

AUSTRALIAN INFLUENCE ON THE MET COAL AND COKE WORLD

WHAT DO THE NEXT FIVE TO FIFTY YEARS LOOK LIKE?

Dr Neil J. Bristow

Presentation at 7th EuroCoke Summit Conference
Barcelona, Spain 25th – 27th April 2016



Plan of Presentation

- 1. Introduction – setting the scene**
- 2. Snapshot – conditions Coke meeting Pittsburgh**
- 3. Outlook today – what has changed and why**
- 4. Australia's role in the met coal and coke market**
- 5. Looking ahead Australia in 2020**
- 6. Long term future, where will we be in 50 years?**
- 7. Concluding remarks**

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Introduction – setting the scene

- It's a China story stupid – or is it?
- Is high coke strength the key factor anymore?
- Are Chinese steel exports here to stay?
- The commodity cycle has ended – or has it?
- Do we need any more met coal and if so..
- Who's investing in new coking coal?
- When does scrap/EAF replace the coke/BF?

Plan of Presentation

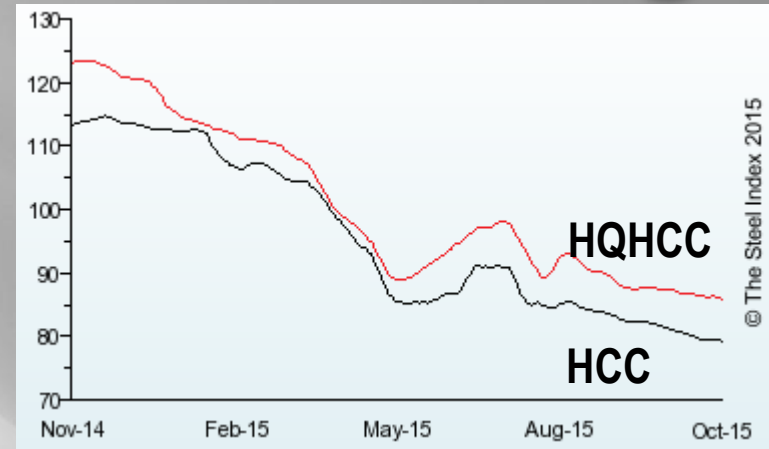
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Snapshot – conditions at end October 2015

- In a nutshell = really bad!!
- Macroeconomic conditions deteriorating fast
- Falling demand for steel and coke, met coal
- “flood” of Chinese steel exports
- Prices heading south:
 - benchmark US\$81.5 / spot US\$78 – heading down
- Industry unprofitable – severe cost reductions
- Mine closures, across all major supply centres
- Outlook for 2016 - bleak

Where we were in Pittsburgh

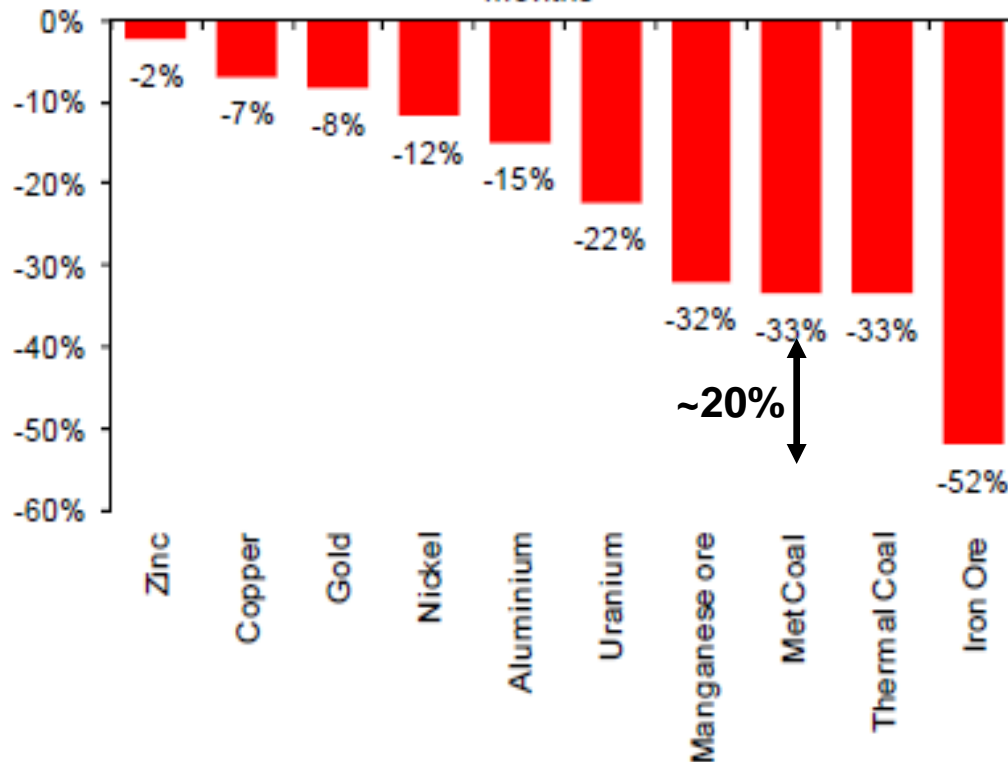
- Prices – heading down
 - Widening differentials
 - PCI weakening
- Demand softening
 - Steel demand
 - Chinese steel exports replacing imported coking coal steel
 - Chinese imports sharply lower 2.5Mt vs >4Mt in 2014
- Supply – mines closing as unprofitable
 - Australia – Isaac Plains, Integra, Wollongong coal, Crinum 1/1/16
 - Canada – Grande Cache, Teck lowering volumes
 - US – entering Chapter 11



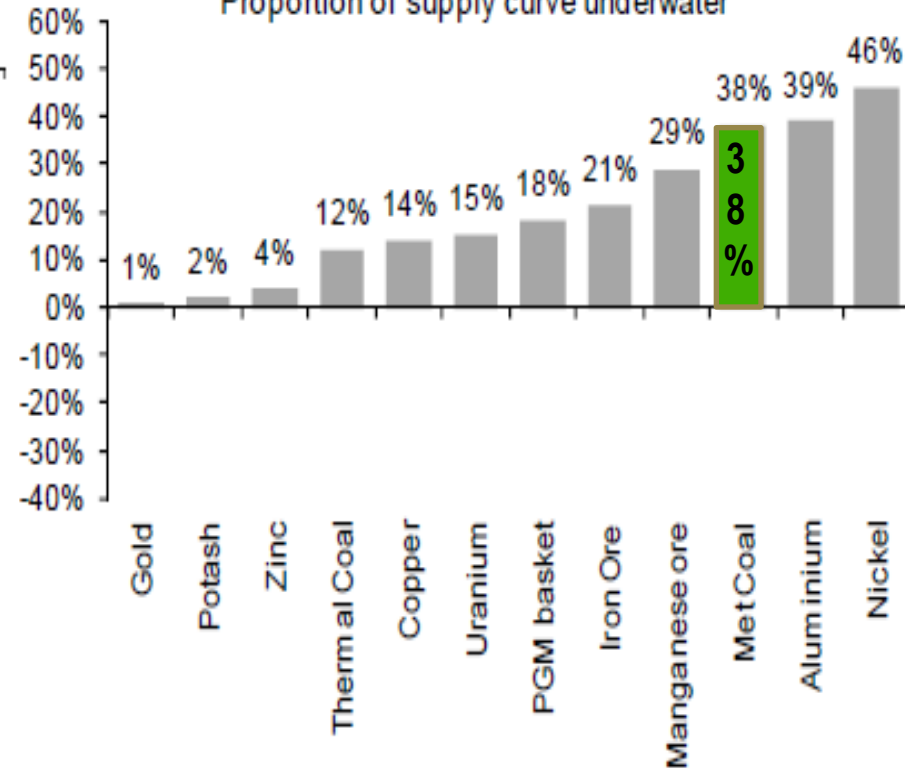
Met Coal can it get any uglier? – probably yes!

In the near term further cost cutting is underway and could reach iron ore levels, adding to further US met coal problems. Could this even lead to increased met coal imports to keep coke plants operating?

Change in marginal cost level over the past 24 months



Proportion of supply curve underwater



Unfortunately I was right it did!!

Outlook for 2016 – late 2015 perspective

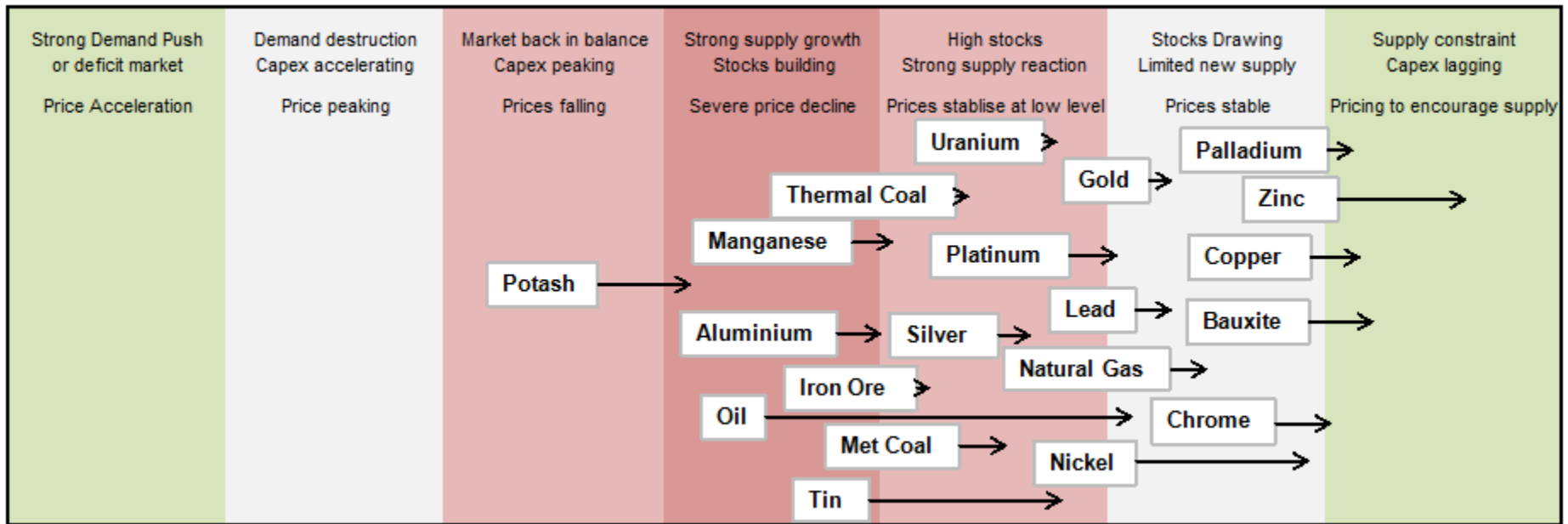
- Prices – steelmaking raw materials heading down further
 - Bottom November 2015; met coal US\$73/t PHCC, IO US\$38/t
 - Steel forecasts down – change in China view, 2015 turning point

Countries	million tonnes			y-o-y growth rates, %		
	2014	2015 (f)	2016 (f)	2014	2015 (f)	2016 (f)
China	710.8	685.9	672.2	-3.3	-3.5	-2.0
United States	107.0	103.8	105.2	11.8	-3.0	1.3
India	75.9	81.5	87.6	3.1	7.3	7.6
Japan	67.7	64.0	66.0	3.7	-5.4	3.1
South Korea	55.5	54.8	55.2	7.3	-1.3	0.7
Russia	43.0	38.5	38.2	-0.7	-10.4	-1.0
Germany	39.4	39.5	40.5	3.7	0.3	2.3
Turkey	30.7	33.9	34.3	-1.8	10.2	1.1
Brazil	25.6	22.3	22.5	-8.6	-12.8	0.5

- Chinese Demand – peak steel now softening?
- 2015 entry China toward 1bt, exit, peaked ~820mt!!

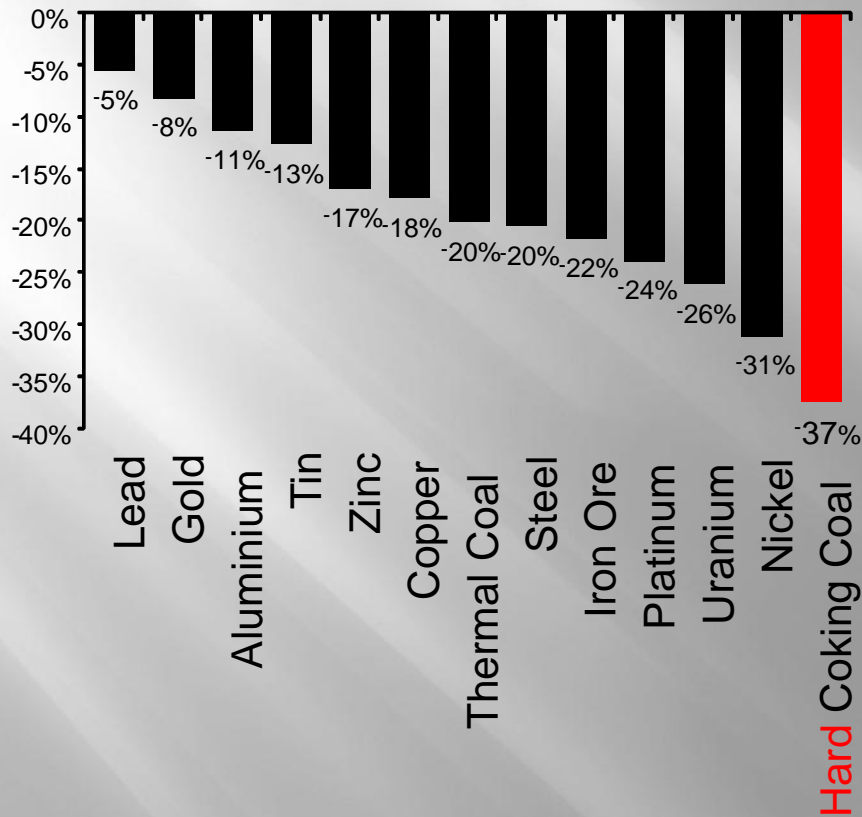
Outlook for 2016 – forecasts and views

- Prices – steelmaking raw materials heading down

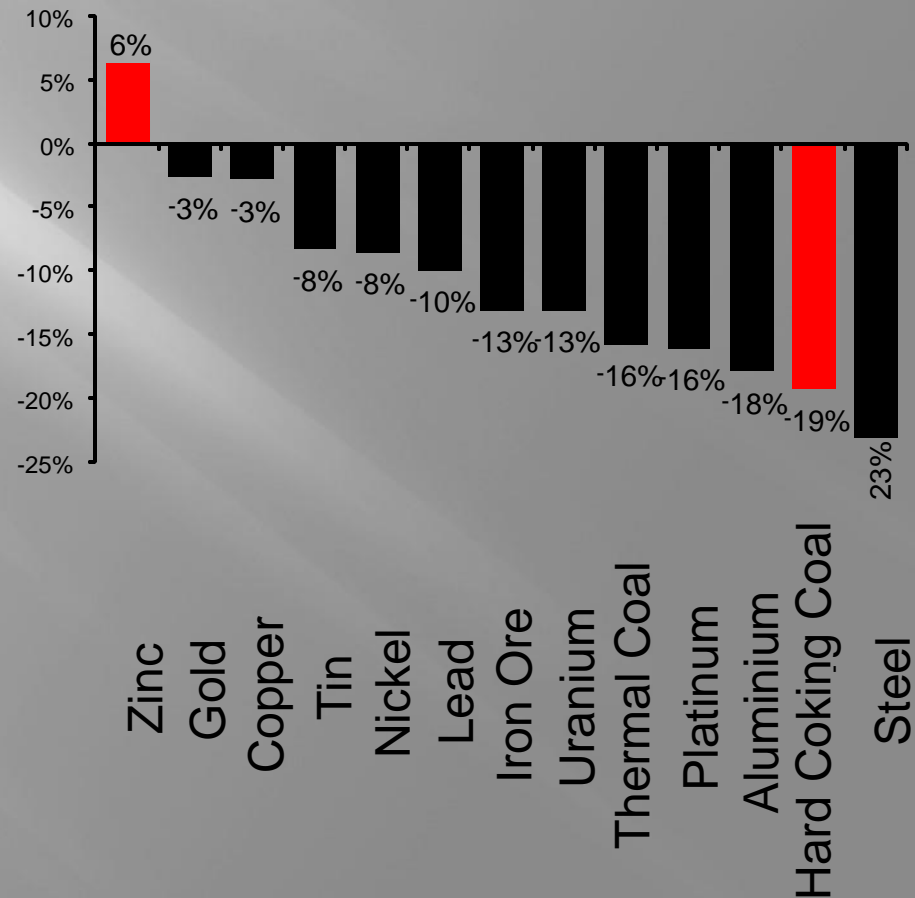


2016 expected to be a bleak year and extend for a considerable period!!

2016 average price vs LR price expectations



2020 average price vs LR price expectations

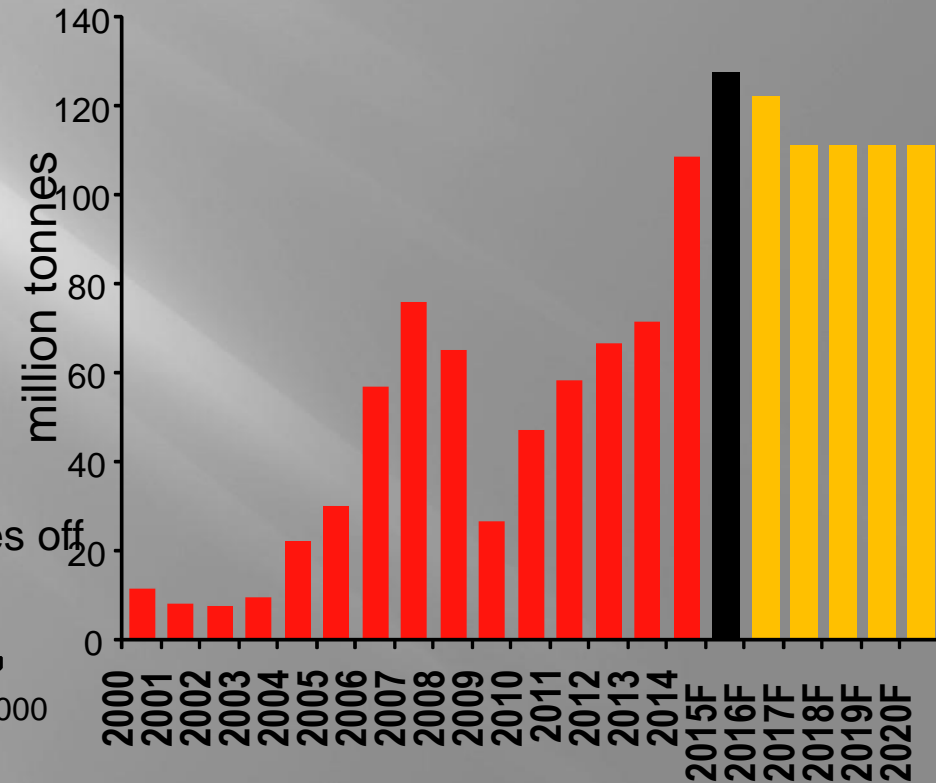


Longer views also pessimistic in medium to longer term

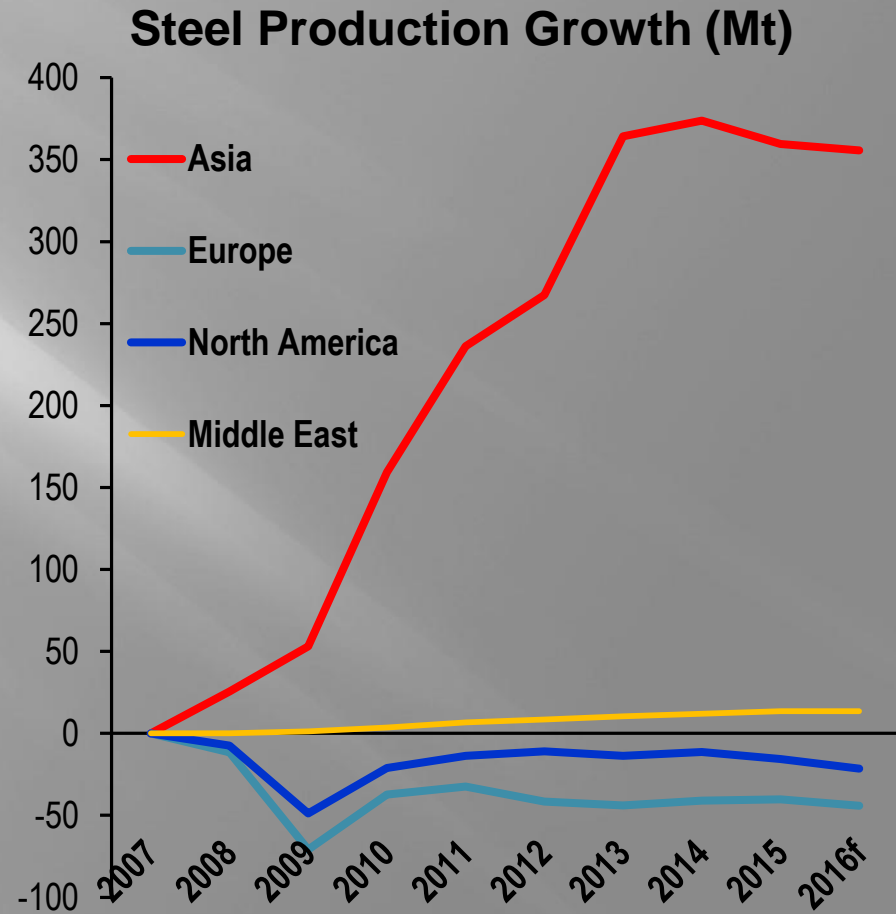
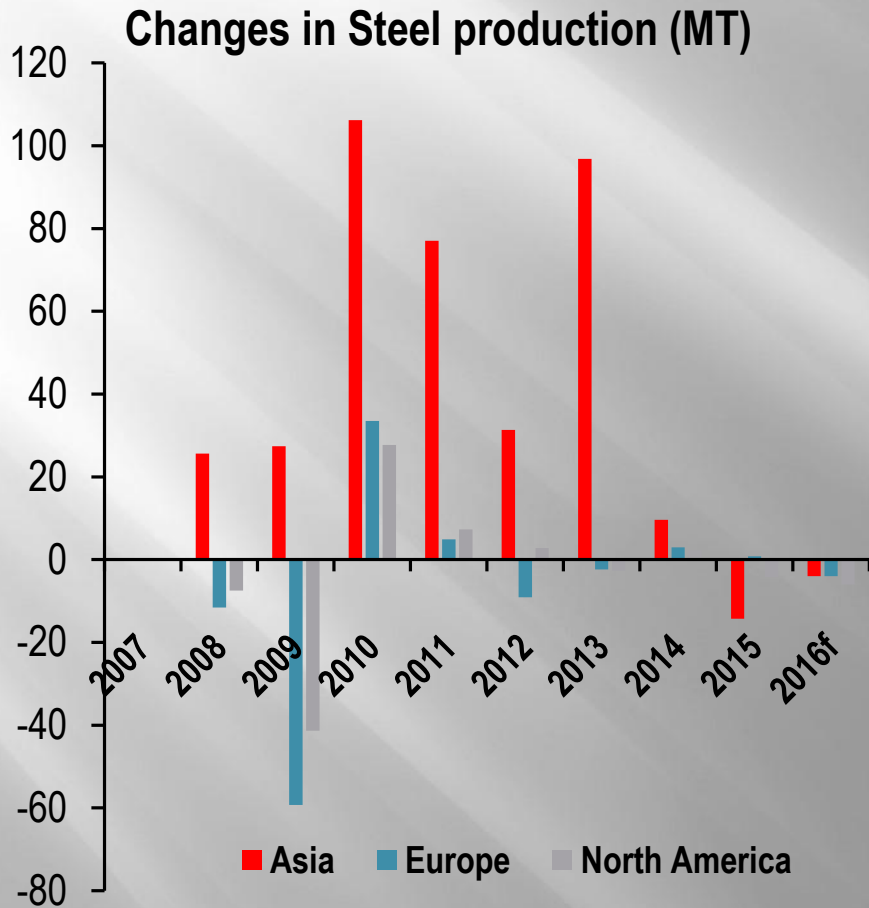
Global crude steel consumption



Chinese steel exports, crude steel basis

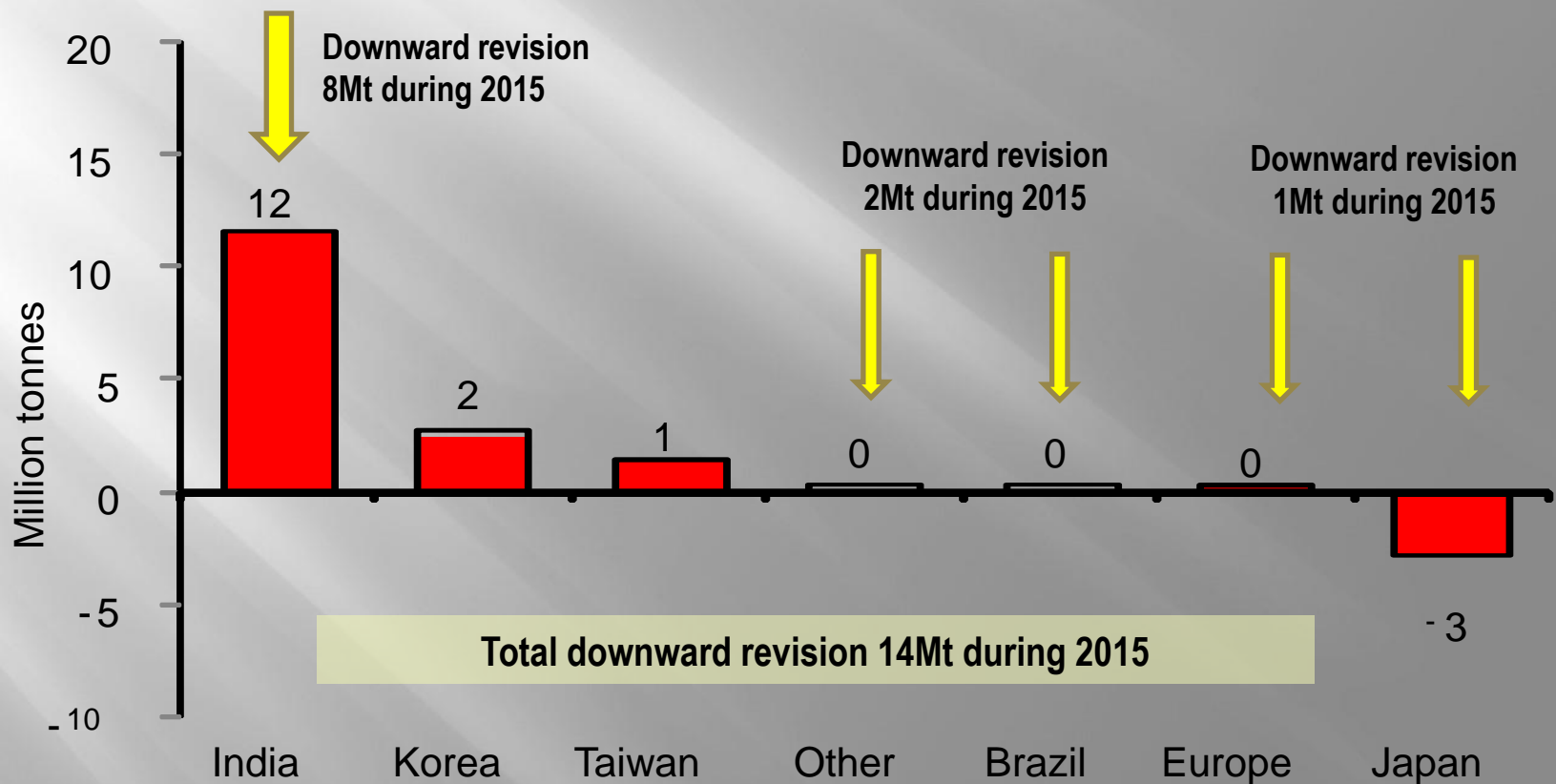


Changing steel production trends



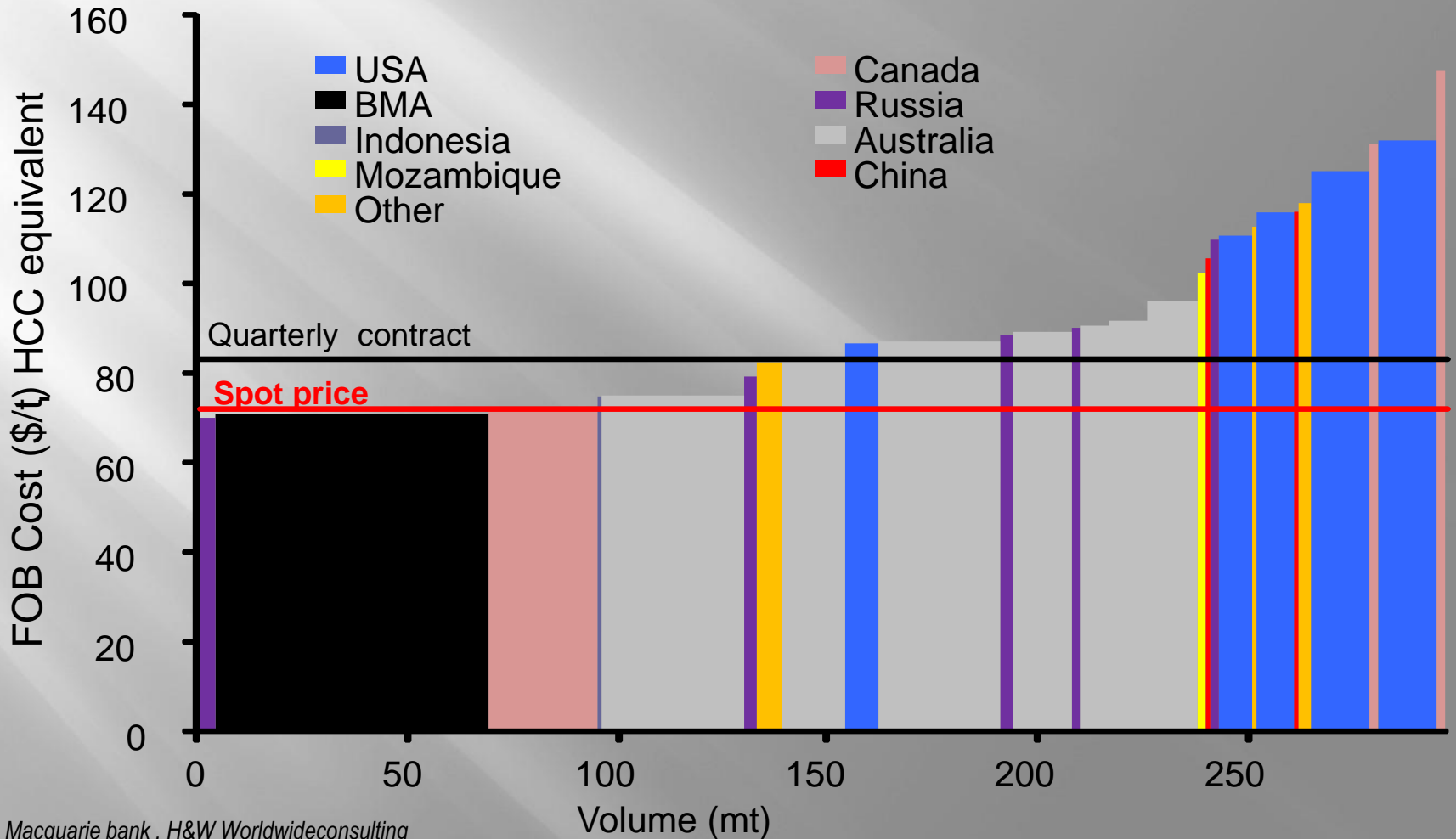
Its all about India....

2015 - 2020 forecast growth in seaborne met coal demand growth ex China



2016, an even worse year - “profits” wise

2016 met coal cost curve



Source: Macquarie bank, H&W Worldwideconsulting

In summary...

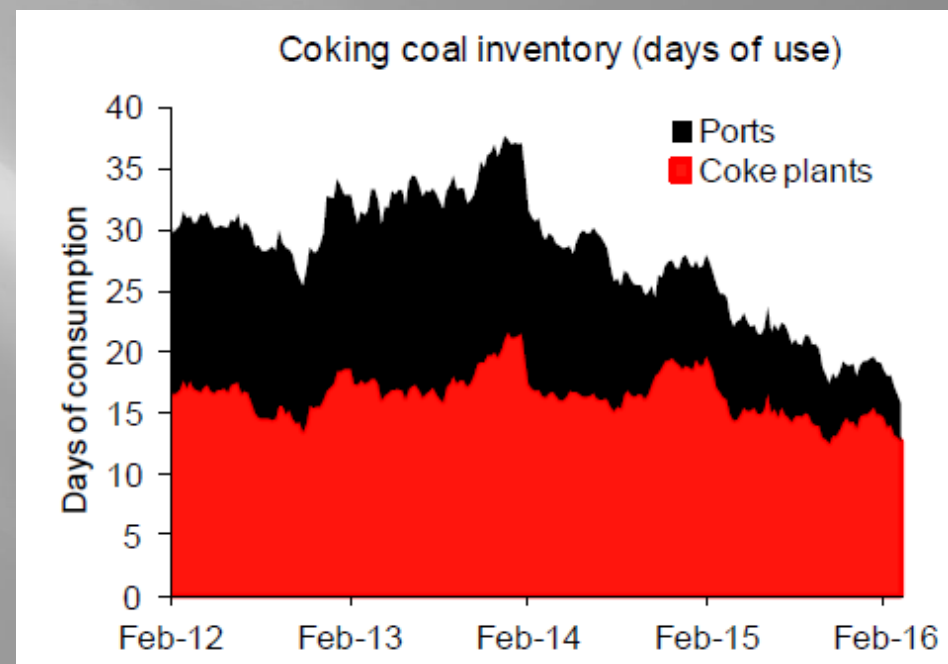
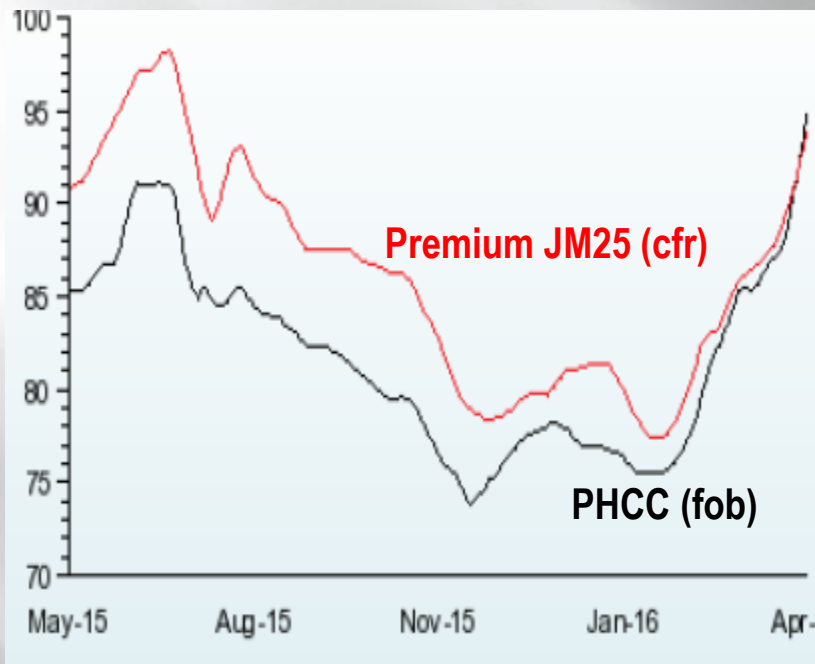
- In a nutshell = really bad!!
- Outlook forecast to deteriorate in 2016
- No improvement for a “number” of years
- China steel lower future,
- Exports continued threat to global steel
- Met coal in “significant” oversupply
- and haven’t even mentioned India and others impacted by large volumes of cheap Chinese coke!

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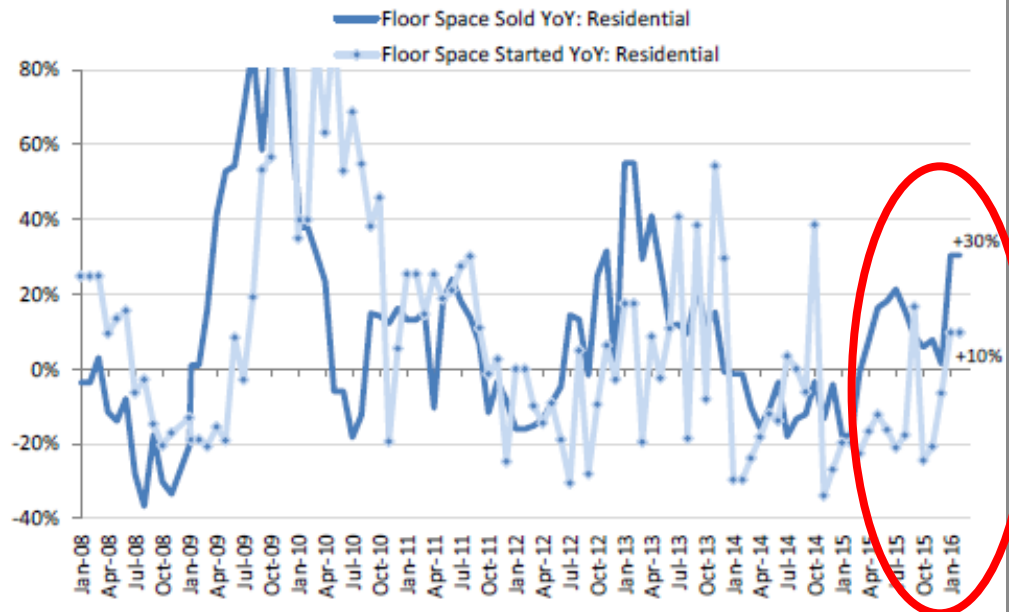
Today...things look different, prices up inventories down

- Prices US\$97/t PHCC +US\$24/t from lows November



- Prices predicted to “breakthrough” US\$100/t
- Rise in benchmark to US\$84/t and PCI % up to 87% HCC

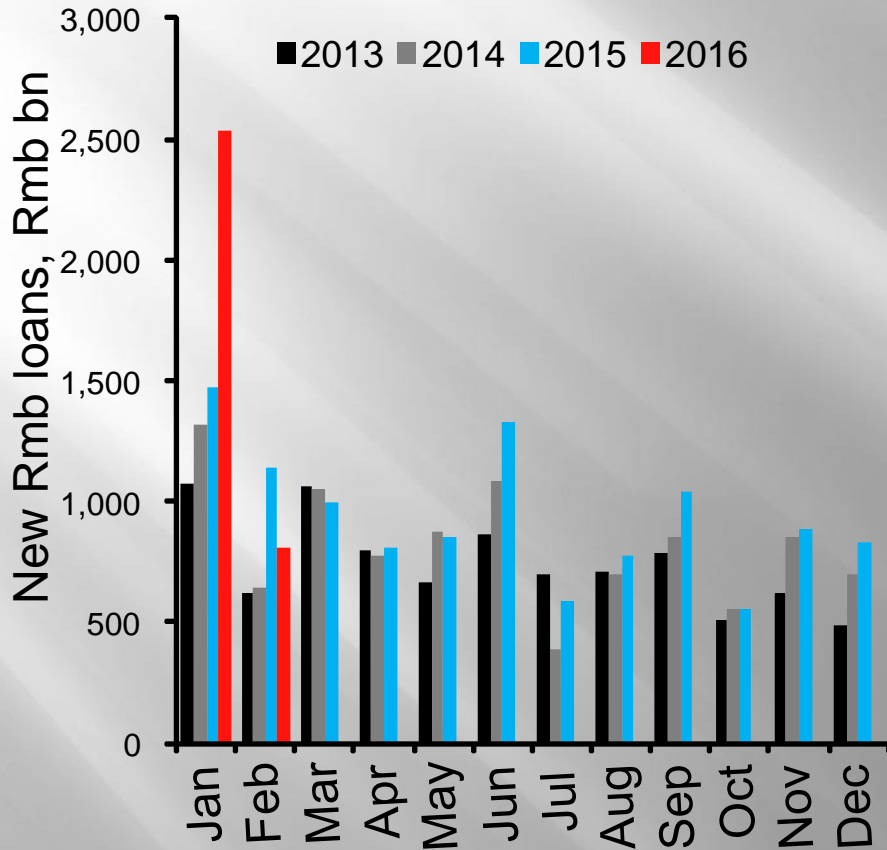
Why? What has happened?



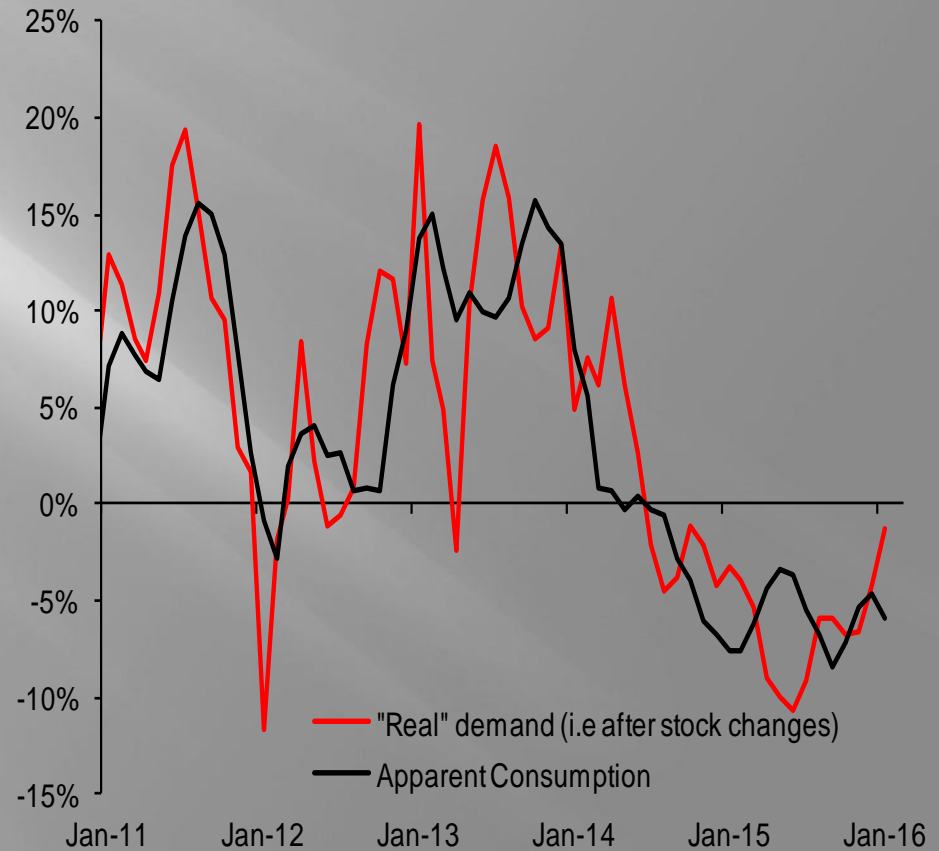
- Real estate market started to pick up
- New starts increased strongly into 2016
- Steel recovery as construction ~60% of steel demand
- Strong recovery in steel prices

Other FAI and loans also up boosting steel demand

China new loans

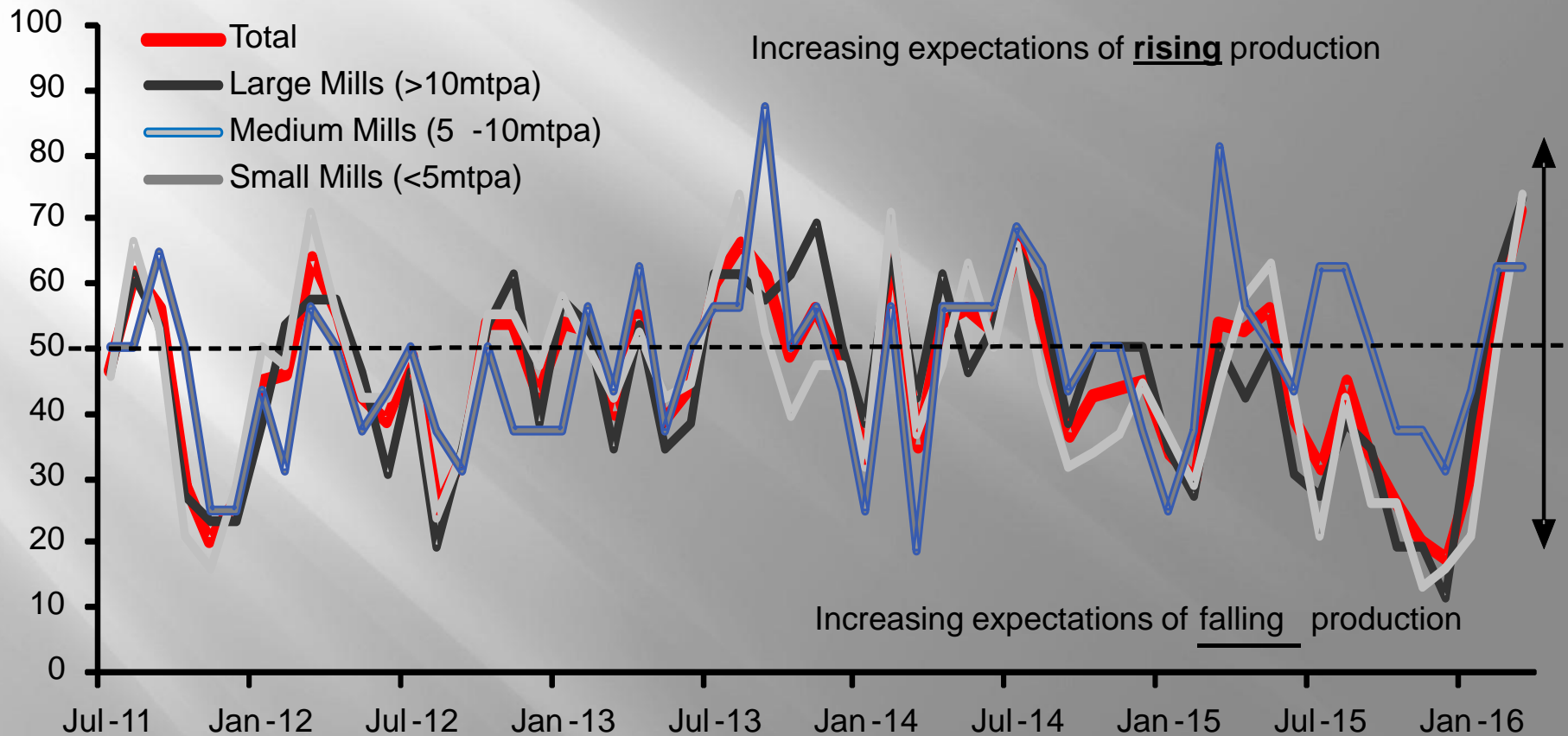


Change in real & apparent consumption



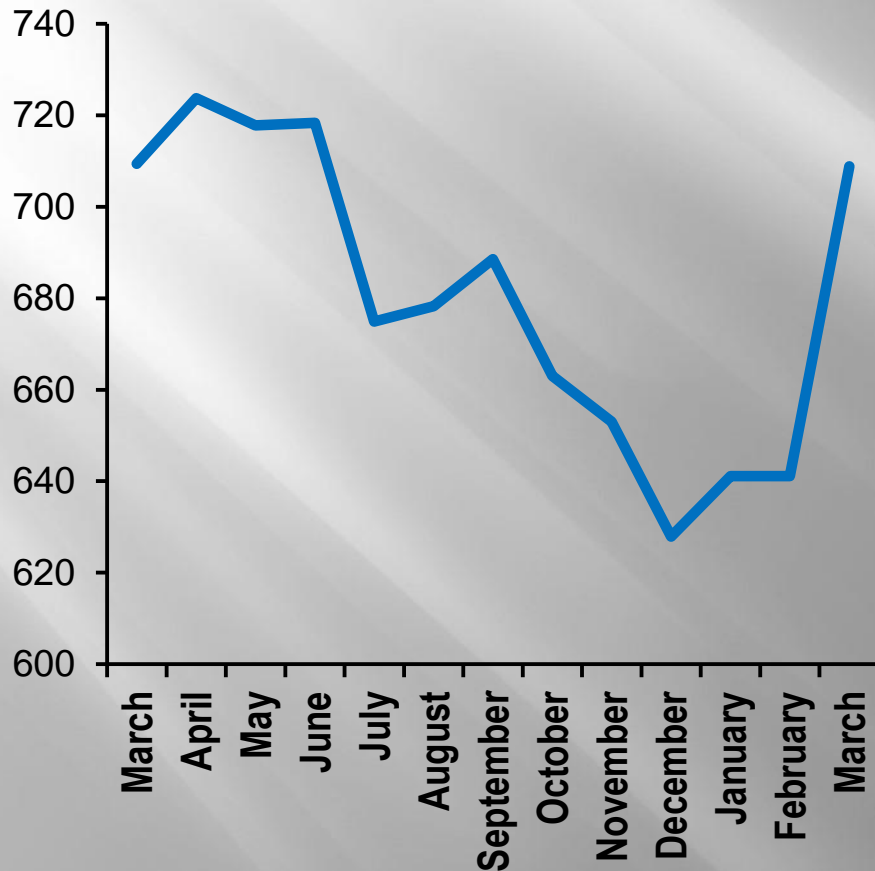
Sentiment has improved among Chinese steel mills - one of the largest recorded

How do you expect steel production to change over the next month

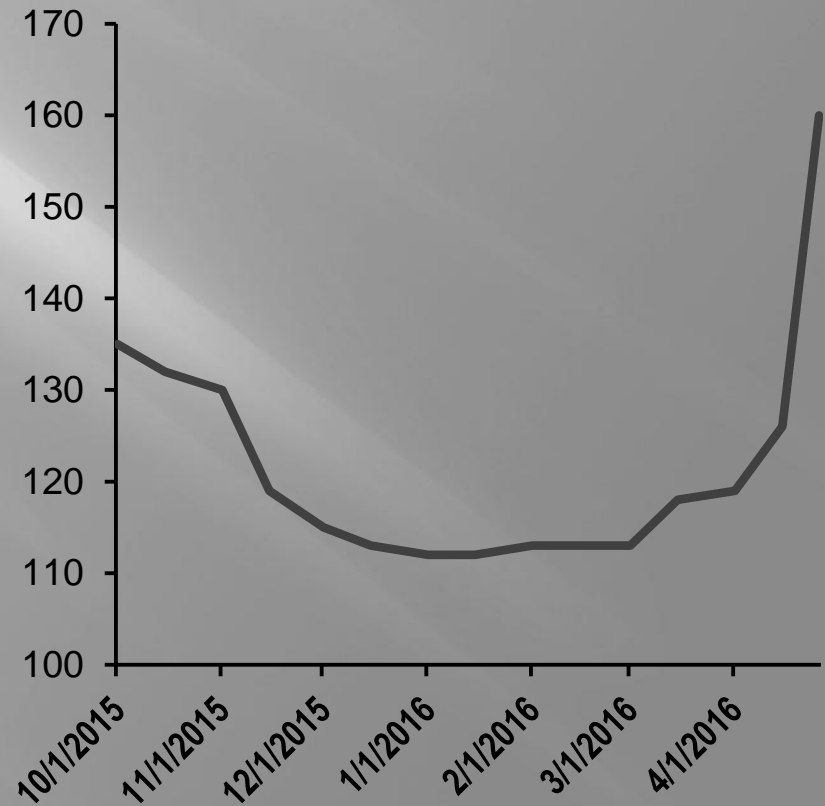


Coke based pig iron joining in the party with coke and met coal imports up 5% Q1 YOY

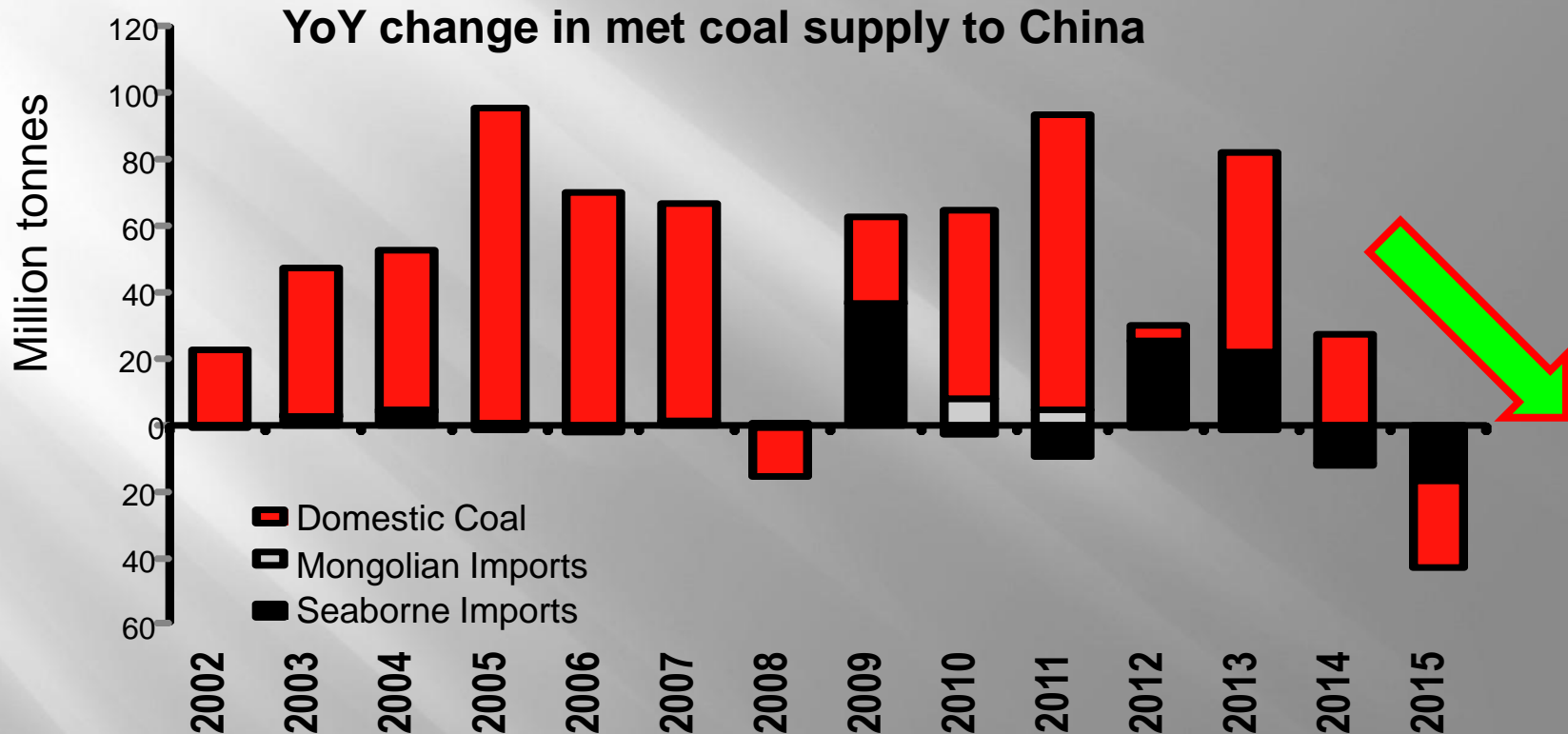
Chinese pig iron annualised production (Mt)



Chinese coke price (Tanshan spot US\$)



With less Chinese domestic coking coal which is continuing this year



- Effect potentially increasing Q2 as further mines idled on safety and coal production adjustments = more imports?

Is this sustainable?

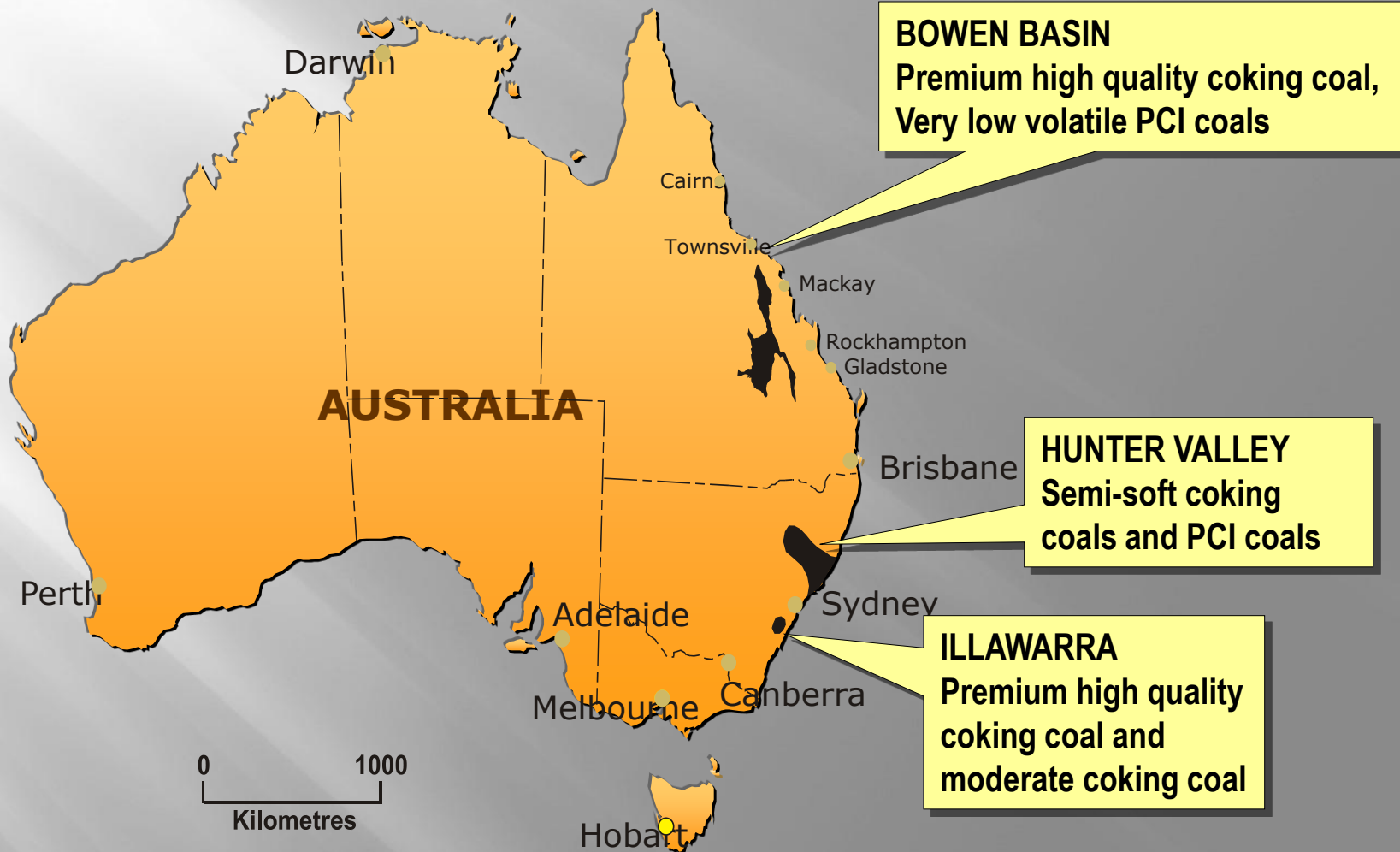
- The **key** question!
- Yes
 - Real estate market continues strong
 - Steel remains strong, restarts, and improving prices
 - Continued modest infrastructure spending boosting demand
 - Loans more available and easier credit
- No
 - Overcapacity remains and could be getting worse
 - Too rapid recovery, too quick a response
 - Real estate inventories tier 3, 4 still large, too large?
 - Lack of pick up in ROW
- Summary – yes for now, but late 2016 into 2017?? risks

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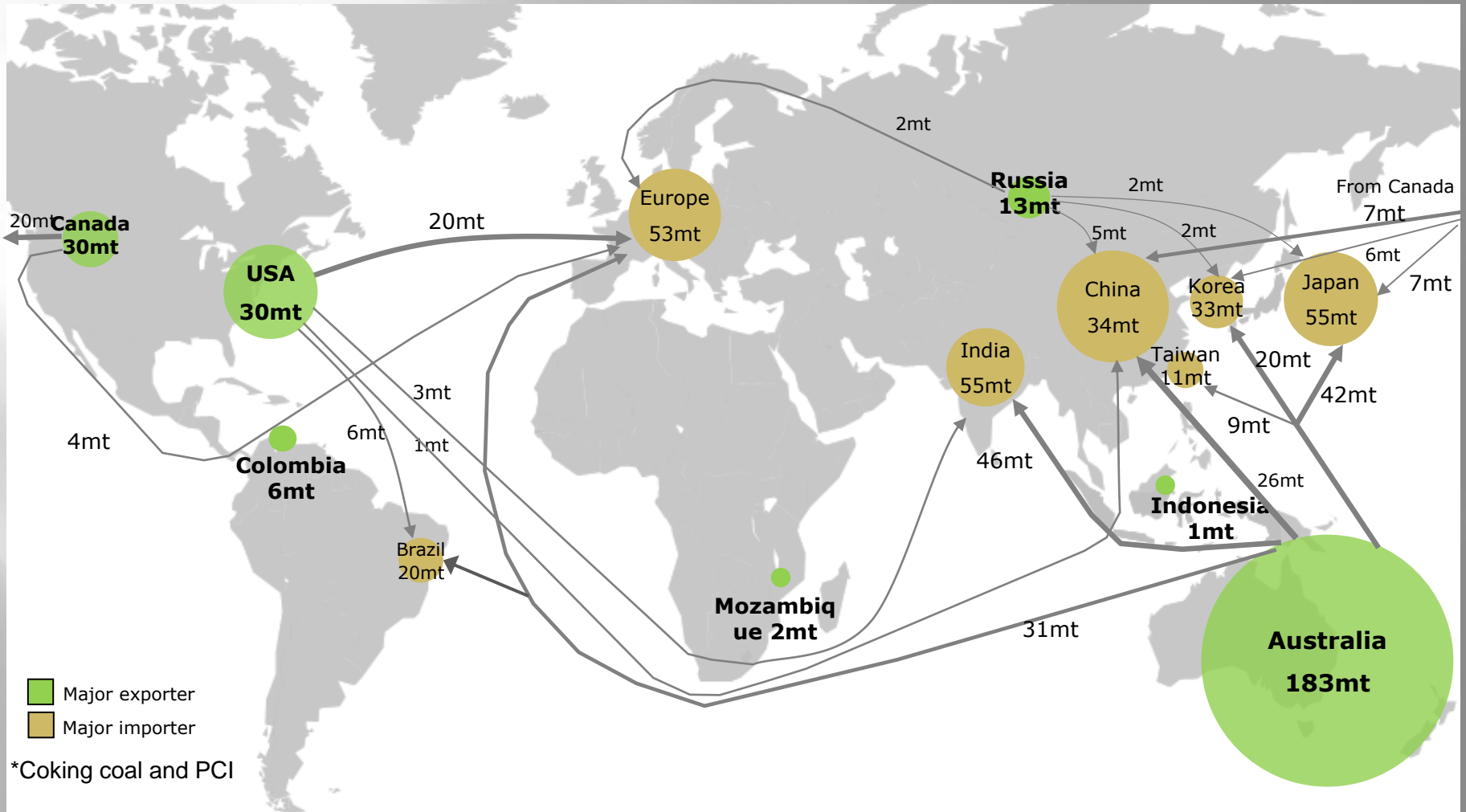
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Major Producers – Australia

Metallurgical coal producing regions

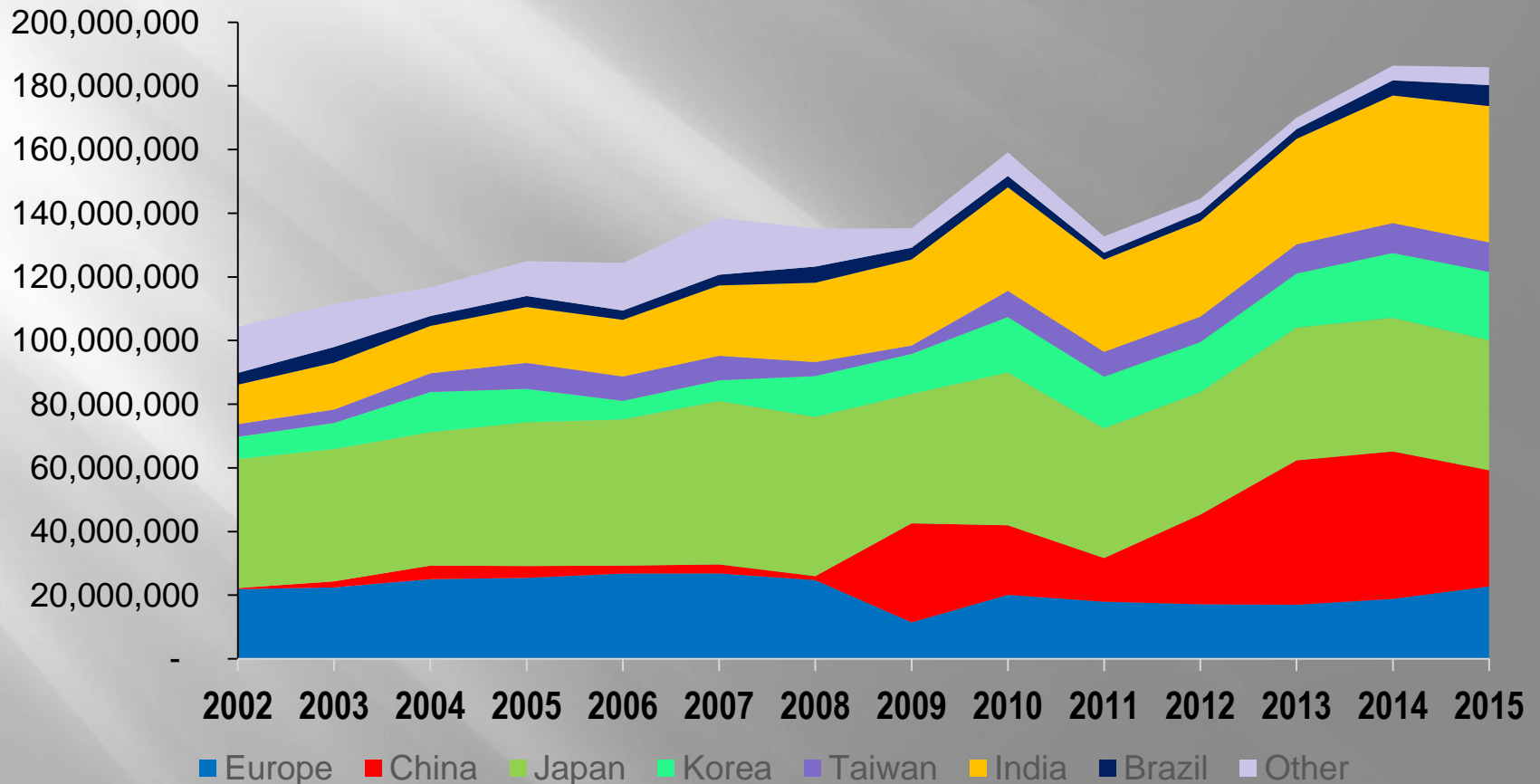


Seaborne met coal trade flows 2016f



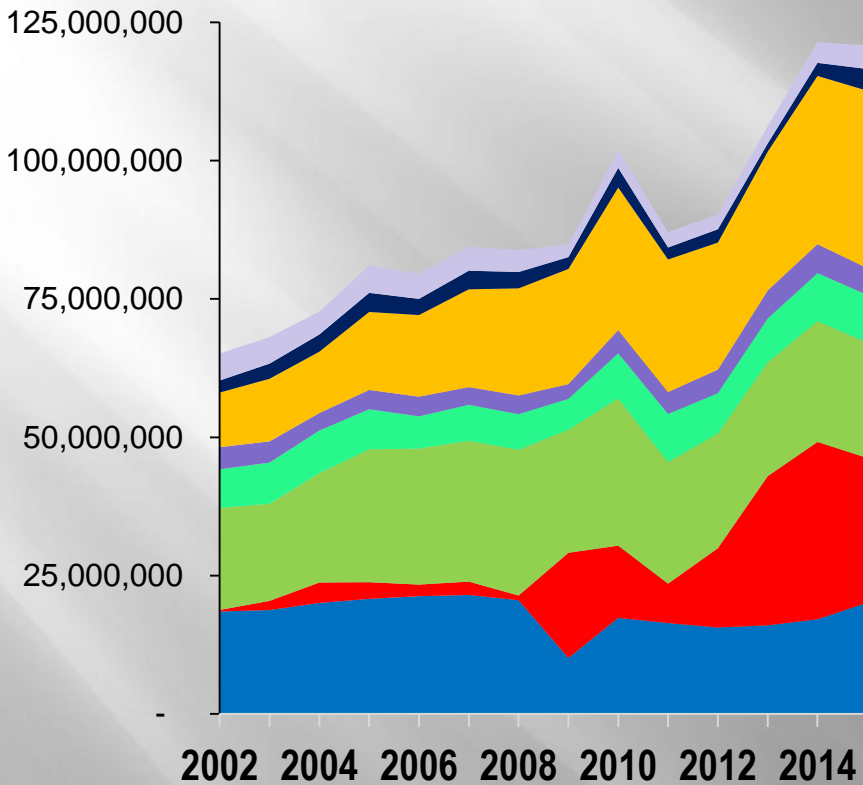
Australian history - total met coal

Australian met coal exports



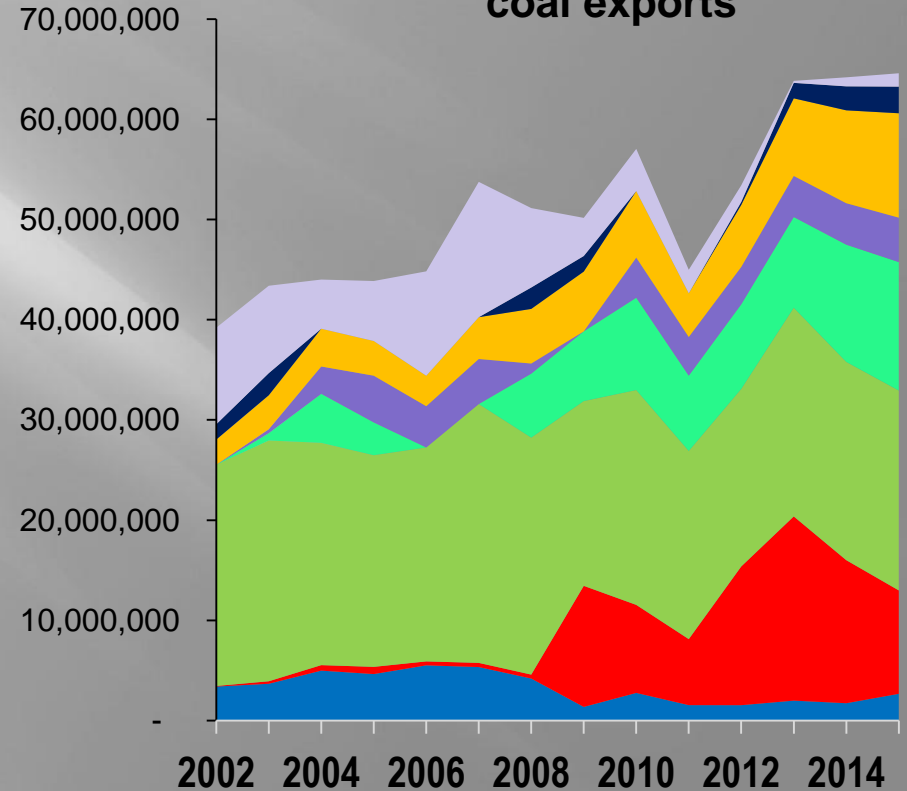
Australian production history - SSCC and PCI

Australian HCC coal exports



- Europe
- China
- Japan
- Korea
- Taiwan
- India
- Brazil
- Other

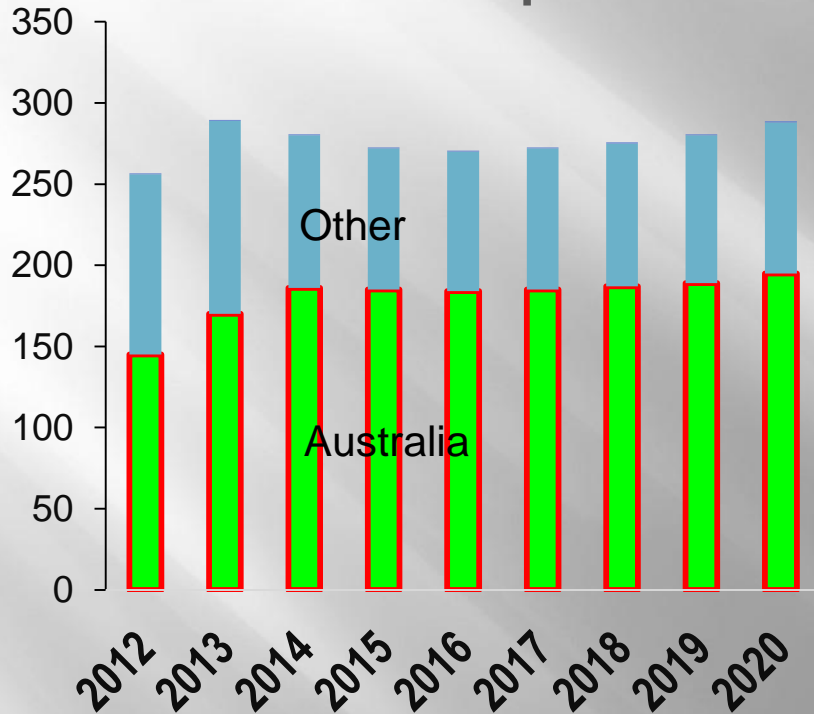
Australian SSCC and PCI coal exports



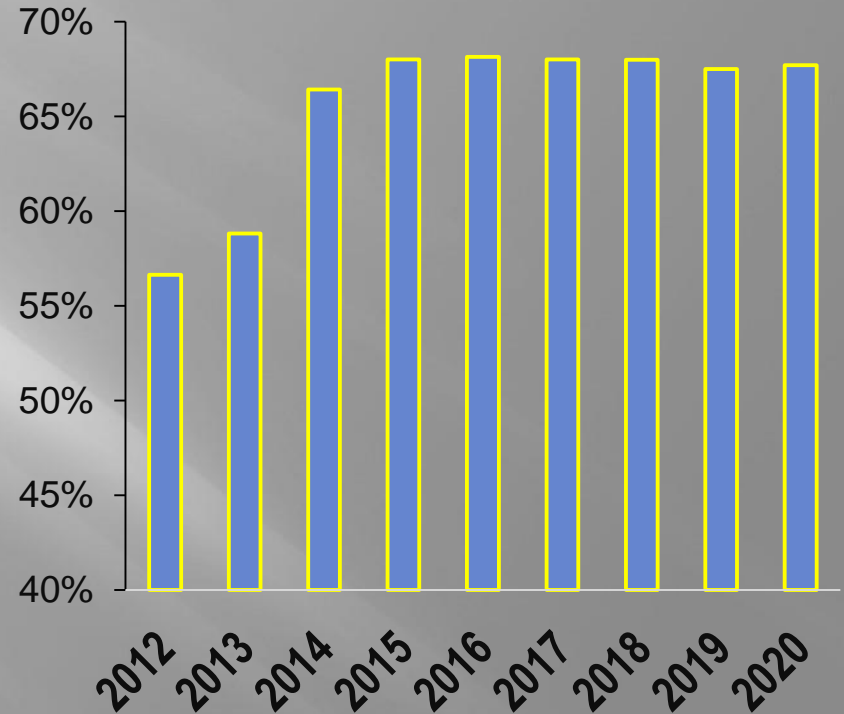
- Europe
- China
- Japan
- Korea
- Taiwan
- India
- Brazil
- Other

Australia is the dominant seaborne supplier

Australian exports



Australian market share



- Australian market share limited by rise in Mozambique and limited new mines to 2020
- Declines in US and limited Russian, Indonesian growth

Australia - Met Coal SWOT

Strengths

- Large reserves of HGHCC and SSCC
- Close to coast
- Coals perform well in all blends
- Technically strong, high CSR, low OWP
- Close to major Asian markets
- Proven infrastructure
- Very large mines

Opportunities

- New mine opportunities – if needed
- Productivity rising after period of declines
- Further cost reductions, labour, technology (following iron ore)
- Ports, rail expansion options

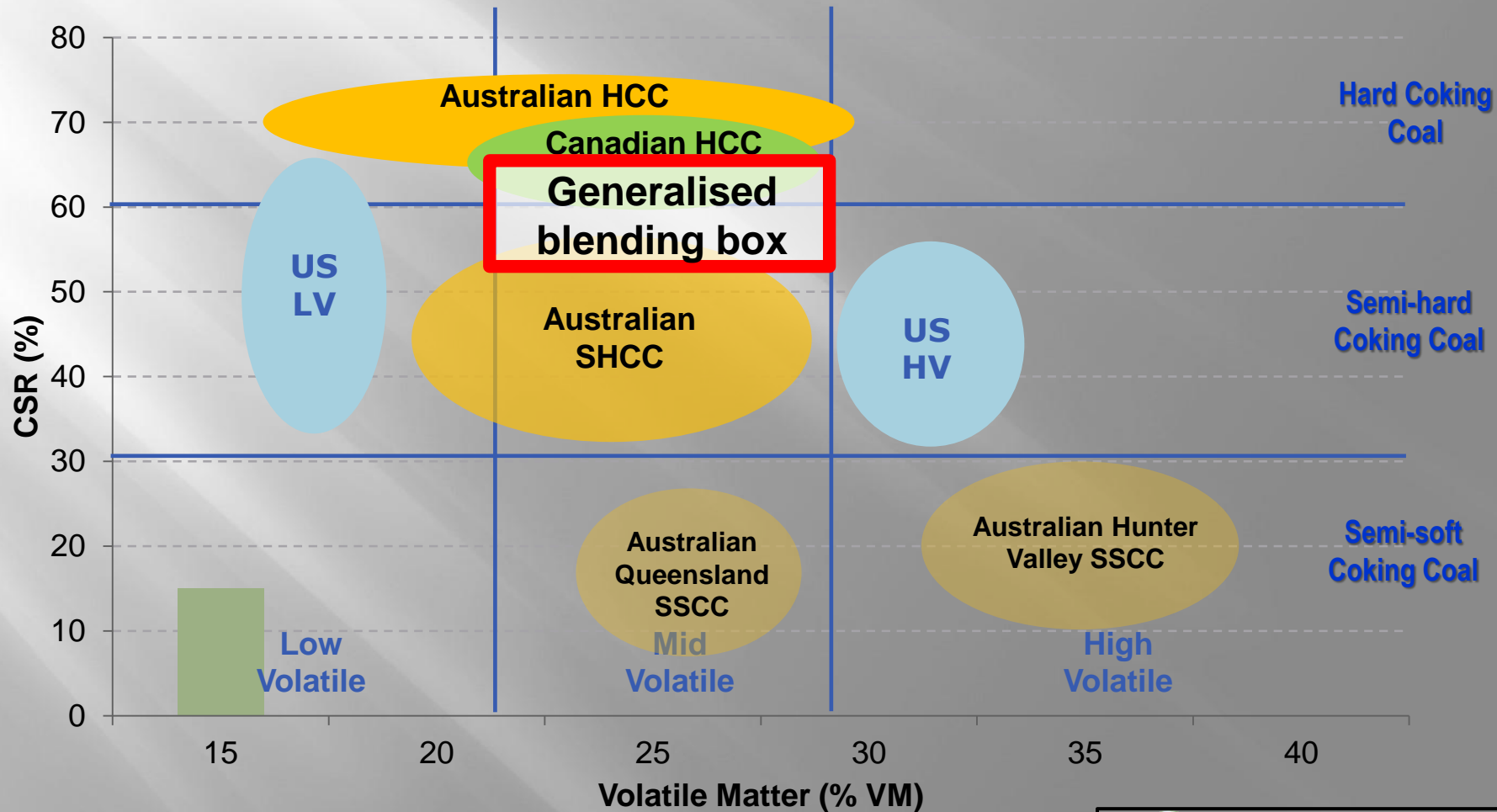
Weaknesses

- Generally, third party owned infrastructure
- Rising strip ratio, impacting costs
- Rising ash levels
- No high fluidity HV or high vitrinite
- Weather – summer rain
- Heavily unionised

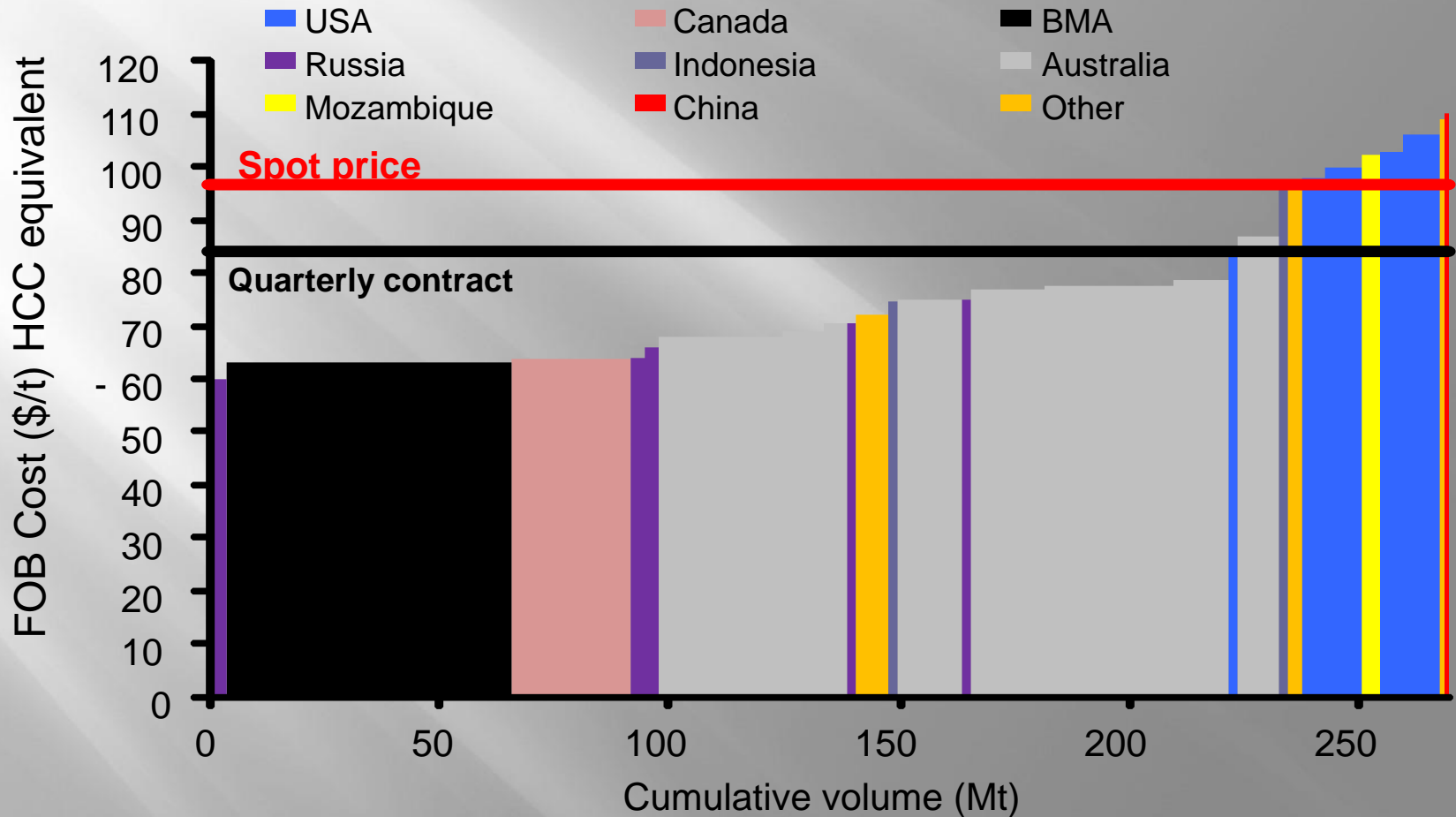
Threats

- Rising Green movement
- Political pressures/interference
- Mozambique into India, Brazil, EU
- Rising rehabilitation costs

Simplified met coal positioning for blending



2016 Cost curve adjusted for cost reduction



Australia in 2016

- Supply issues
 - Closures Crinum early 2016, reductions Illawarra,
 - Anglo's Moranbah North, Grosvenor up for sale
 - Weather problems, mild in February/March
 - Declining quality in Rangals (Burton, Hail Creek)
 - Other PCI/WCC mines up for sale
 - Take or pay
- EBA's
 - Up for negotiation – far apart, strike???
 - Union militancy – election year
- Capex
 - Very, very limited, sustaining not expansion
 - Majors unlikely to authorise any new capacity, creep only

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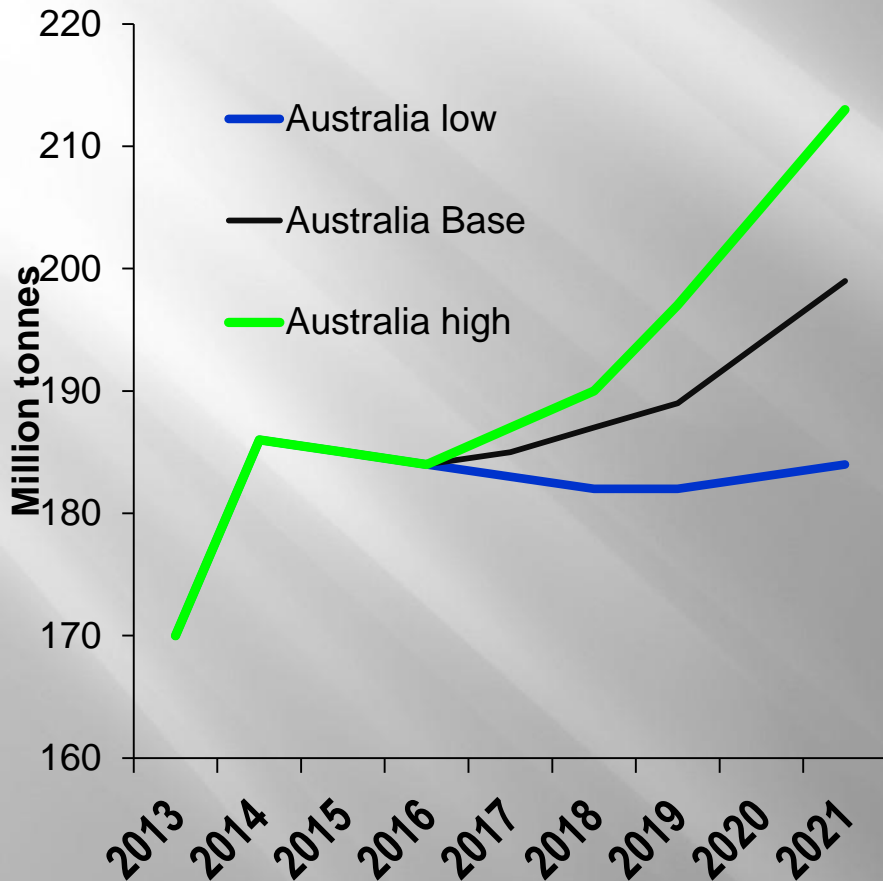
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Australia to 2020

- Supply issues
 - Restart some idled capacity e.g. Isaac Plains, Wongawilli, Integra
 - Expansions brownfield likely at Caval Ridge, Goonyella, Grosvenor, Illawarra (South 32, Wollongong coal)
 - Gunnedah basin, increased SSCC
 - Major review into post 2020 = more long walls
 - Changes to take or pay contracts – ports yes; rail no or ?????
- EBA's
 - Movement to reduced union control, automation, contractors
 - Automation lowering labour numbers and costs
- Capex
 - Coming back post 2017 – probably
 - New investment – India, China?
 - Port expansions - possible

Options for Australian met coal in the next 5 years

Australian coking coal 5 year outlook



- Linked to market demand and cost structure – more flexibility
- A\$ important
- Growth will depend on brownfield
- Balance with closures
- Australia becoming more dominant with US closures
- No change in technology

Met coal and coke Australian dynamics in the next 5 years

- Overall market issues
 - Demand growth rate uncertain – India, China domestic
 - Supply uncertainty US – final end? options for others
 - Potential weather rain/snow events = return of volatility
 - Full commoditisation of coking coal? Or not???
- Australia's role – continued dominance
 - Low cost, plentiful reserves, favourable location, etc.
 - Risks are environmental activism, exchange rates
 - Interplay with new high vitrinite coals, Mozambique, Indonesia
 - Can Australia become flexible, balance supply/demand
- Downstream processing?
 - Why doesn't Australia make coke?

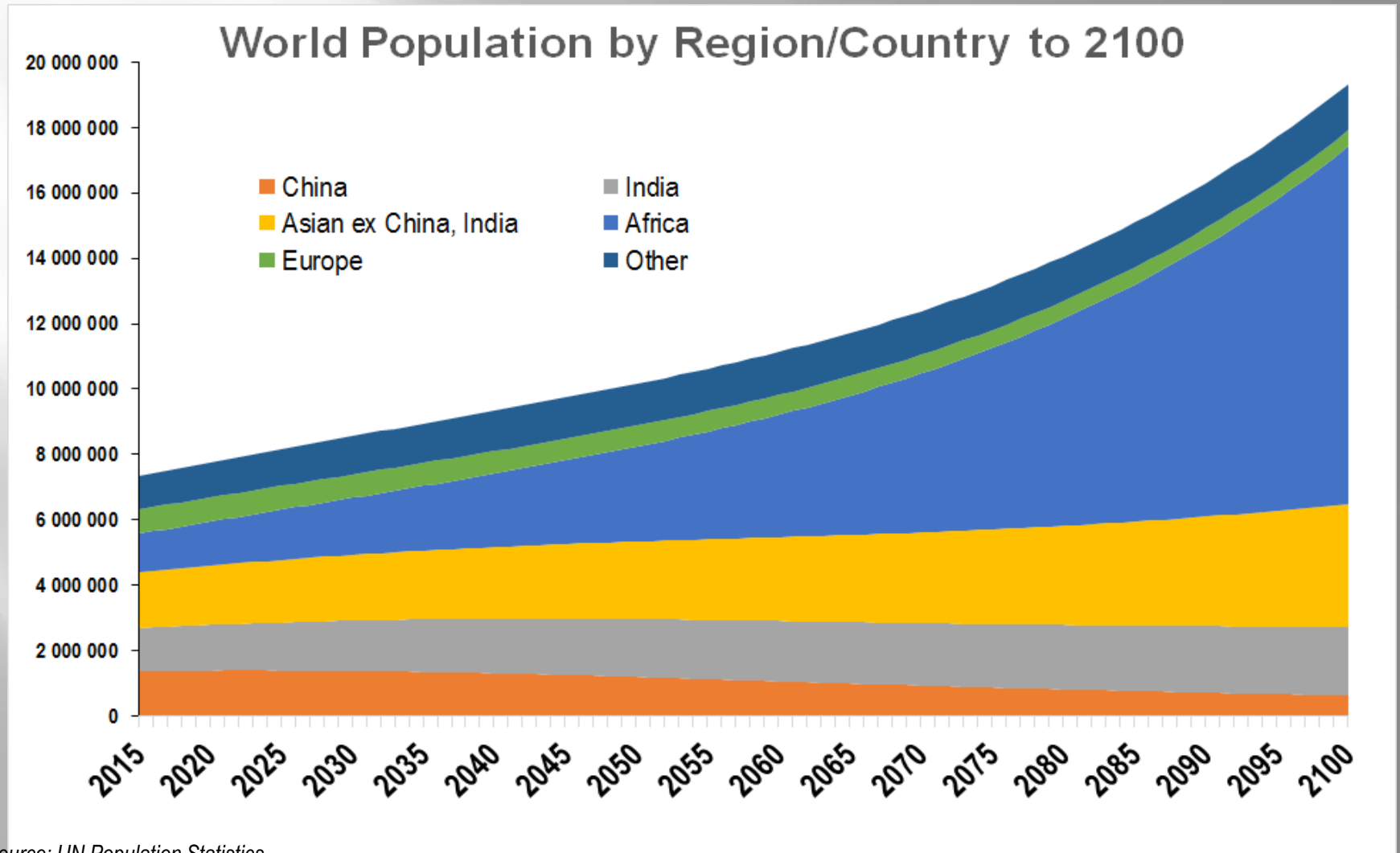
Why doesn't Australia make coke for export?

- History
 - Australia used to be an exporter, Port Kembla, ICC, now small
 - Batteries closed, no plans
 - Sun looked at Gladstone – not competitive
- Australia why can't it be a merchant coke producer?
 - Not a resource issue
 - Problems high labour costs, high construction and logistics costs
 - green activism – won't accept coal and coke
 - Suncoke style technology – could it be done? Yes but not economic
- Competitors
 - Won't China always have too much capacity?
 - What about Indonesia or Mozambique for coke production?

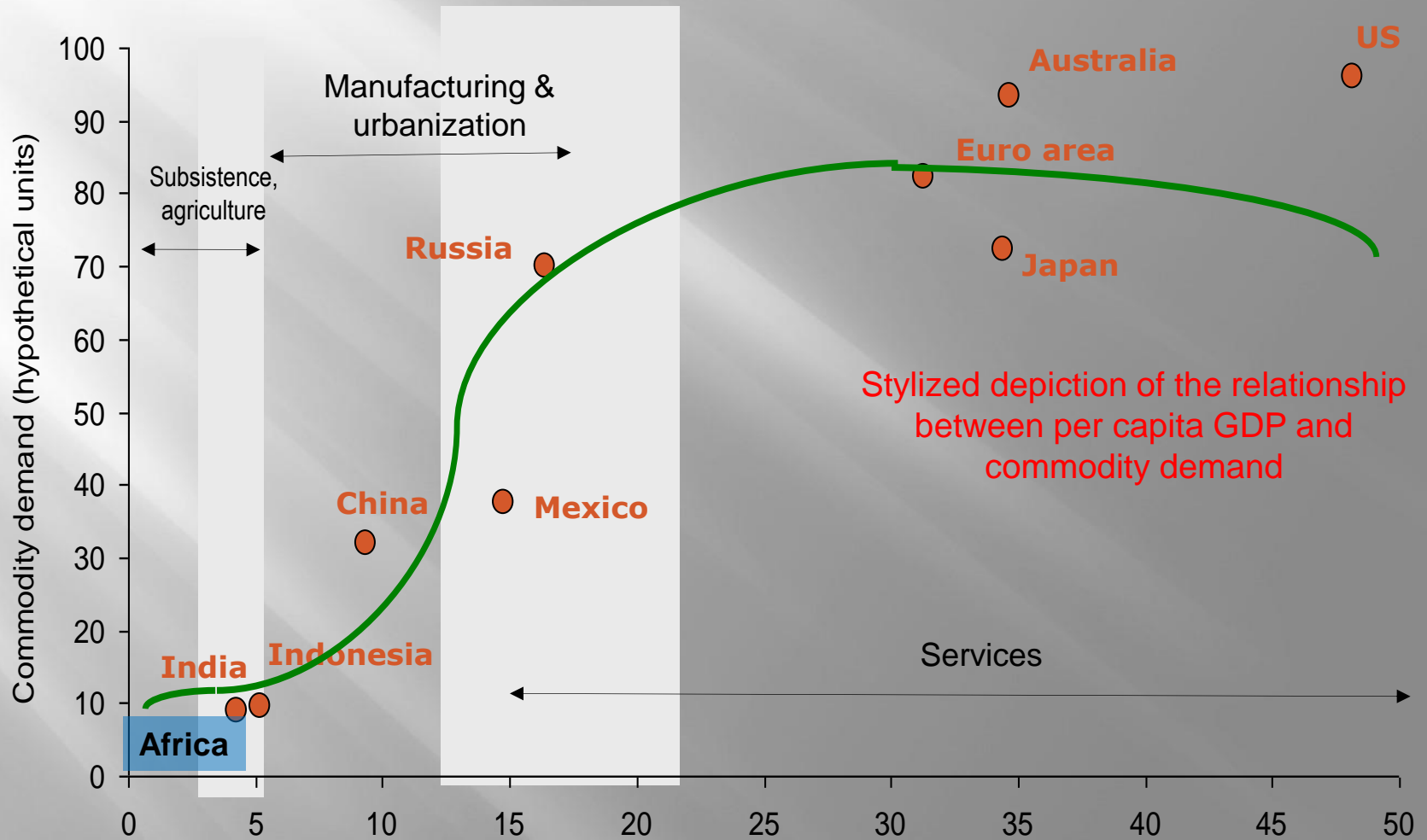
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The rise and rise of Africa



Steel demand growth will there continue

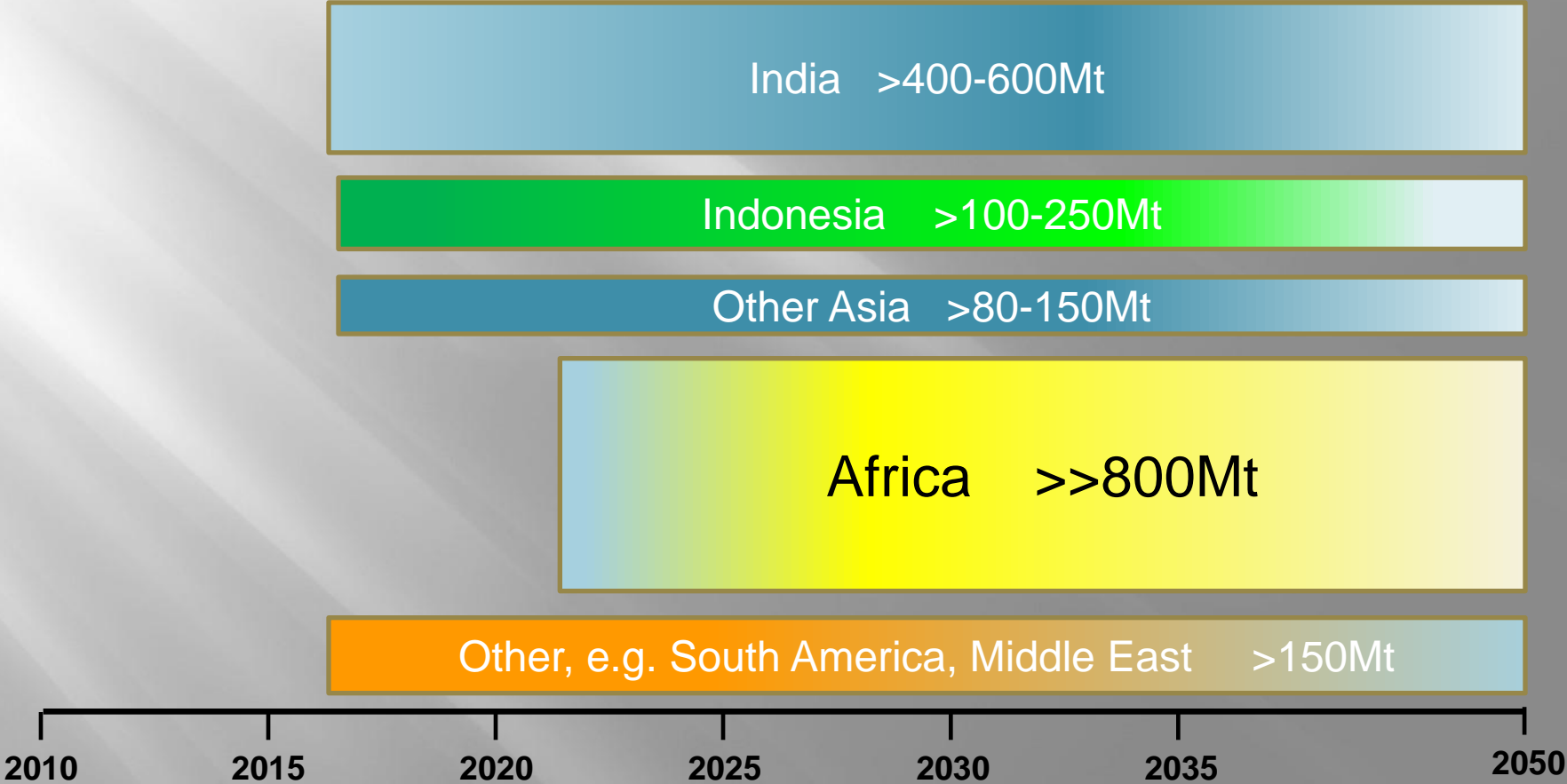


Issues for the next 50 years

- The “known”
 - Steel will still be the major industrial material
 - The recycling pool will grow, size and efficiency – more scrap available
 - Aging and longevity will see the rise of a “bipolar” population
 - There is sufficient met coal for the next 50 years
 - Likely to see continued environmental pressures
- The “unknown”
 - Climate change entrenched or will carbon leakage continue
 - Technology, will we see the end of the BF – finally cokeless ironmaking
 - Substitute’s penetration into premium high value steel markets – autos
 - Industry structure – will we see more consolidation, vertical integration
 - DR could become a rising threat to coke/BF

Steel consumption could more than double by 2050

China Uncertainty



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Concluding Remarks

- After the doom and gloom, some bright spots
- Near term looks good but risks of uncertainty into 2017
- Australia well endowed with reserves and infrastructure
- Dominance in the past here to stay – possible increasing
- Premium LV HQHCC supplier – always in demand
- Australia highly competitive vs. new comers
- Long term future challenging but Australia uniquely placed