobile phones and other electronic products.
In 2013-2016, 9 projects/expansion programs with 360kt/yr capacity was commissioned, driven by high quality products demand.

+ 6 new projects with 275kt/yr capacity are in the pipe line after 2018, of which 180kt capacity was for expansion.
In 2016, refined copper tube demand was mainly driven by strong aircon and refrigerator production. ACR tube demand accounted for 70% of total refined tube demand. And refined copper tube production increased 12% in 2017 due to strong aircon production and gas-fired boilers substitution.

Alloy tube: soft demand from the shipbuilding industry, desalination and thermal power plants construction were offset by improved demand from the housing decorations, home hardware and military applications.
7 copper/copper alloy tube projects with 250kt/yr capacity have been commissioned after 2013.

Due to both increased production and higher profits, a new round of expansion is ongoing after sluggish market during 2015-2016.
some small brass rod mills were shut down due to EP regulations in 2017.

Copper alloy rod demand increased 3.8% in 2016 and 4.7% in 2017, respectively, driven by stronger demand for housing related hardware, sanitary products, aircon valves and auto industry.

Source: BGRIMM LiLan Consulting (BLC)
Copper foil-new projects

- Copper foil demand in 2016 increased by 20% YoY, supported by both strong printed circuit board (PCB) and Li-battery production.
- 14 projects with 151kt/yr capacity are in the pipeline after 2017, and 73% capacity are for lithium battery. If all of these projects come on stream, China’s total copper foil capacity will reach 445kt/yr by 2018.

Source: BGRIMM Lilan Consulting (BLC)
Copper usage by individual industry

- Copper usage in infrastructure increased 7% and 4.5% in 2016 and 2017, respectively, given the strong spending in the power distribution grid;
- Copper usage in construction was up 6.5% and 4% in 2016 and 2017, respectively, given better than expected housing transactions and housing completions;
- Copper usage in general consumer goods increased by 6% and 9% in 2016 and 2017, respectively, because of the strong aircon production and exports;
- Copper usage in transportation sector increased by 12% and 6% in 2016 and 2017, respectively, driven by strong auto production growth for income tax subsidy.

Breakdown of Cu usage by individual industry in 2016

- Transportation: 10%
- Infrastructure: 38%
- General consumer goods: 19%
- Construction: 18%
- Industrial equipment: 11%
- Others: 4%

Source: BGRIMM Lilan Consulting (BLC)
THANK YOU!

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