# China's Copper Market Analysis and Outlook

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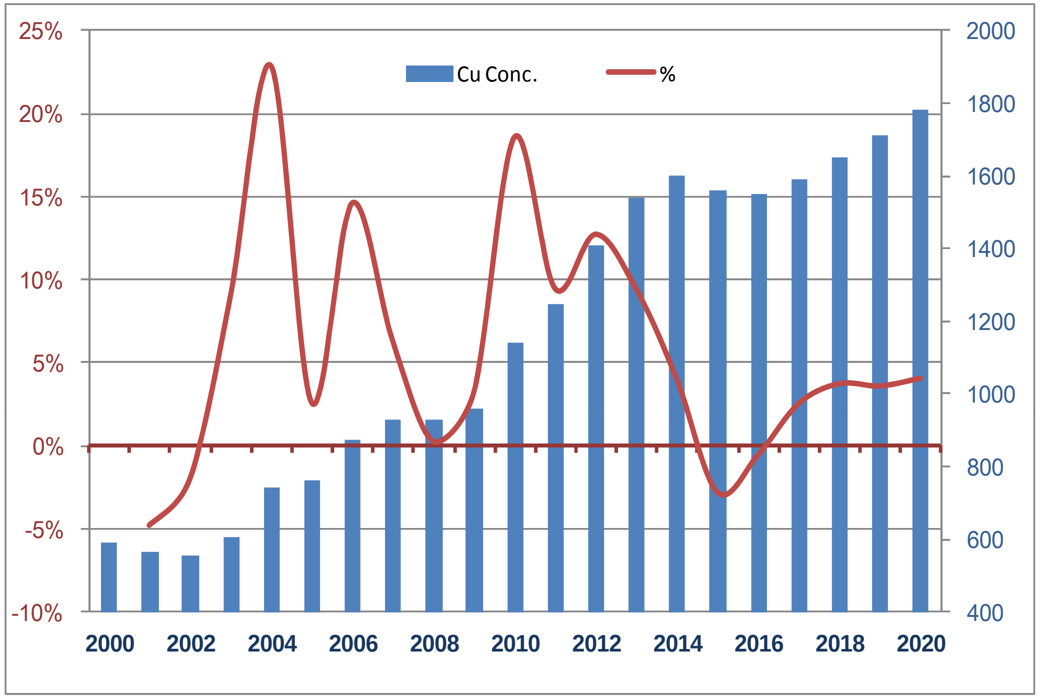
# China's copper in conc. production will growing slowly

- During 2000-2015, China's copper in concentrate production increased from 593kt to 1558kt, with an average annual growth of 6.65%，China is the biggest contributor of copper in concentrate production in the world. Copper in concentrate production has declined in the resent 2 years. It is forecasted that production  will increase again. But ,the growth is merely 3~4%, because the price of copper falling and the reducing Copper project under construction, and the  production is expected to 1780kt in 2020.




**Cu in Concentrate  Production and Growth  Rate in 2000-2020**

**Unit: Kt Cu**

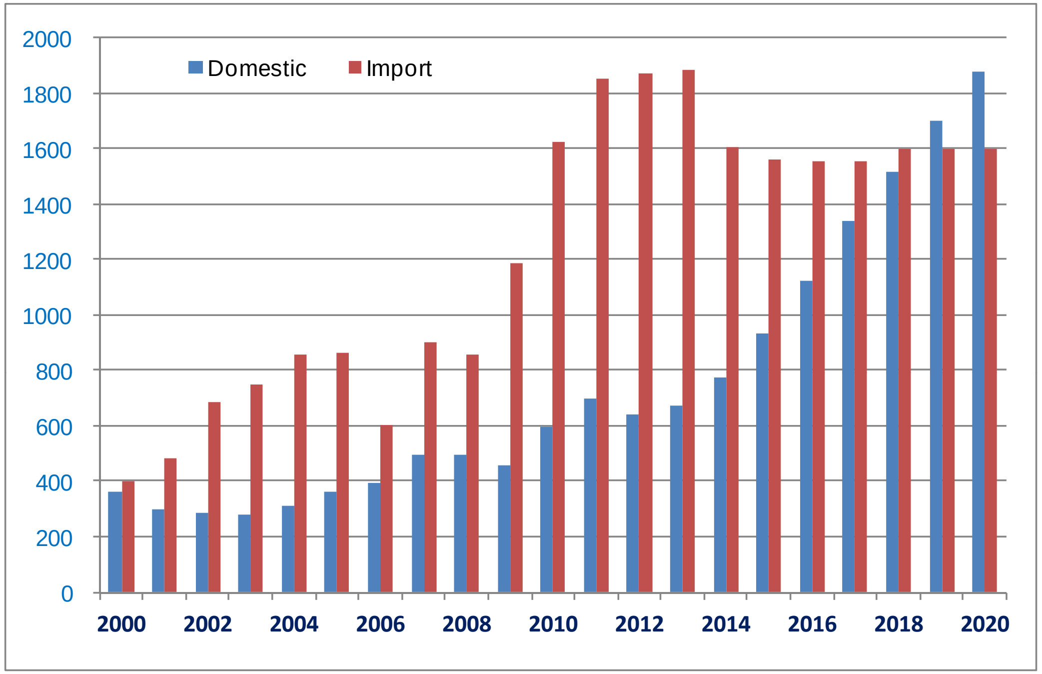
| Mine | Province | Capacity | Start up | Status |
|---|---|---|---|---|
| Qulong | Tibet | 100 | 2017 | Developing |
| Pulang | Yunnan | 48 | 2017 | Developing |
| Shaxi | Anhui | 16 | 2016 | Developing |
| Xiongcun | Tibet | 60 | 2016 | Developing |
| Duobaoshan Phase II | Heilongjiang | 25 | 2017 | Feasibility |
| **Total** | **-** | **249** | **-** | |

**Selected Cu Mine Project in 2016-2020**

**Unit: Kt Cu**

# 安泰科 Antaike The supply of the scrap copper will mainly rely on the domestic recycle

- From 2000 to 2015, The total supply of the copper scrap increased from 760 kt to 2490kt ,with an average annual increase of 8.2%. the import copper scrap grow rapidly, however, in 2003, gradually declining after it had reached peaks. The domestic scrap grow quite slowly.
- It is expected that the import scrap copper will solid at about 1600 between 2016 and 2020. The domestic copper scrap will have significant
increase, and will exceed the import around 2019 and become the main supplier.




**Copper Scrap Supply in 2000-2020 Unit: Kt Cu**



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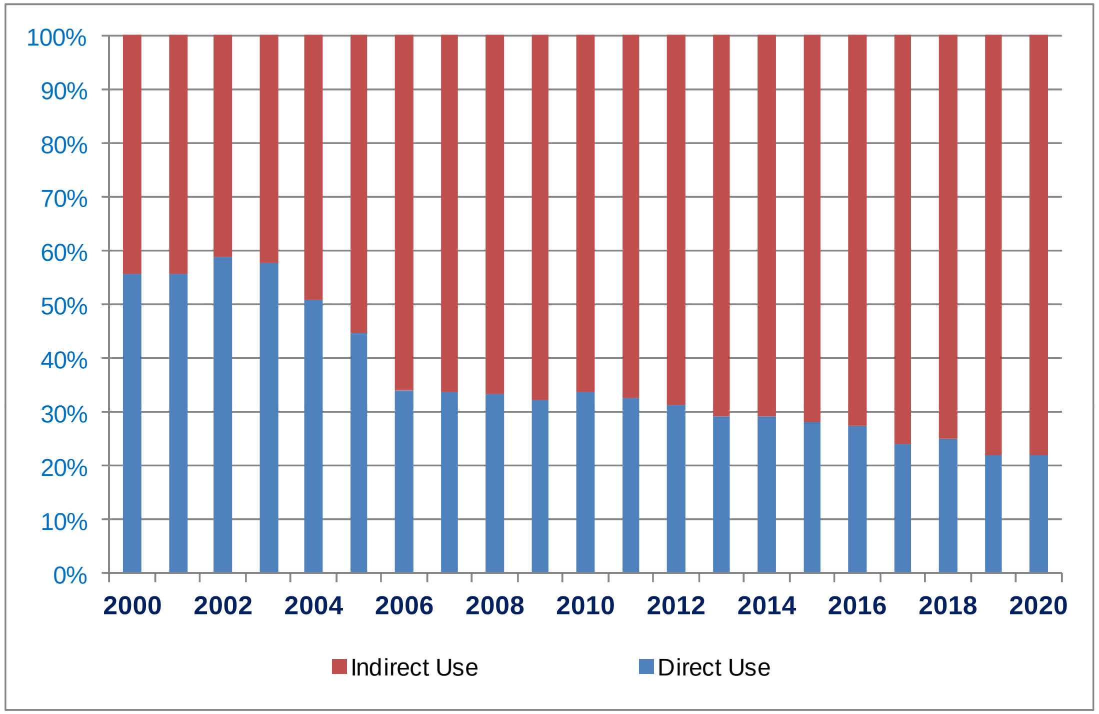
# Indirect use of copper scrap use is the main way

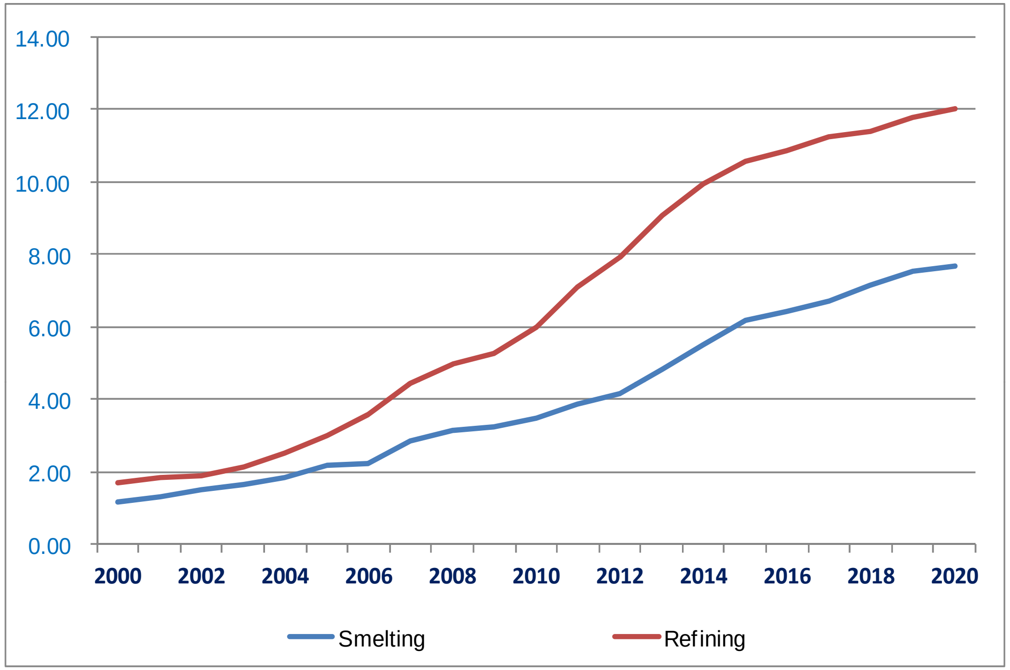
- Early in 2000-2015, the direct use is the in most important way of scrap copper in china. With the huge expansion of the copper refining capacity， smelters' demand about copper scrap are growing rapidly. At the same time， After technology upgrades, the copper processing enterprise need more pure raw material, it reducing the use of miscellaneous copper scrap ratio，lead to copper scrap using indirect proportion rising， it is account for 72%， and it expected to enhance about 78% in 2020.




Copper Scrap Use Structure in 2000-2020 Unit: Kt Cu

# 安泰科 Antaike The expansion peak of smelting capacity has gone

- The year between 2000 and 2005 has witnessed the rapid growth of copper smelting and refining capacity. The smelting capacity increased from 1.18Mtpa to 6.18Mtpa. with refining capacity from 1.69 Mtpa to 10.59Mtpa. The latter grow more rapidly.
- Chinese capacity of copper smelting will slowdown between 2016 and 2020, however, it will exceeds 1 millions tons which was planed. The smelting capacity will be up to 7.70 Mtpa and refining capacity, 12.0 Mpta, in the 2020.




**China Smelting and Refining Capacity Trend in 2000-2020**

**Unit: Mtpa**

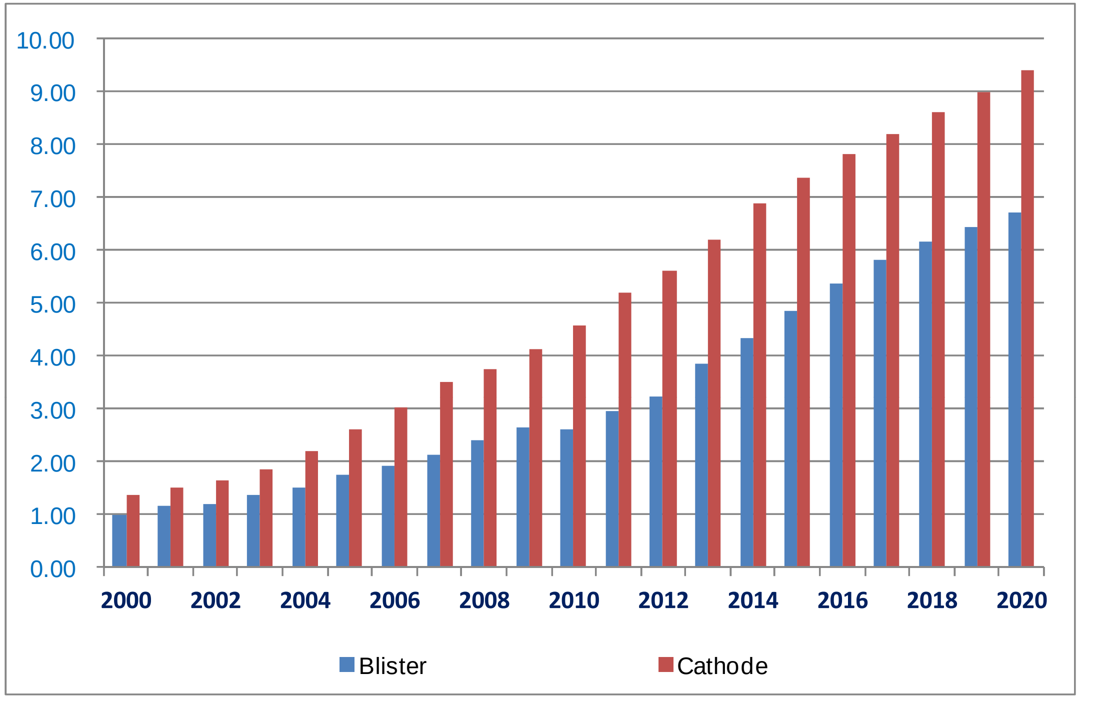
| Project | Smelting Cap. | Refining Cap. | Start up | Status |
|---|---|---|---|---|
| Minmetals Hunan | 100 | 100 | 2016 | Developing |
| Nanguo Copper | 150 | 150 | 2016 | Developing |
| Qinghai Copper | 100 | 100 | 2017 | Developing |
| Ruichang Xikuang Copper | 200 | 200 | 2017 | Developing |
| Zhongtiaoshan | 150 | 150 | 2018 | Feasibility |
| Bayannur Xiangguang Copper | 200 | - | 2018 | Feasibility |
| Chinalco Fujian | 400 | 400 | - | Planned |
| **Total** | **1,300** | **1,100** | | |

**Selected Cu Smelter Project in 2016-2020**

**Unit: Ktpa**

# The growth of blister and cathode productiong will slow down

- During 2000-2015, the copper blister production increased from 0.98Mt to 4.84 Mt, and copper cathode increased from 1.37 Mt to 7.36 Mt, with an average annual growth of 11.2% and 11.9% respectively. The gap has increased from 0.39 Mt, in 2000, to 2.52 Mt in 2015. That's why China imported large quantity copper scrap and copper blister.




**Blister and Cathode Production in 2000-2020 Unit: Mt**

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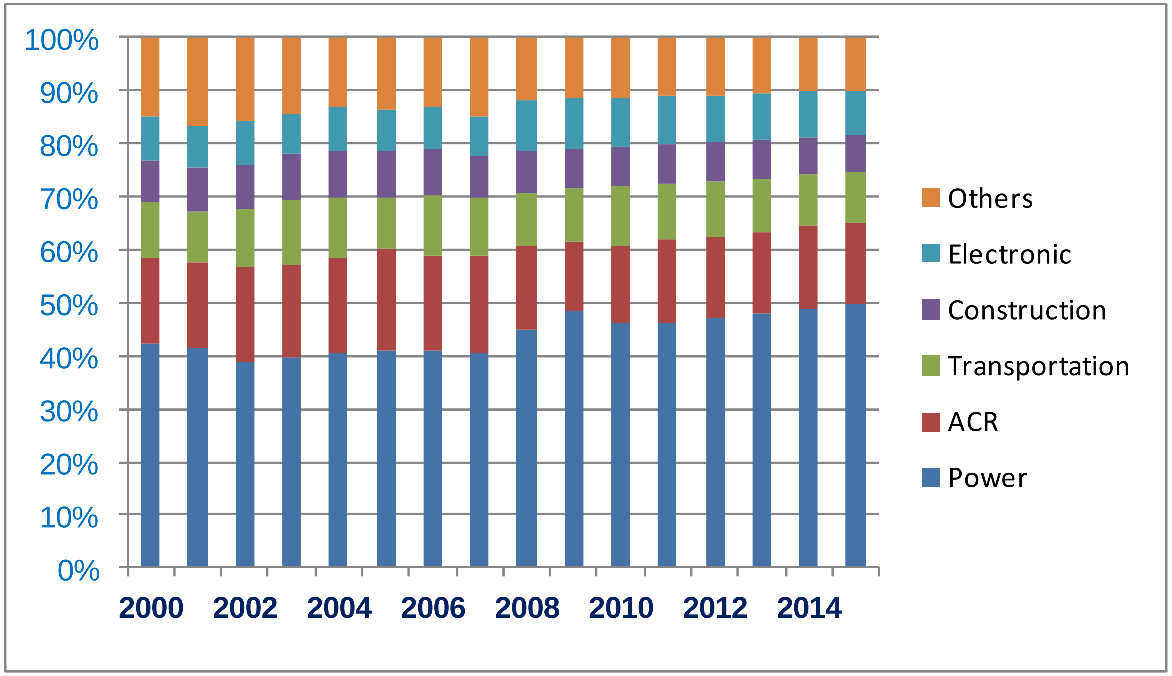
# Main driving force of China's copper demand

**The main driving force of China's copper demand during 2000-2015:**

- **The fast development of industrialization** ---- industrial equipments, transportation equipments, increasing Electricity demand and so on .
- **Infrastructural investment** ---- power grid construction and upgrade （urban and rural area ' s power network）, highway, railway, airport, and so on.
- **Processing trade** ----electromechanical device ,household electrical appliances, electronic products and other copper product.
- **Investment in real estate** ---- Building wire, power distribution system and distribution equipment , house decoration ,household appliances ,bath product and so on
- **Improvement of living standards-**---automobile, household appliances, the increasing of telecommunications and electricity used.
- **Expansion in copper production and demand** ----use of raw material and start production stock ,etc

# The power industry is the most important consumers

- The main consumption in china's copper consumption is power industry, it is occupied more than 40%, It close to 50% in recent years. The next is the air conditioning and refrigeration industry， it is accounted for 15.3% In 2015. As same as other major industries, such as architectural engineering, communication and transportation and electronics industry ,accounted for 7.0-10%。




Refined Copper Consumption Structure in 2000-2015

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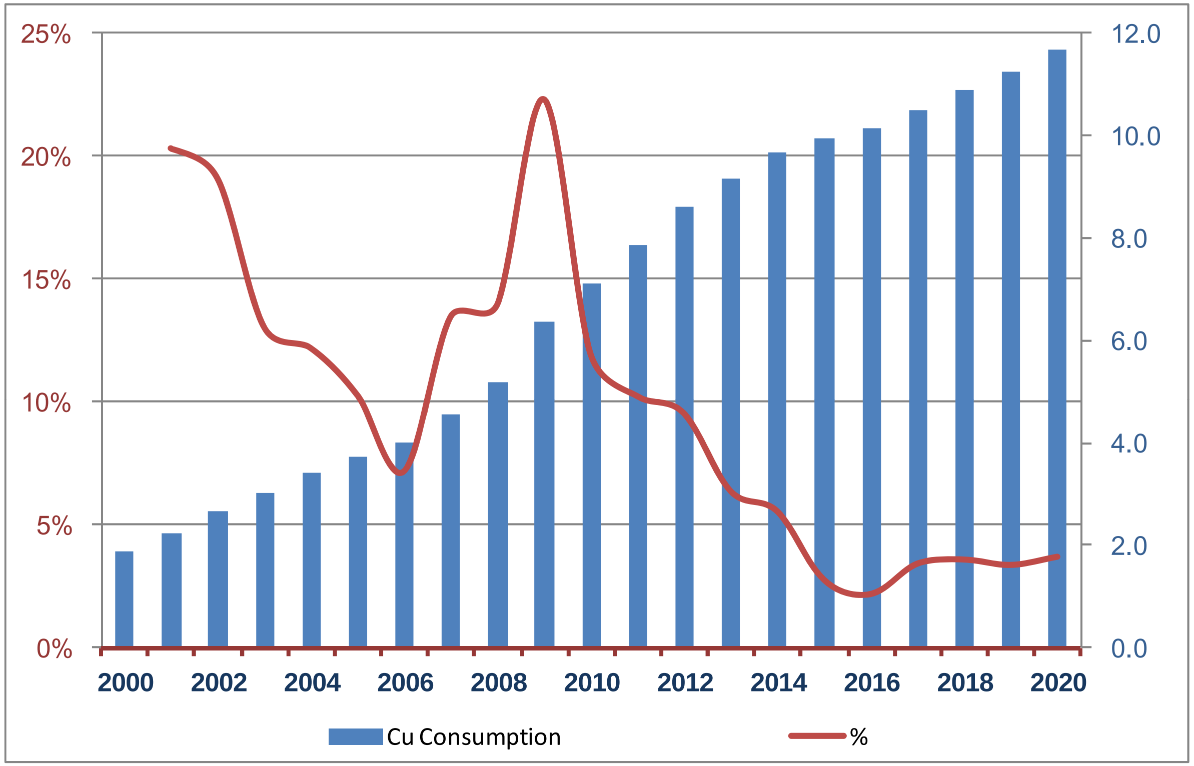
# Copper consumption growth will show a sizable decline.

- In 2000-2015, China's refined copper consumption increased from 1.87 Mt to 9.93 Mt, with an average annual growth rate of 11.8%. But Since 2010, With the adjustment of China's economic structure, consumption growth of copper continues to fall away, the growth rate fell below 10% in 2012， then reach 3-6% in the past two years .
- In 2016-2020, China's copper consumption will keep slow growth, with an average annual growth rate of 3-4%. China's copper consumption is expected to reach 11.67Mt in 2020.




Refined Copper Consumption Trend in 2000-2020 Unit: Mt

## The main growth potential of the Copper consumption

**The power industry will continue to be the biggest contributor of copper consumption growth.**

- **The upgrading of electric distribution network, the rural reform of power grid**.
  according to the 13th
  five year plan, the investment in electric distribution is more than RMB 2000 billion, among which more than RMB 700 billion will go to rural reform of power grid.
- **Investment on clean energy.** photovoltaic power generation, wind power generation, and nuclear energy, etc.
- **New energy car.**
  By the end of the 2014, China had built 636 charging station for new energy autos and 12 thousand charging spots. Base on China's plan, by 2020s, there will be 500 million new energy autos, 12 thousand charging station, and 4.5 million charging spots.
- **The urbanized building of new patterns**. By 2020s, the permanent resident population will be up to 60 percent compared with present 56 percent.

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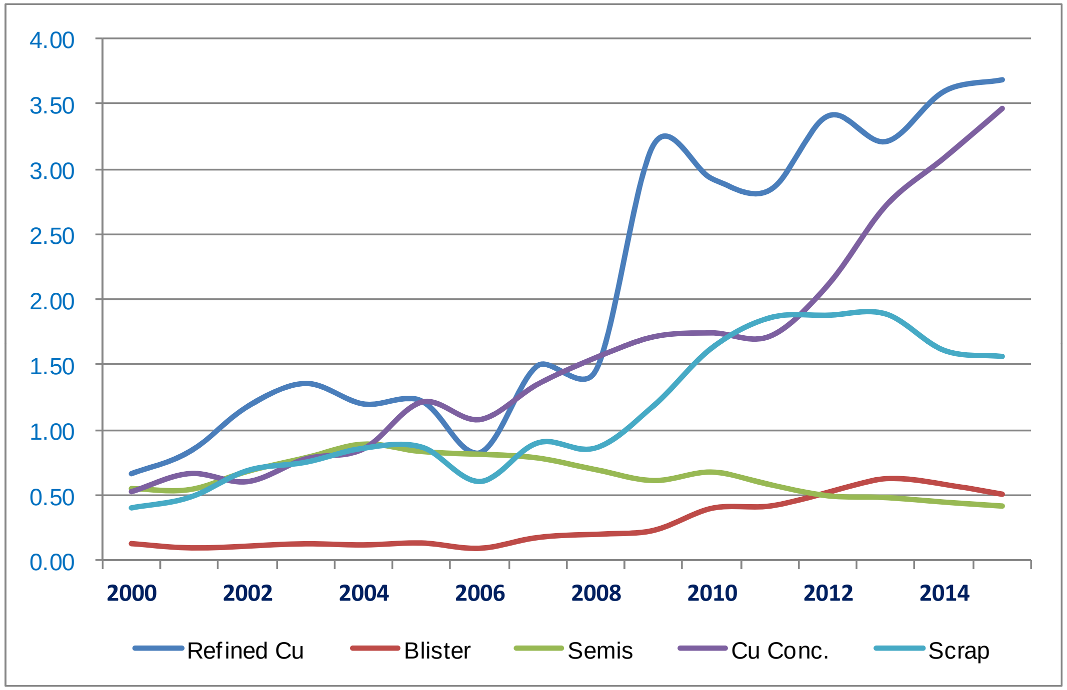
# Copper import increase mainly comes from refined copper and copper concentrates

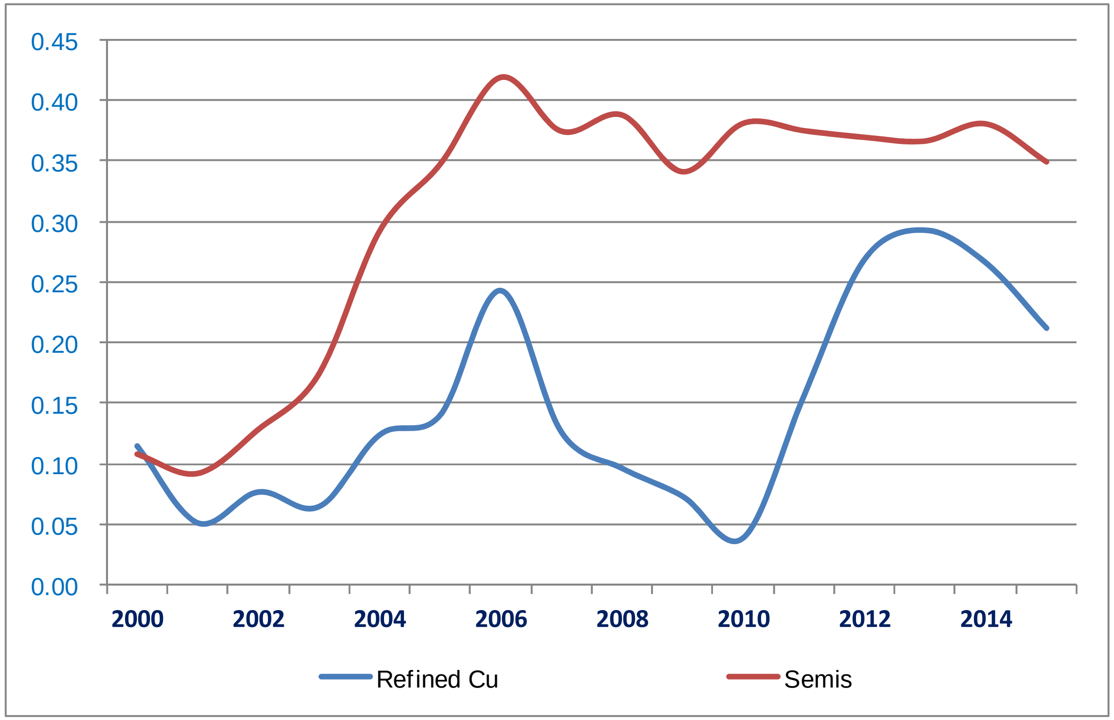
- China is the largest copper importer in the world, the main imports of copper products trend to increasing during 2000-2015. The most rapidly increasing are refined copper and copper concentrates, with the cumulative increase 451% and 551% accordingly. The greatly increase of refined copper mainly came from 2009,owing to the crash of copper price and money abundance while the increase of copper concentrates was mainly from 2011,when the smelting copper was in the peak of the production. Then copper blister and scrap are increased to 307% and 290% accordingly; copper semis was decreased to 24% because of the improvement of production of copper process and technologies.
- Refined copper imports is expected to drop in 2016-2020 ,lying in the narrowing of the domestic supply, while copper concentrates keeps increasing owning to the increasing demand of smelting capacity; the import of the copper scrap keeps steady and the imports of copper semis keeps falling.




**Selected Copper Products Import in 2000-2015 Unit: Cu Content Mt**

# The main exports is  refined copper and semis

- The copper exportation in China are mainly refined copper and copper semis, the export volume of them were increased by 85% and 223% accordingly during 2000-2015. In which the refined copper exportation fluctuated obviously influenced by the foreign trade policy and RMB exchange rate; the increasing of copper material exportation was happened in 2001-2006, then affected by the copper tube suffered  anti-dumping and the  economic downturn, the increasing trend was stopped and the exportation volume tends to be steady.
- The Chinese copper exportation remains focus on the refined copper and copper semis in 2016-2020, in which the refined copper exportation still fluctuate a lot , the copper semis exportation possibly again ascends the rising trend because it is predicted that the world economy will be recovered then.




Refined Cu and Cu Semis Export in 2000-2015  Unit: Cu Content Mt

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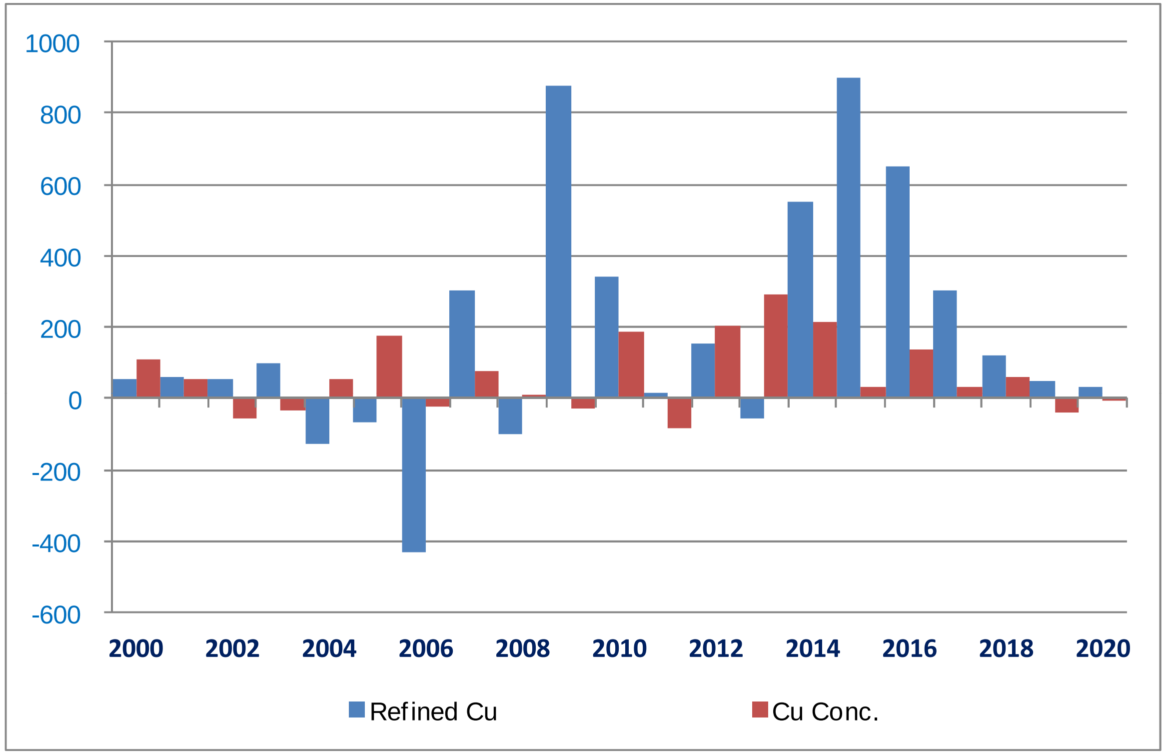
# Surplus of copper

- Though china is short for copper, the import is large, the refining copper and the copper concentrates in domestic market are oversupply. The oversupply of the copper concentrate is mainly because of the expansion of the production capacity to increase the material stock prepared for production. Apart from the expansion of production capacity, financing trade , arbitrage trade, and agency for purchase, etc. gave rise to the oversupply of the refining copper.
- It is expected that the copper continue oversupply, mainly due to the expansion and the long-standing arbitrage trade.




Refined Cu and Cu Concentrate Balance in 2000-2020 Unit: Cu Content Kt

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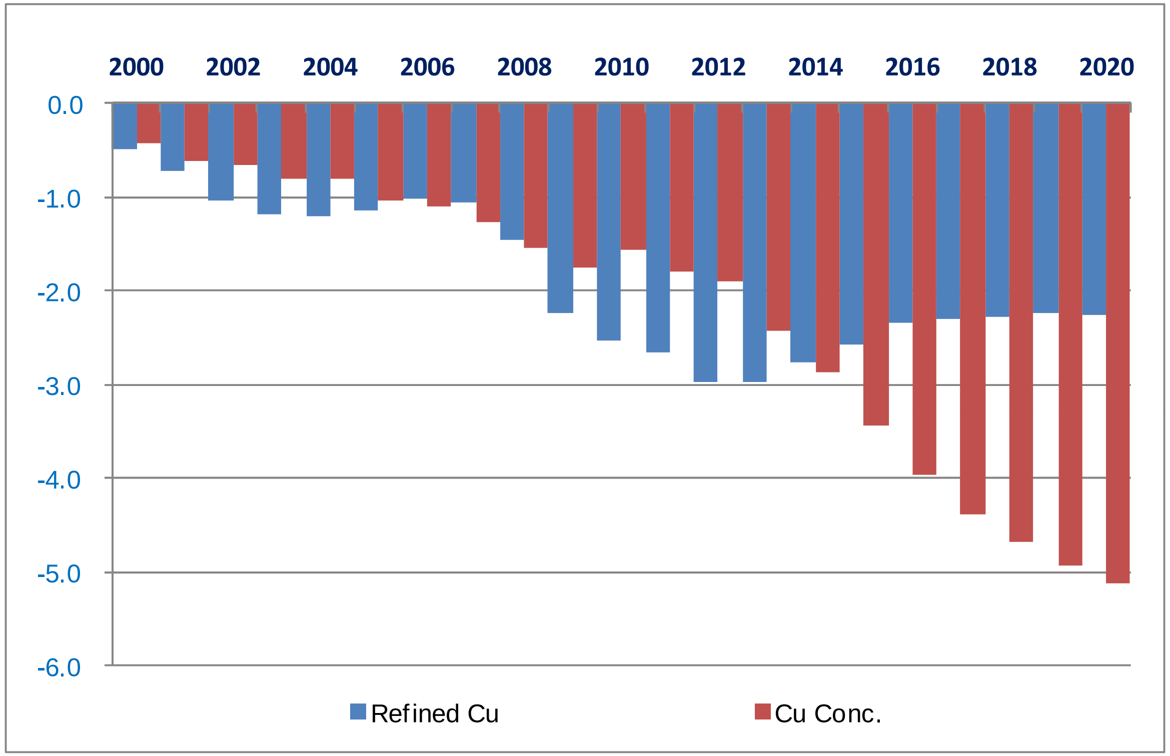
# The copper in concentrate production gap will further widen

- During 2000-2015, the gap between production and demand for refined copper and copper concentrate continued to widen, for copper concentrate, increased to 3.43Mt from 0.42Mt, with an increase of 3.01Mt; and refined copper, increased to 2.57Mt from 0.50Mt, with an increase of 2.07Mt
- During 2016-2020, the gap of refined copper will gradually reduce, to be about 2.3Mt in 2020, and the gap of copper concentrate will gradually enlarge, to be about 5.1Mt in 2020.




The Supply Gap of Refined Cu and Cu in Concentrate in 2000-2020 Unit: Cu Content Mt

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# Conclusions

**The growth rate of production and consumption will slow down.**

**1.** The growth rate of Chinese copper mine production will slow down, Meanwhile, the domestic copper scrap generation will increase, it is expected to exceeds its import, and will become the main supplier.

2. The expansion peak of smelting capacity has gone. However, the domestic market are still in urgent need of copper concentrates, due to the release of capacity and some new project.

3. The increasing output of refined copper gradually slowdown.

4. The consumption of copper will slow down. However China will be main contributor to global copper usage. the potential demand of copper focus on power industry, mainly in the distribution of the rebuilding network and the new energy industry.

# Thanks for you attention.

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