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SIA – Digging & Dealing

June 2018

Bushveld Complex South Africa

in gold we trust .report

GSCI/S&P500 Ratio: Equities Expensive, Commodities Cheap?

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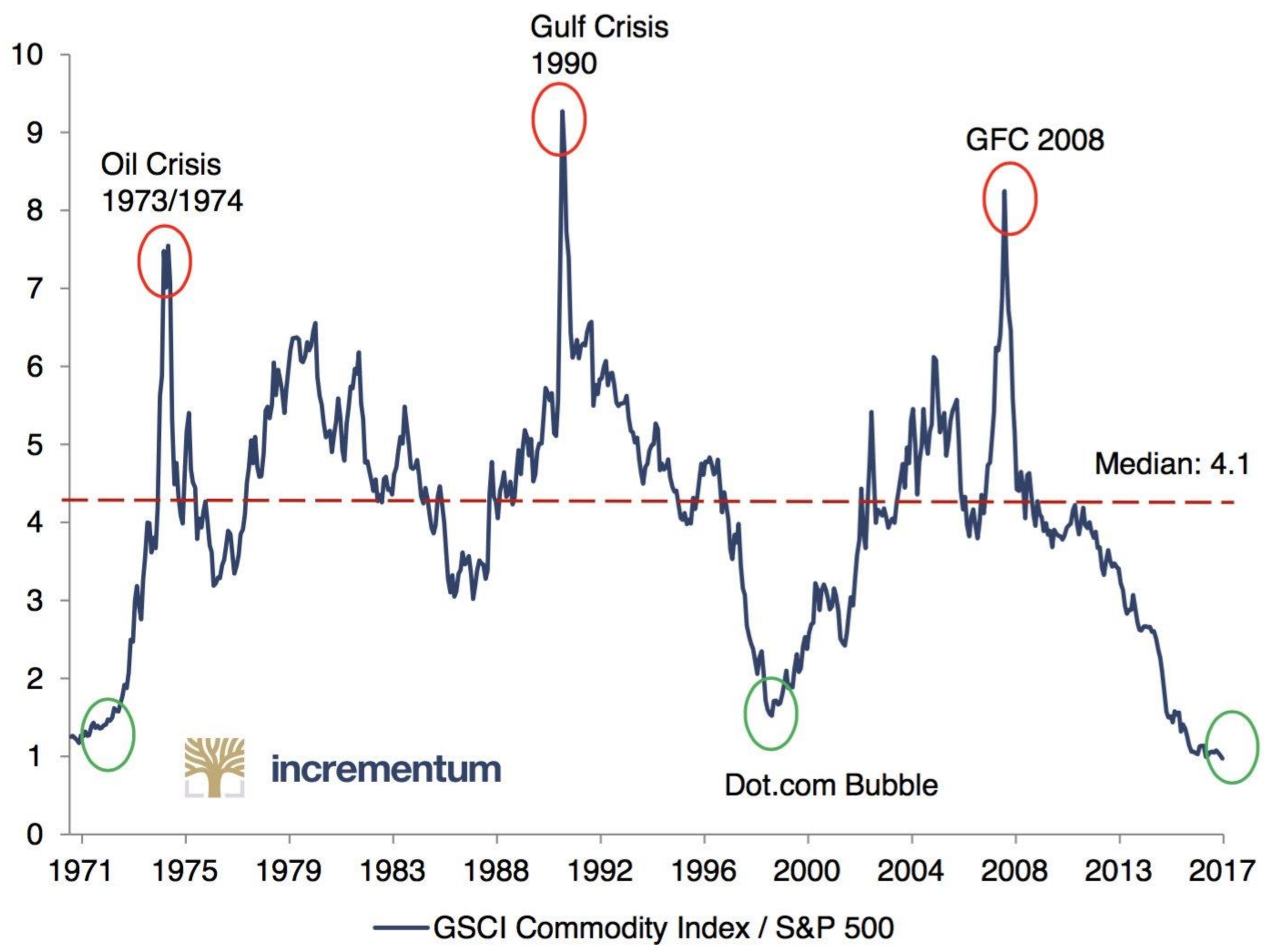
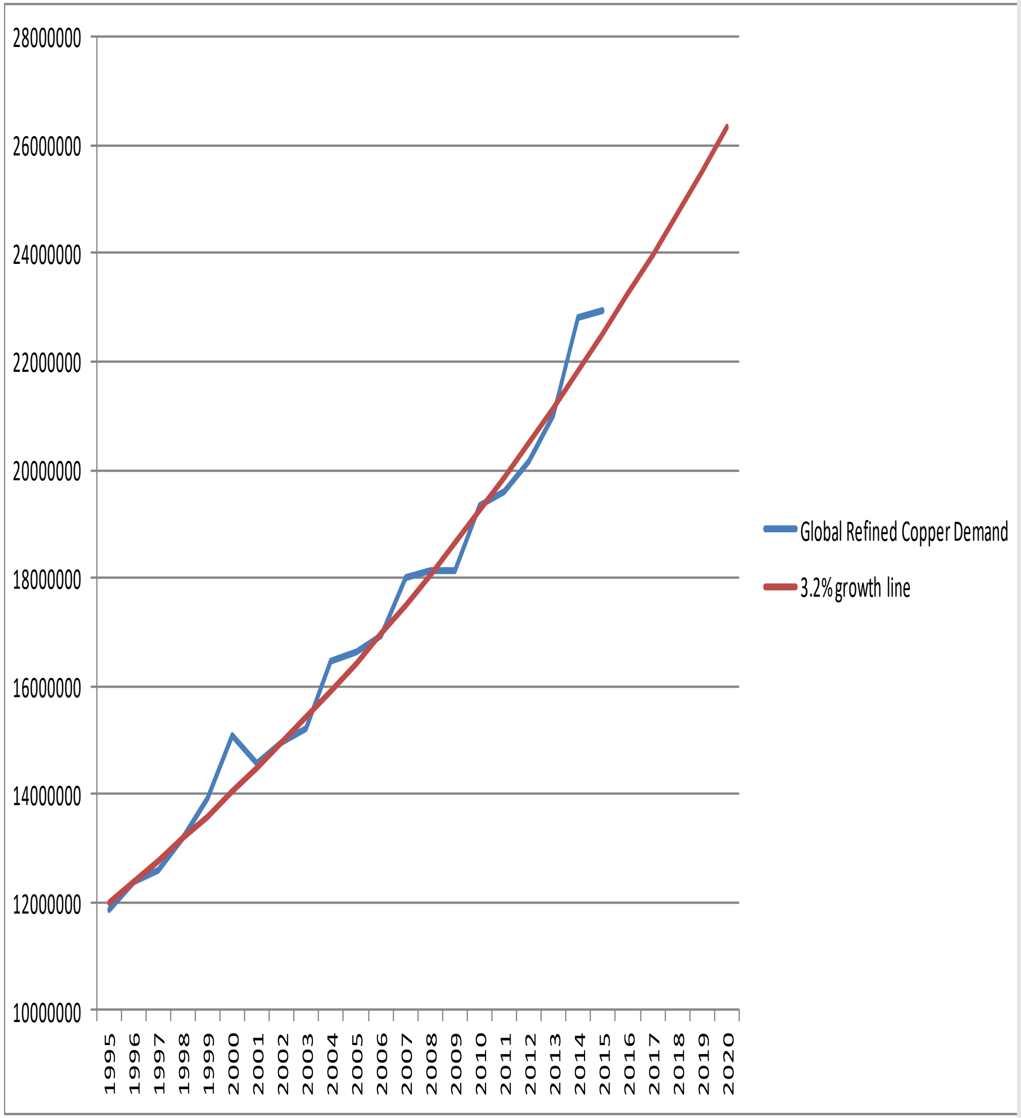
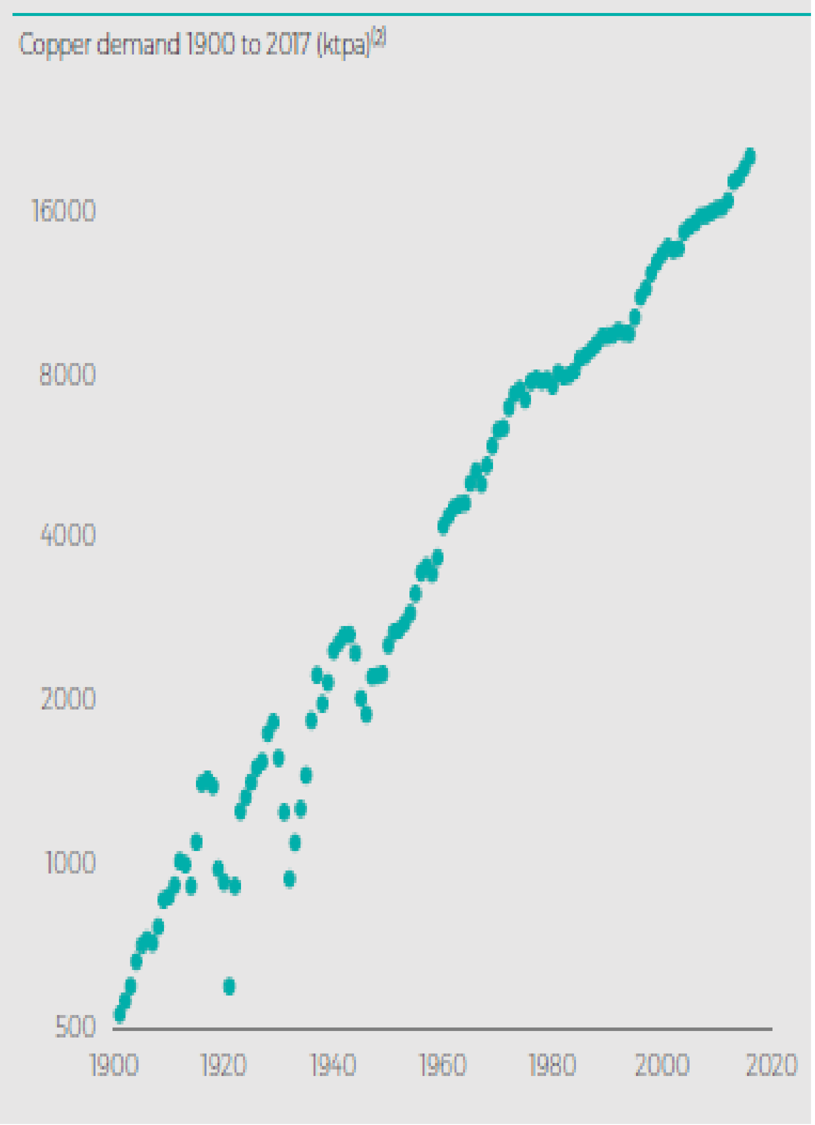


- In a historical context, the relative valuation of commodities to equities seems extremely low.
- In relation to the S&P500, the GSCI commodity index is currently trading at the lowest level in 50 years. Also, the ratio sits significantly below the long-term median of 4.1.
- Following the notion of mean reversion, we should be seeing attractive investment opportunities.

Copper just an example, demand is stable/GDP





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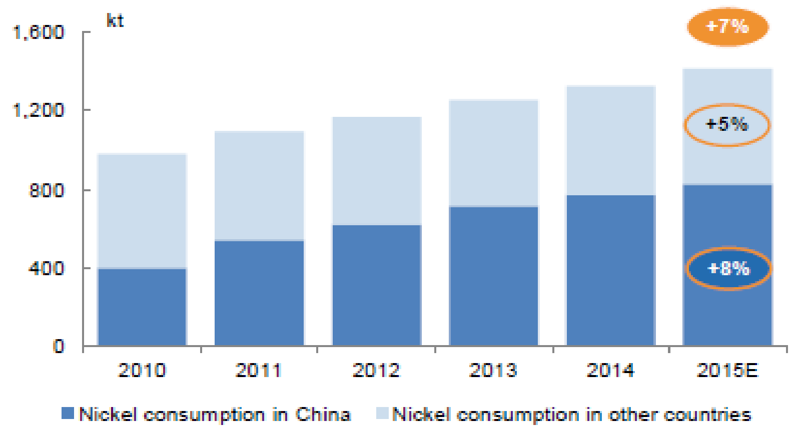
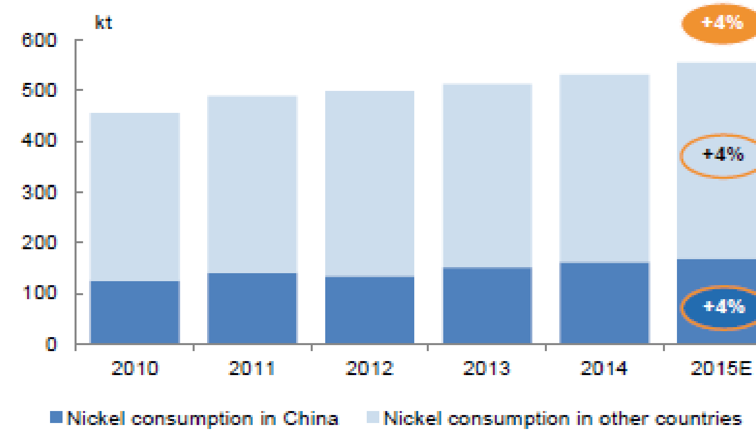
Bear market due to destocking, not demand

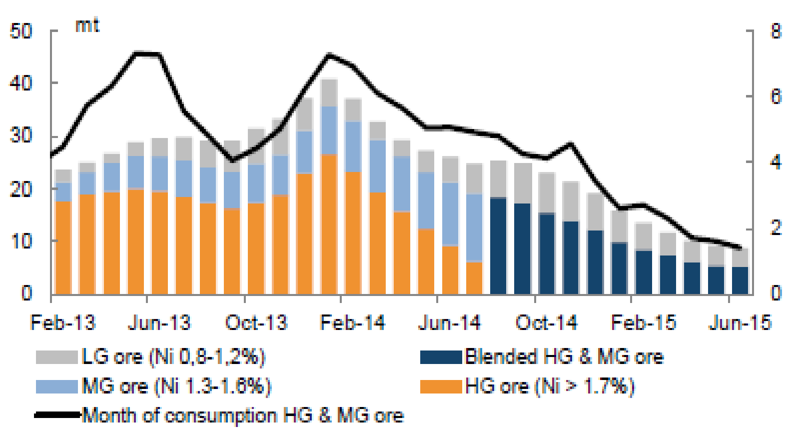
Primary Nickel Consumption (Stainless Steel)



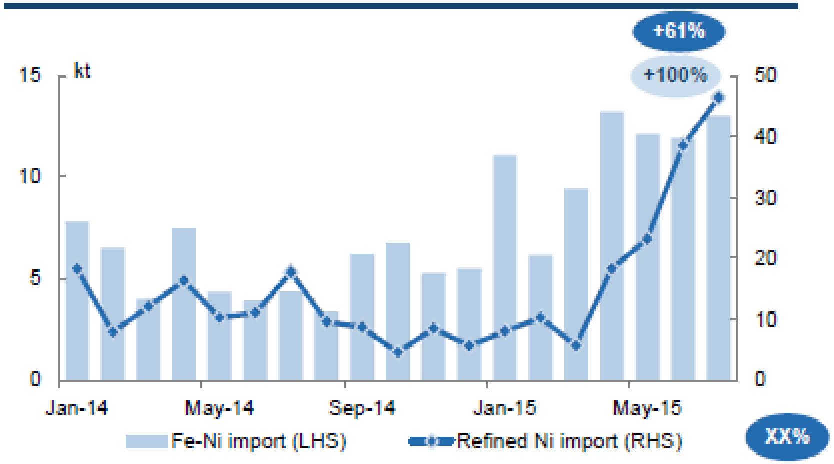
Primary Nickel Consumption (Non-Stainless Steel)



Chinese Ni Ore Inventories: High&Medium Grade Ore – Just Over a Month of Consumption Left



Strong Increase of Fe-Ni and Re-Ni Imports to China



Source: Norilsk Nickel

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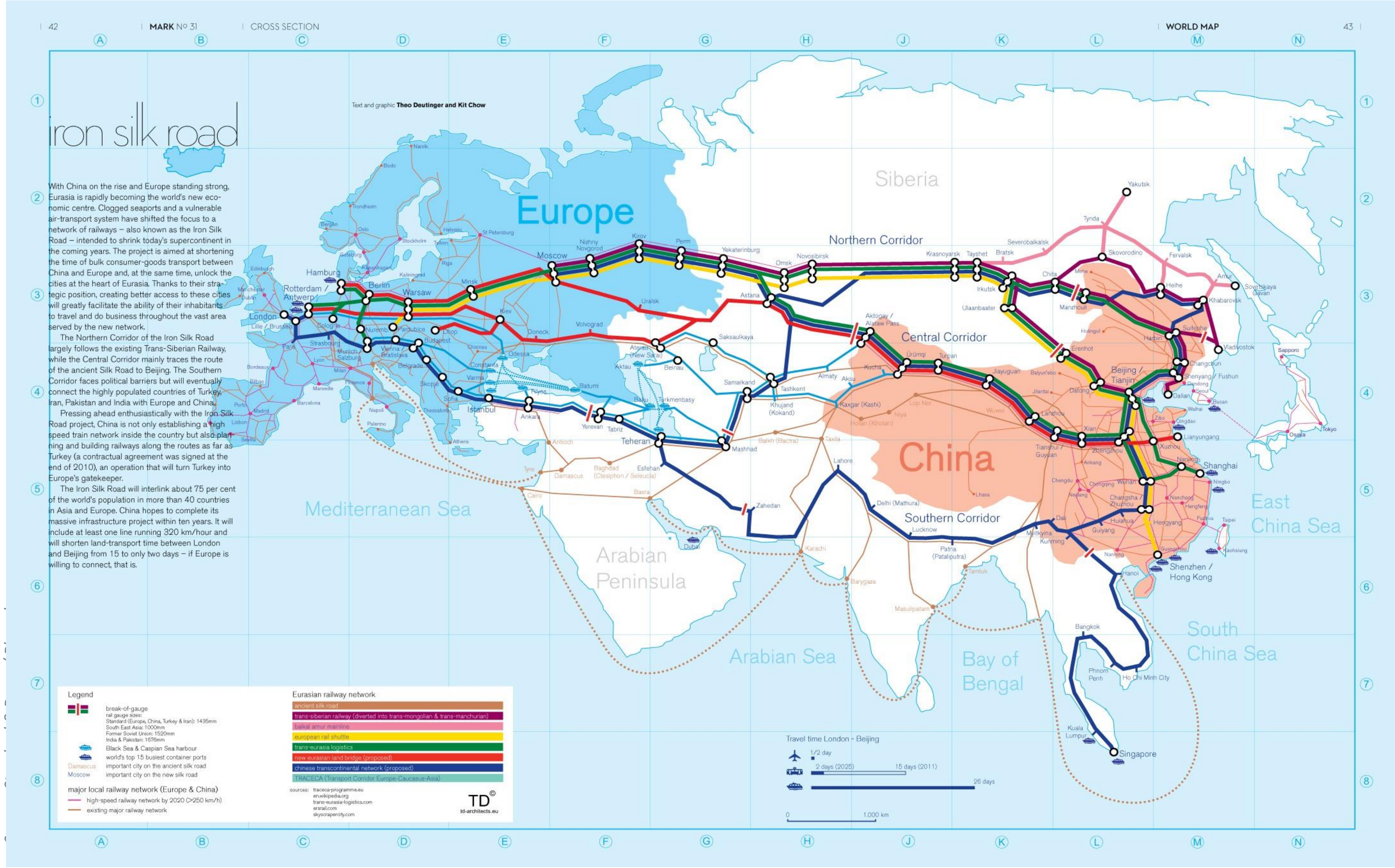
New Silk Road/ infrastructure



What is it all about?

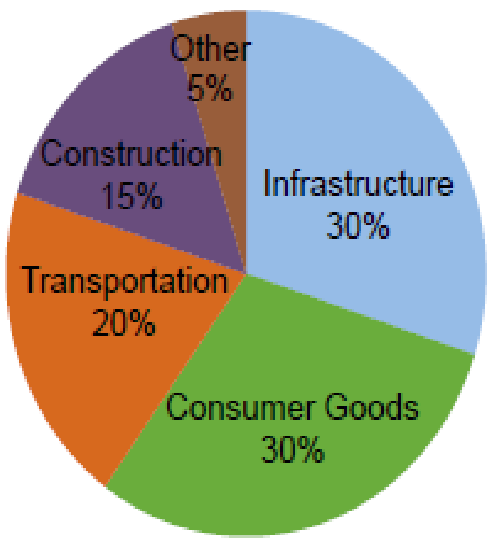
- The concept was unveiled by Xi Jinping in September 2013.
- China’s Marshall Plan to aid development in Central Asian countries and build relations with its neighbors.
- “One Belt, One Road” is the name of the development strategy to revive the land and maritime Silk Roads dating back to the days of Marco Polo. “Belt” refers to a vast area in Eurasia, and “Road” stands for the sea route that links China’s coastal cities to Africa and the Mediterranean, passing key ports in Southeast Asia and the Suez Canal.
- The world’s largest infrastructure project ever. A huge free trade area linking together 65 countries and 5 billion people.
- It challenges the old hegemony of the Atlantic alliance (ports, channels, bottlenecks, etc.).
- New Development Bank, Silk Road Fund, FTA’s, Dying Petro$, Ruble/Yuan currency swaps, Ruble priced Urals futures on SPIMEX (St. Petersburg Mercantile Exchange), gold flows east, military supremacy follows economic power, Yuan/IMF SDR’s, Yuan convertibility/Reserve currency.

Per capita consumption the same story for most „stuff“

Chinese Zinc Demand to Remain Strong

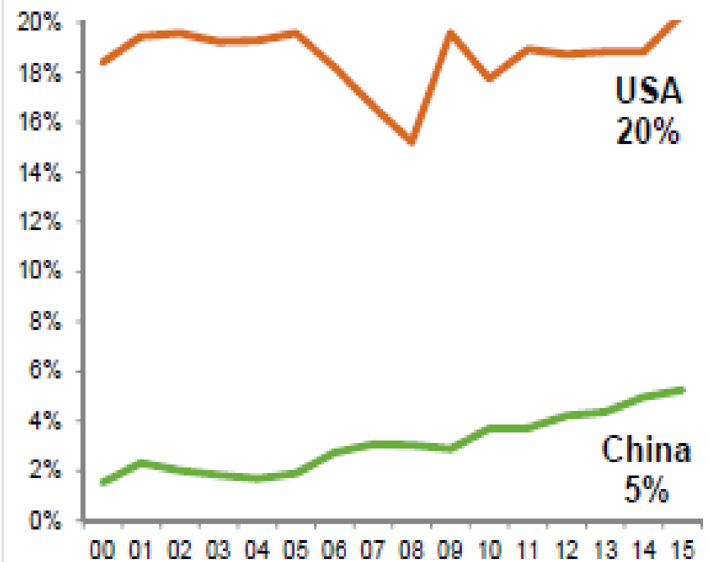
Teck

China Zinc Demand



Source: Teck

Galvanized Steel as % Crude Production



Source: Teck

If China were to galvanize crude steel at half the rate of the US using the same amount of zinc/tonne, a further 2.1 Mt would be added to global zinc consumption

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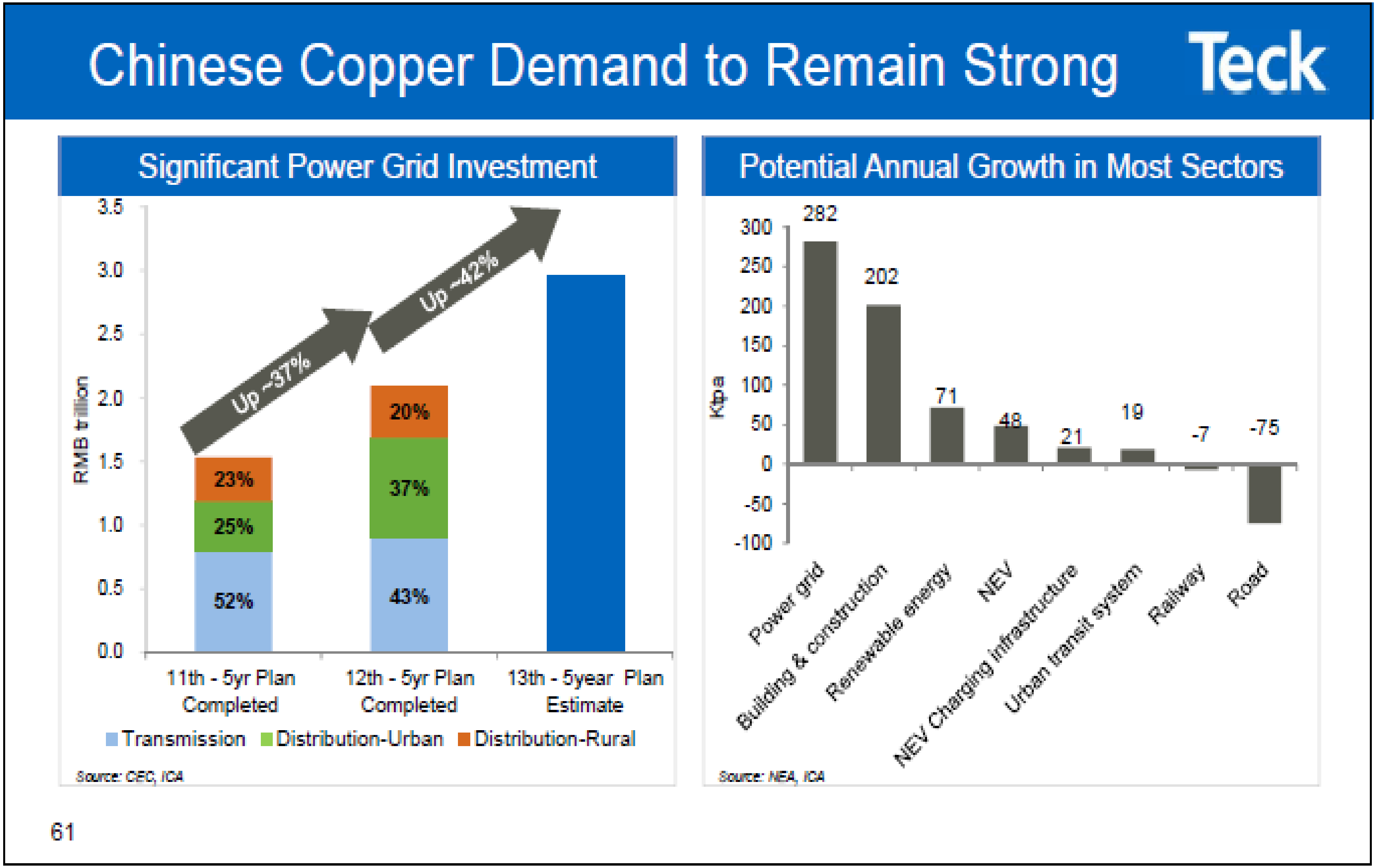
Chinese Copper Demand to Remain Strong
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Significant Power Grid Investment
RMB trillion
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Up ~37%
Up ~42%
23%
25%
52%
20%
37%
43%
11th - 5yr Plan Completed
12th - 5yr Plan Completed
13th - 5year Plan Estimate
Transmission
Distribution-Urban
Distribution-Rural
Source: CEC, ICA
Potential Annual Growth in Most Sectors
Ktpa
300
250
200
150
100
50
0
-50
-100
282
202
71
48
21
19
-7
-75
Power grid
Building & construction
Renewable energy
NEV
NEV Charging infrastructure
Urban transit system
Railway
Road
Source: NEA, ICA
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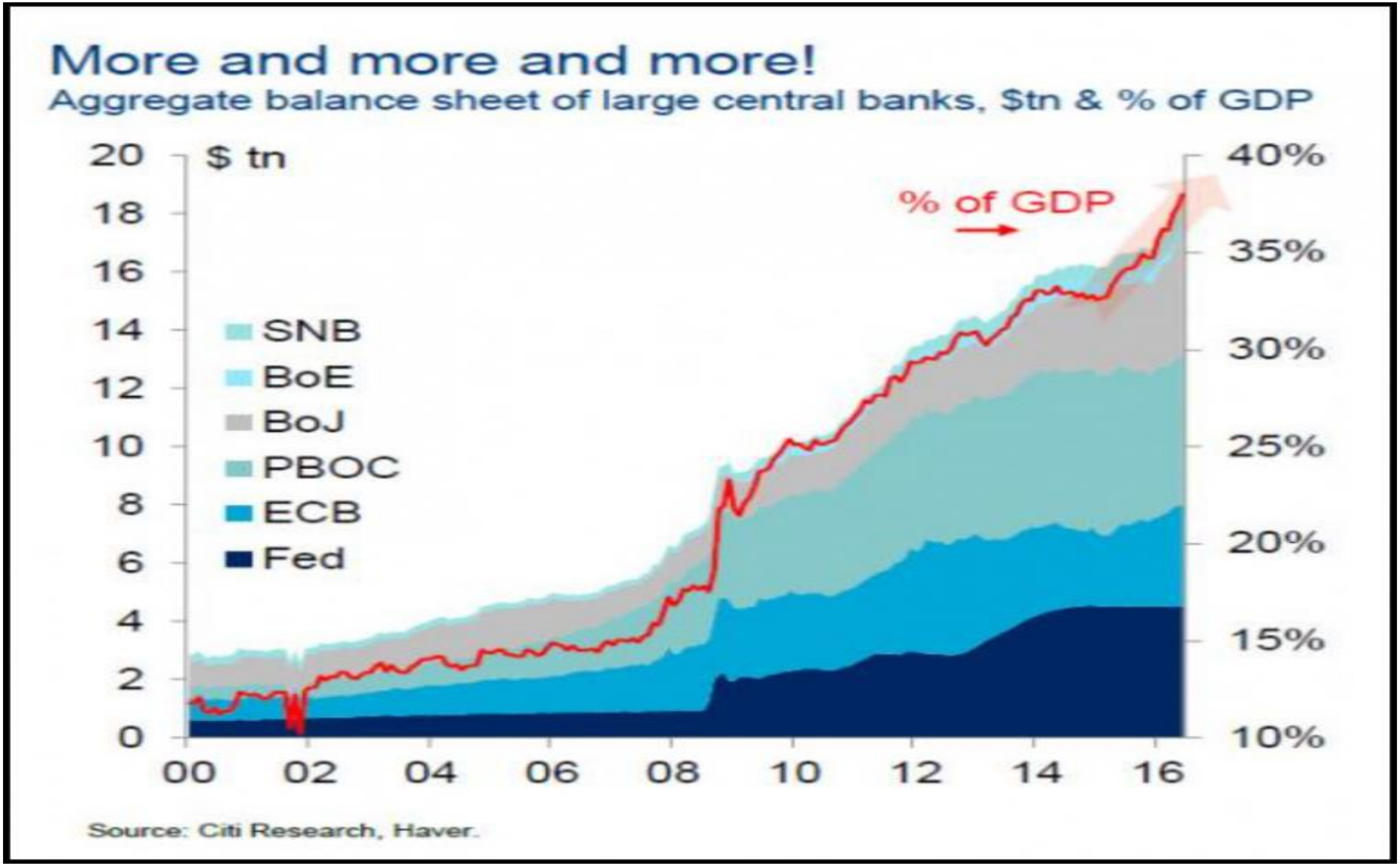
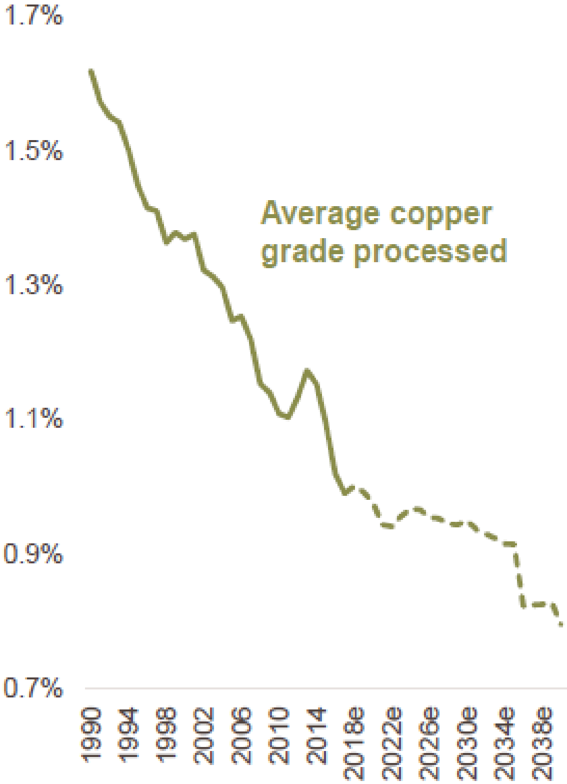
What about financing?

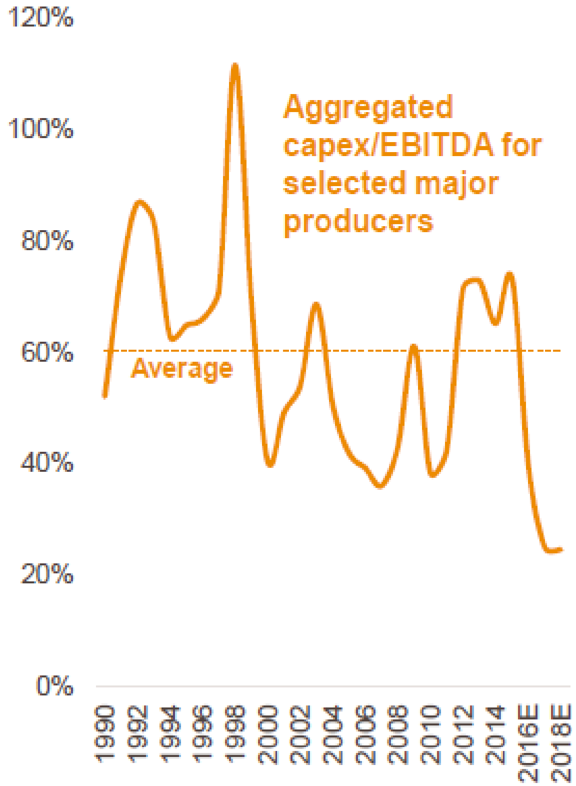


Sustaining copper mine supply is progressively more challenging

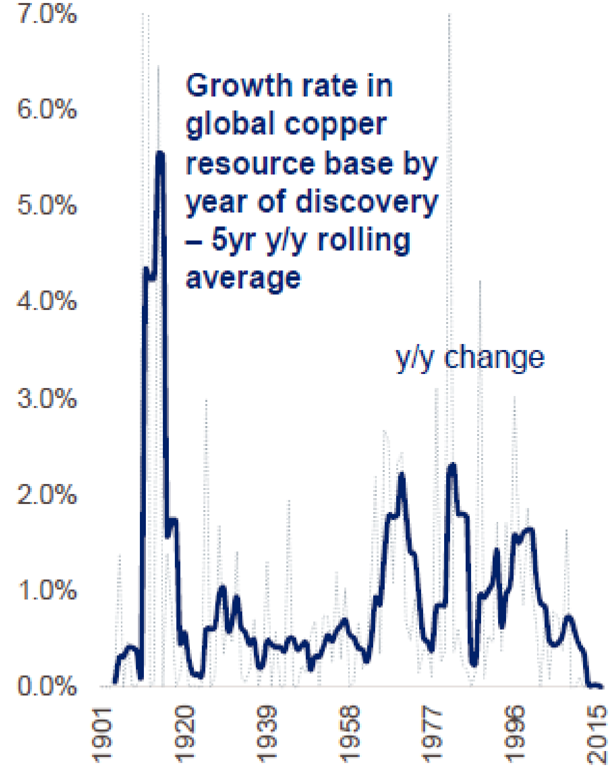
Mined copper grades continue to decline[1] …



Sector reinvestment has collapsed [1,2] …



Exploration has been increasingly unsuccessful [1] …



Source: (1) Bernstein European Metals and Mining, 8 March 2017, Copper & Gold – Not a production wall … it's a production cliff! (2) Selected producers includes Rio Tinto, BHP Billiton, Anglo American, Glencore, Vale, First Quantum, South 32, Antofagasta. Estimates for 2016-2018 based on company guidance and approved projects only.

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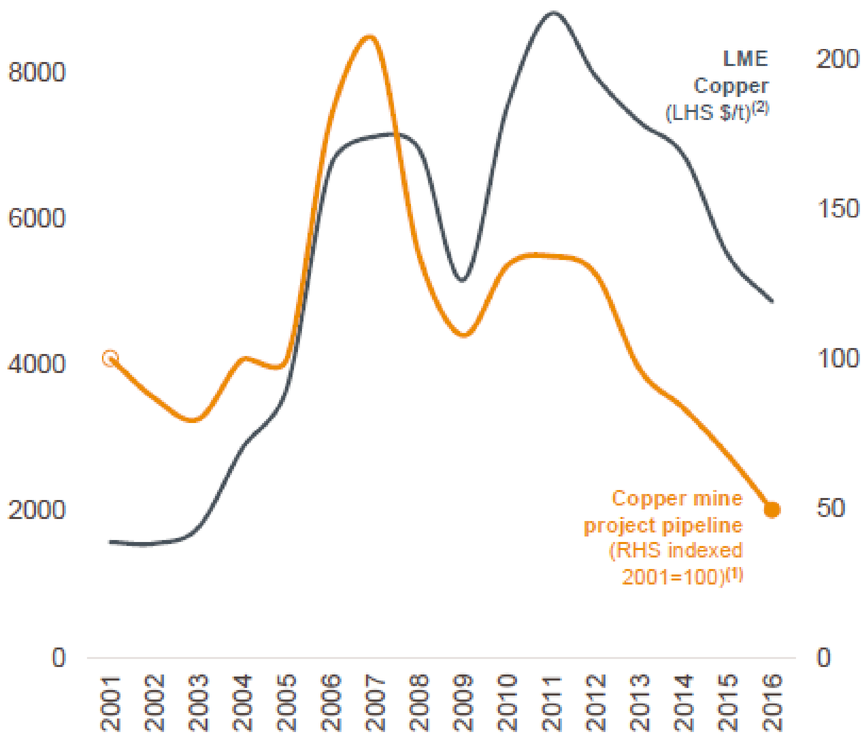
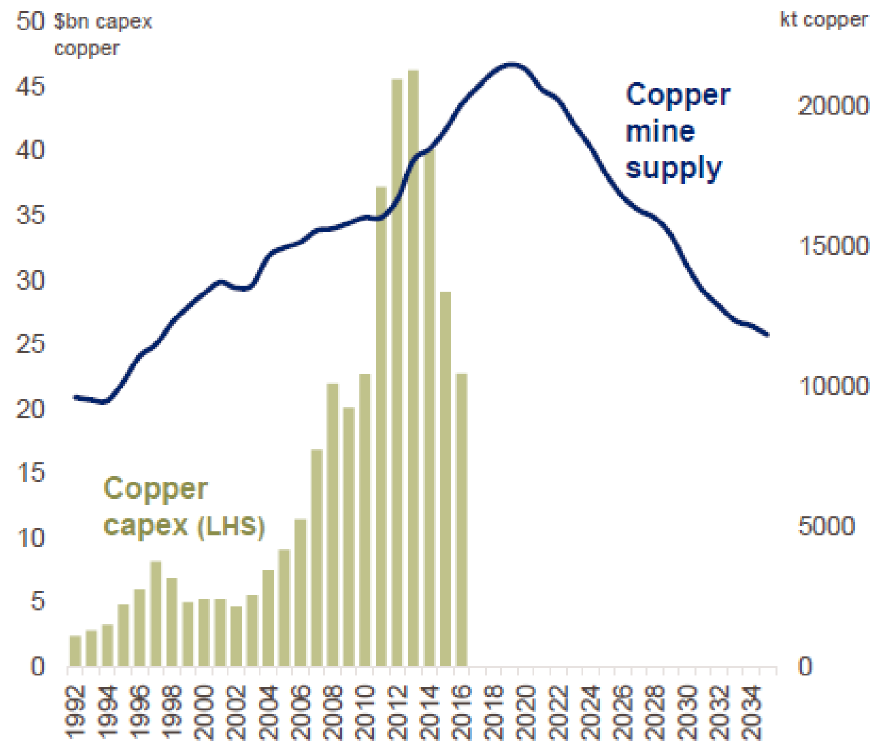
Project pipeline below pre-supercycle lows!

Sustaining copper mine supply is progressively more challenging

Copper mine project pipeline now below pre-supercycle lows



Supply is peaking in 2018 and declines thereafter at 3.5% CAGR with no reinvestment [3]



Source: (1) Copper mine project pipeline comprises the total production volume of projects categorised as highly probable and probable by Wood Mackenzie's Global copper long-term outlooks from 2001 to 2016, indexed change from 2001. (2) Annual average LME cash copper price, source Wood Mackenzie and Bloomberg. (3) Bernstein European Metals and Mining, 8 March 2017, Copper & Gold – Not a production wall … it's a production cliff!

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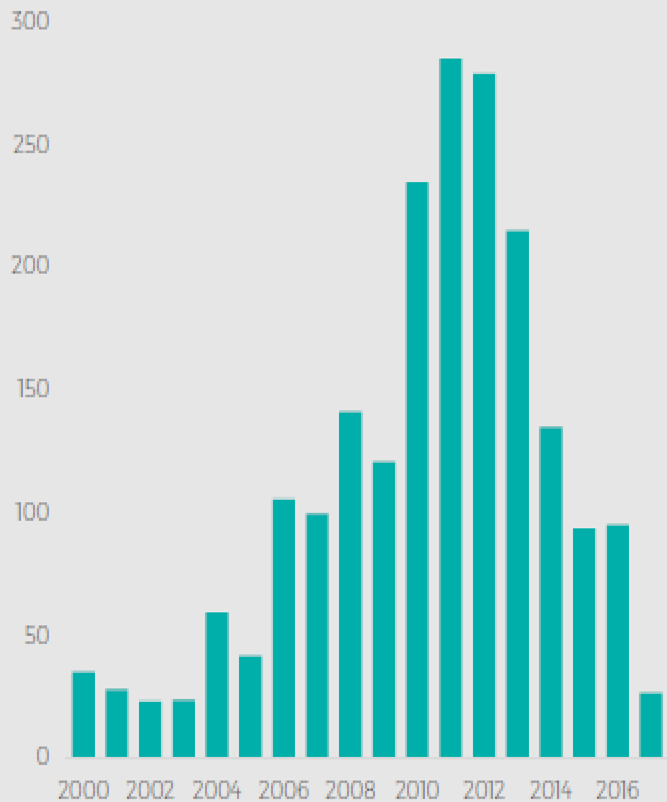
Mining capex has bottomed

Capex has been slashed …

Capex announcements (not annual spend)[1] ($bn)



… underpinning the shift into deficit for commodities

Cumulative change in annual metal balance (kt)[2]

Bank of America Merrill Lynch
2018 Global Metals, Mining & Steel Conference

Notes: (1) Source: Citi Research (2) Wood Mackenzie: copper, zinc. Glencore estimates nickel

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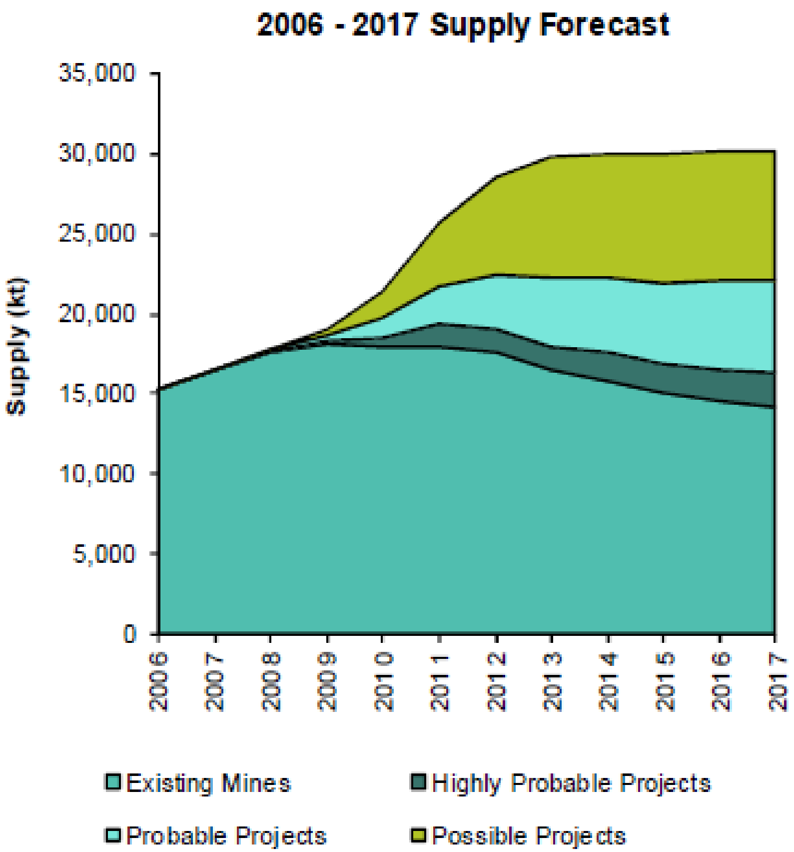
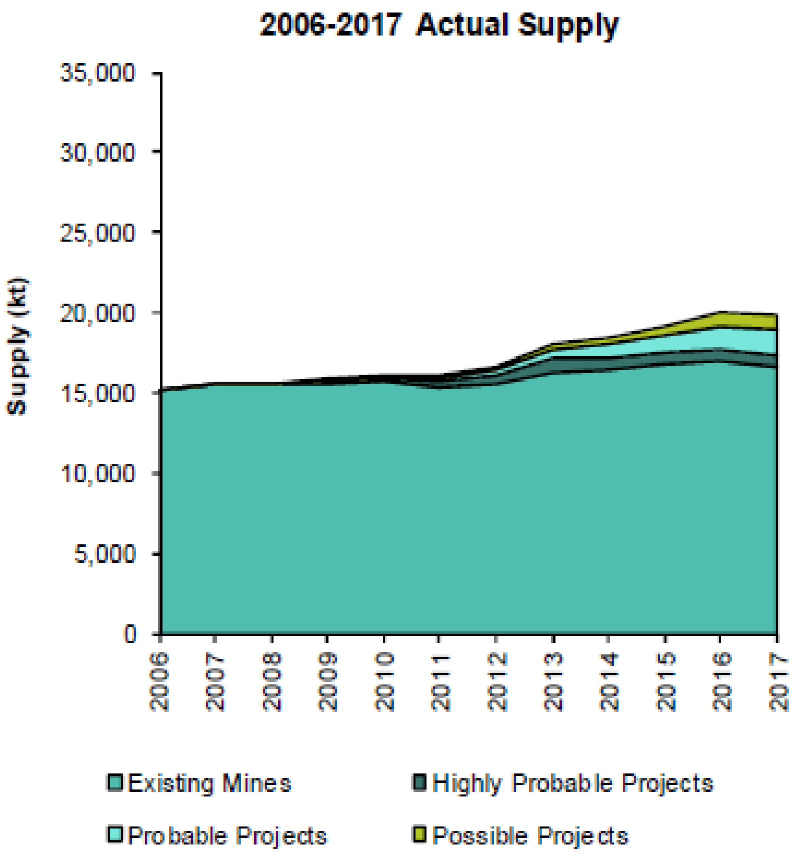
Mediocre supply response in relation to capex

EXHIBIT 4: **In 2007, the maximum 2017 run-rate supply was estimated at 30.2Mt, +99% growth (+6.4% CAGR) generating fears about a possible "wall of supply"...**



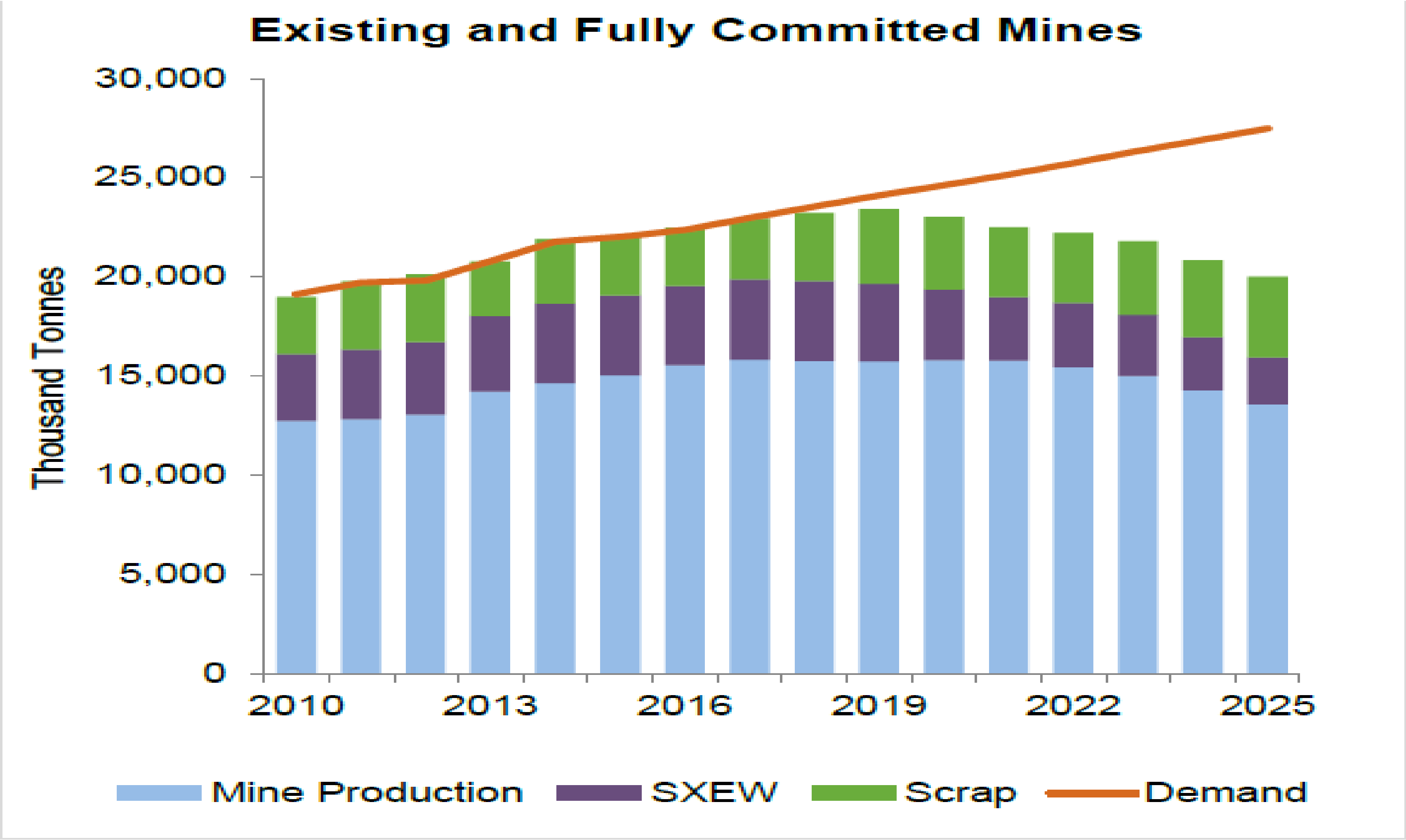
Source: Brook Hunt, Wood Mackenzie, Bernstein analysis

EXHIBIT 5: **... when in reality, despite the copper price hitting US$10,000/t in 2011, supply actually grew just +31% (+2.5% CAGR).**



Source: Brook Hunt, Wood Mackenzie, Bernstein analysis

One will have to adjust to the other...



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It will take a lot of time and a lot of money...

Sector capex plans have risen beyond trough levels but still remain low, reflecting:

- Modest capex inflation
- Remaining spend on legacy projects
- Catch-up spending
- Mine-life extensions for current operations

Volume growth challenges - large increases in capex unlikely

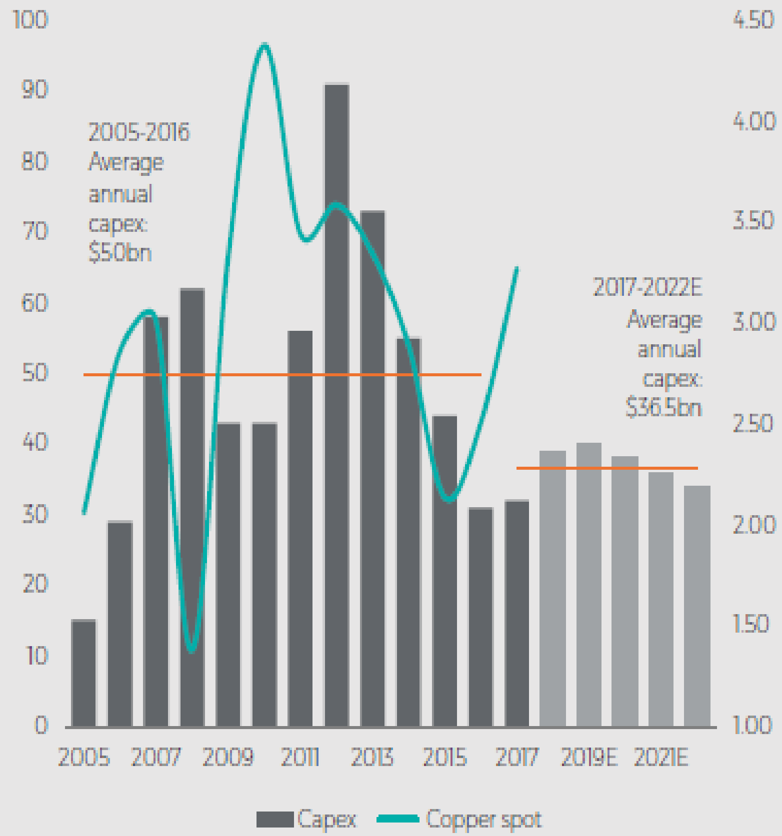
- More prudent/shareholder-friendly capex philosophy
- Lack of 'shovel ready' projects – particularly in copper/zinc/nickel/cobalt
- New growth will require miners to operate in 'challenging' geographies
- Increasing 'social licence to operate' complexity for greenfield project approvals

Capital efficient growth is key

- Sensible organic reinvestment vital to underpin long-term cash flows
- Investing with consideration for the global supply/demand balance

Lower forecast capex, but can it increase dramatically?

Total sector capex ($bn) vs copper spot price ($/lb, RHS)[1]



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Sources: (1) Total sector capex from Morgan Stanley research, includes 29 European mining and steel companies and Morgan Stanley estimates to 2022E. Copper price from Bloomberg

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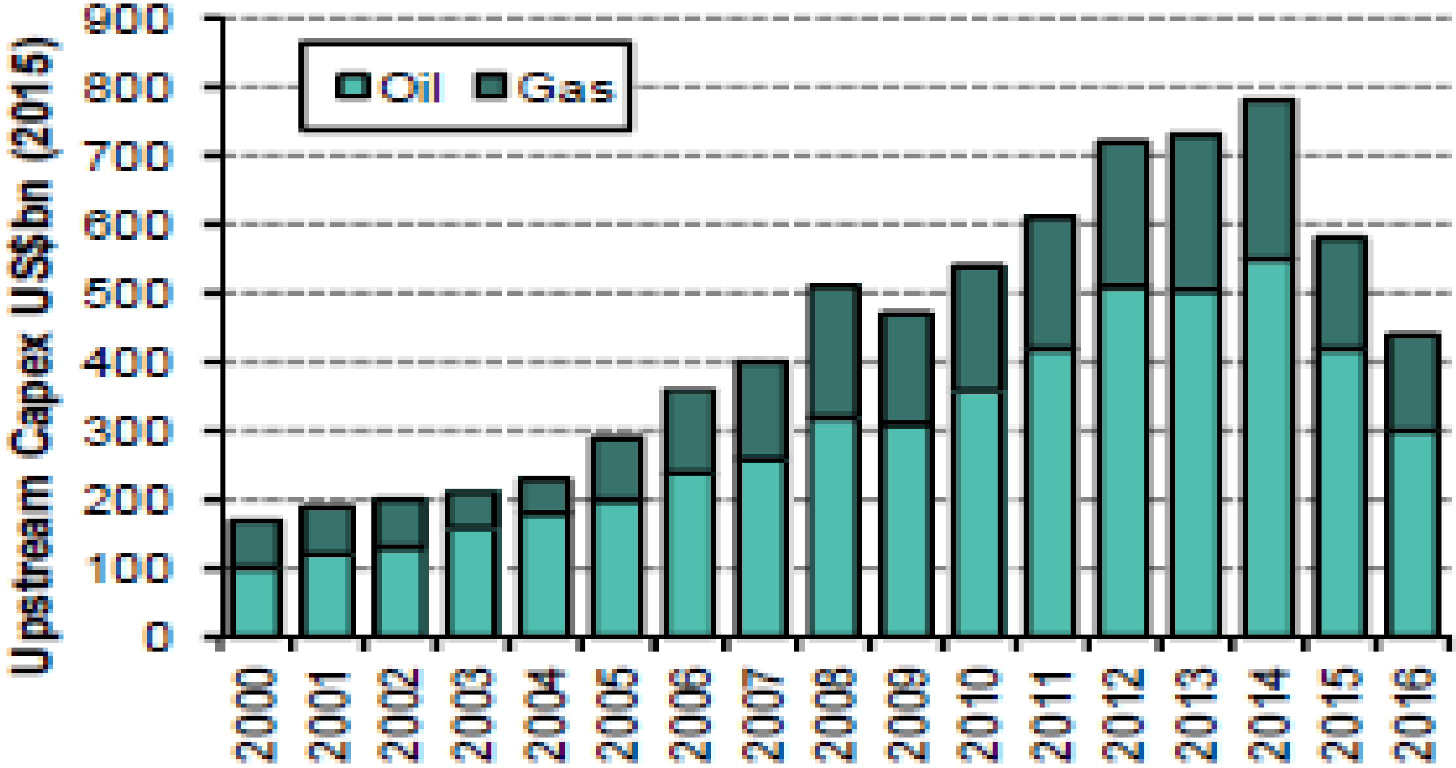
Oil the same

EXHIBIT 1: Organic Upstream Capex



Source: IEA

"The SIA value bracket"