

# The International Coal Market and India

## Friends or foes?



**Rodrigo Echeverri**  
Head of Analysis, Energy Coal  
January 31<sup>st</sup>, 2017

# The International Coal Market and India

## Friends or foes?

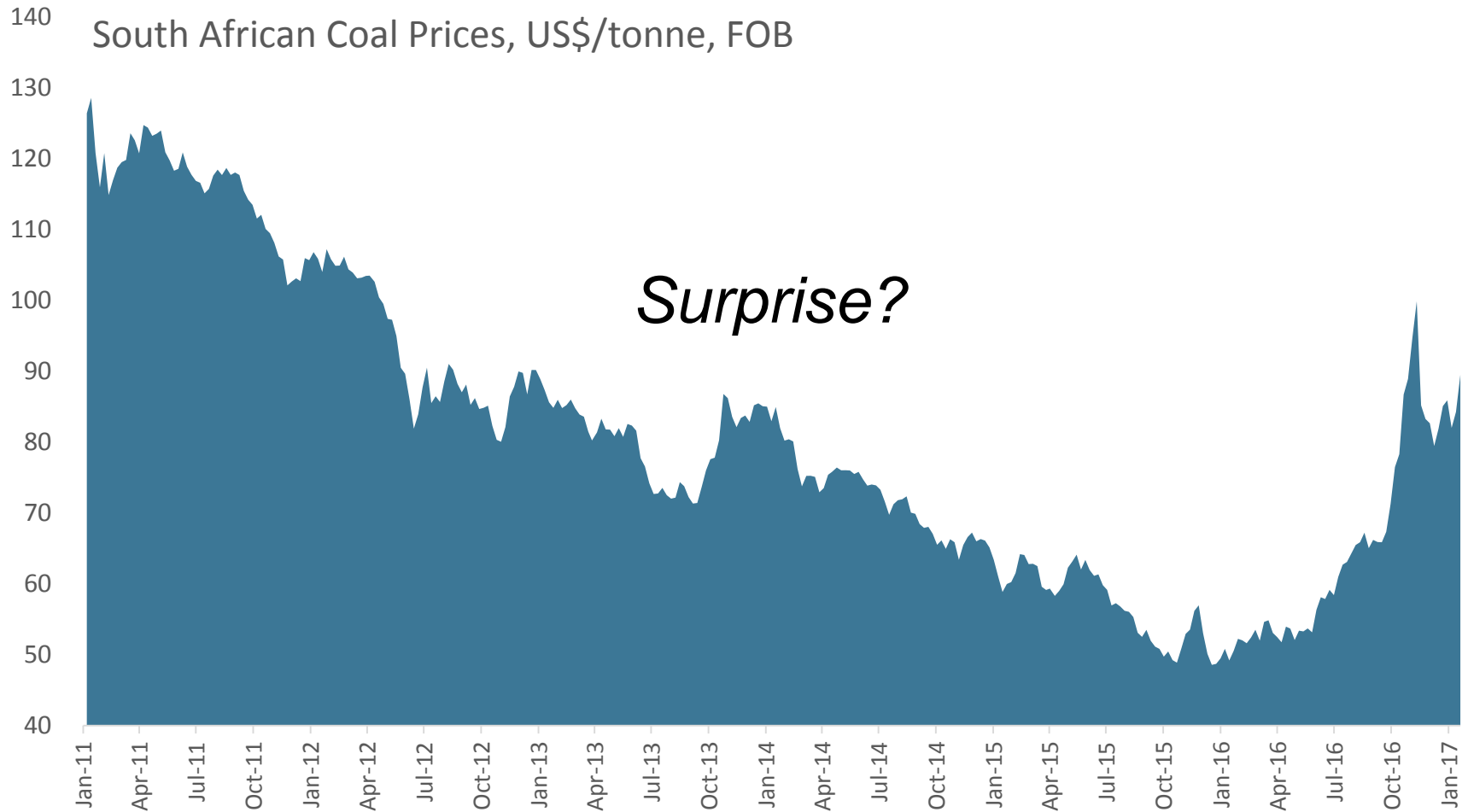
- A bullish market? - What changed in 2016?
- A simple analysis of India's energy needs
- A slightly less simple analysis of the seaborne market

# The International Coal Market and India 2016: What changed?



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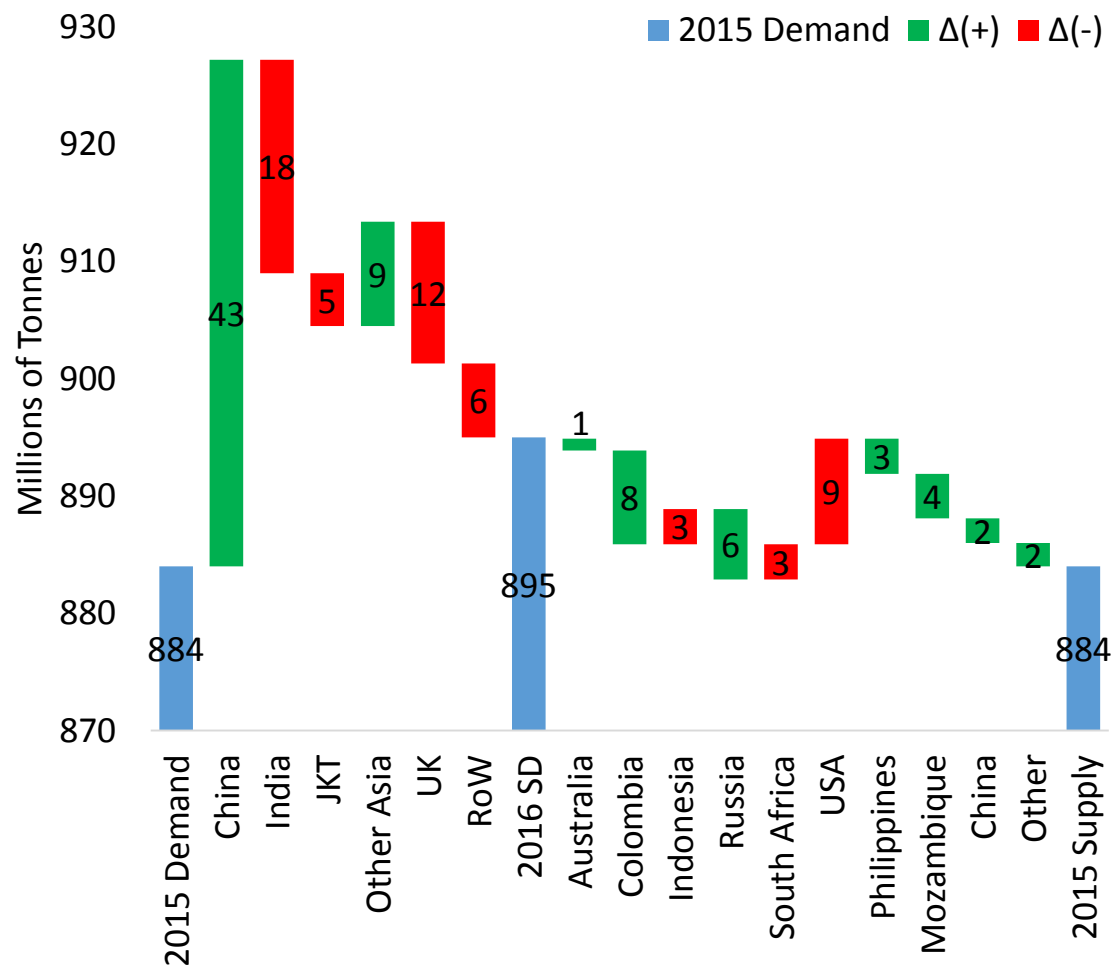
# The International Coal Market and India 2016: What changed? Was it just China?



Source: Reuters, Argus/McCloskey

# The International Coal Market and India

## 2016: What changed? Was it just China?



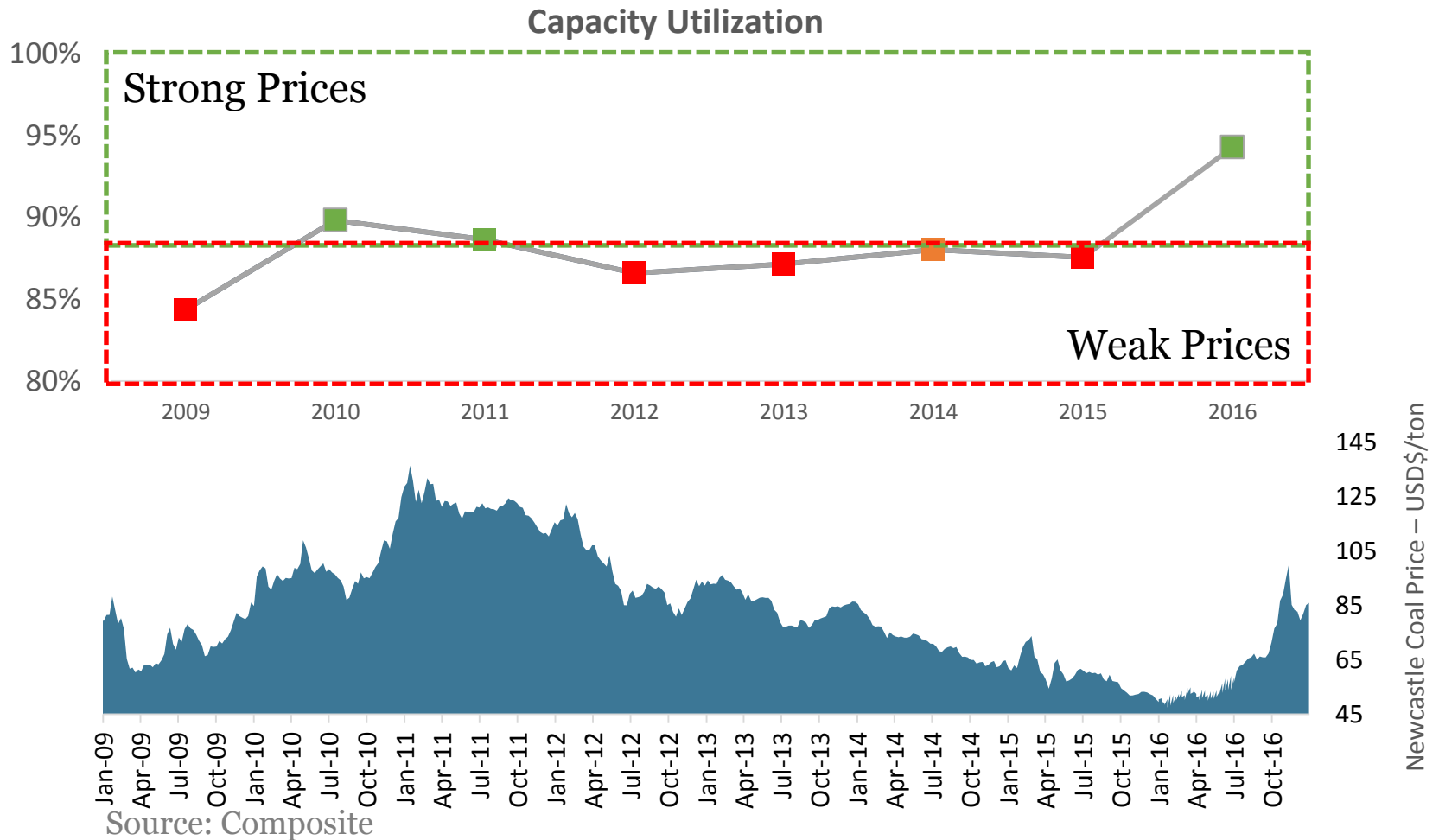
## *The Balance Changed:*

- *Chinese imports grew by 43 million tonnes as a result of domestic policy changes*
- *New coal-fired capacity in Asia starts being commissioned (Vietnam, Malaysia, Philippines, Taiwan)*
- *Indian demand continued to weaken (but more than offset by China growth)*
- *Atlantic demand in H1 2016 was the lowest in one decade*
- *Supply response was muted*

***A demand Shock without supply response***

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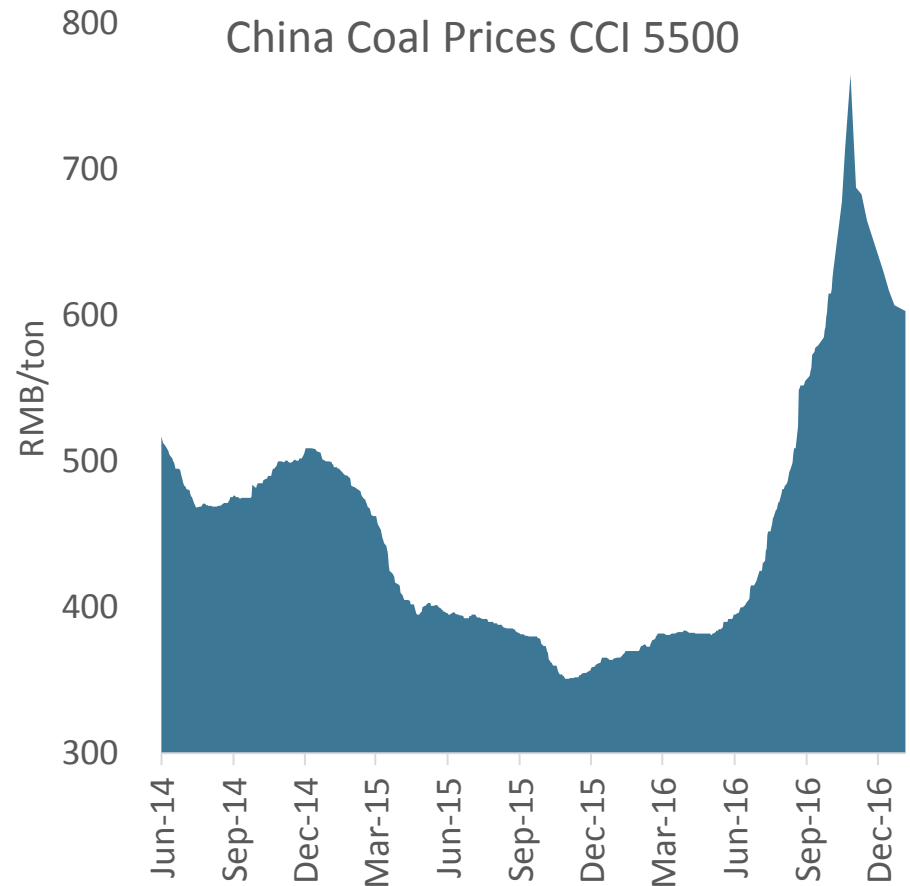
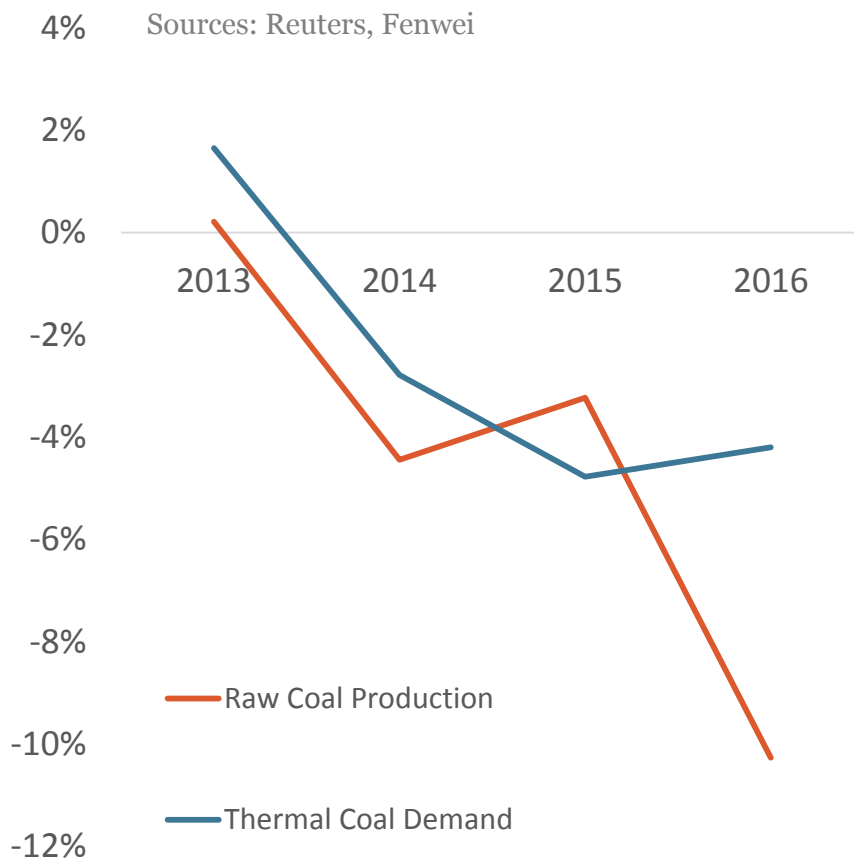
## 2016: What changed? Was it just China?



***Capacity utilization in 2016 was the highest in the last decade***

# The International Coal Market and India

## 2016: What changed? Was it just China?

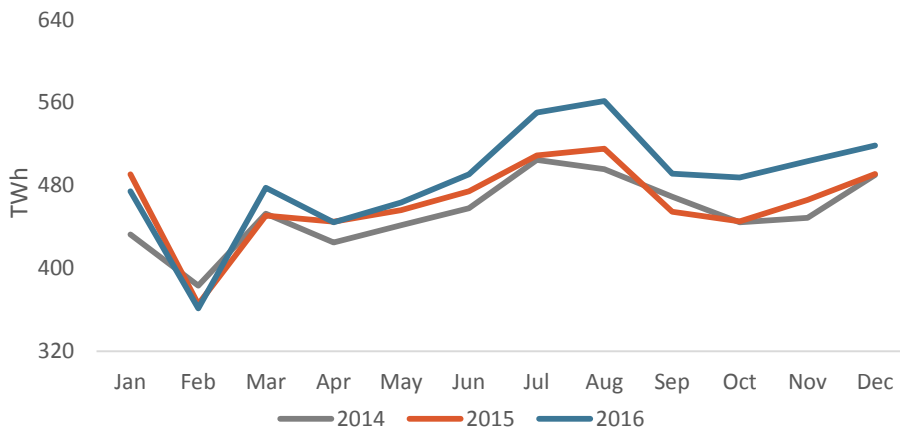


***Domestic production in China declined by 12% as a result of the intervention of the Chinese government to prevent the collapse of the domestic industry***

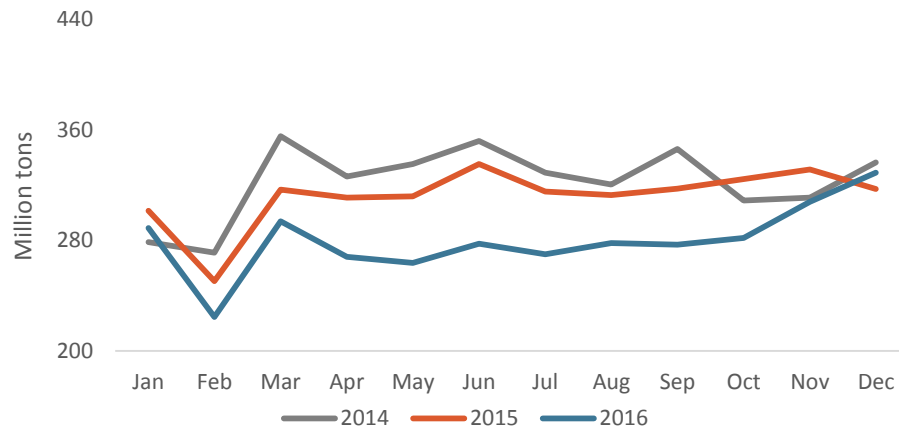
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## 2016: What changed? Was it just China?

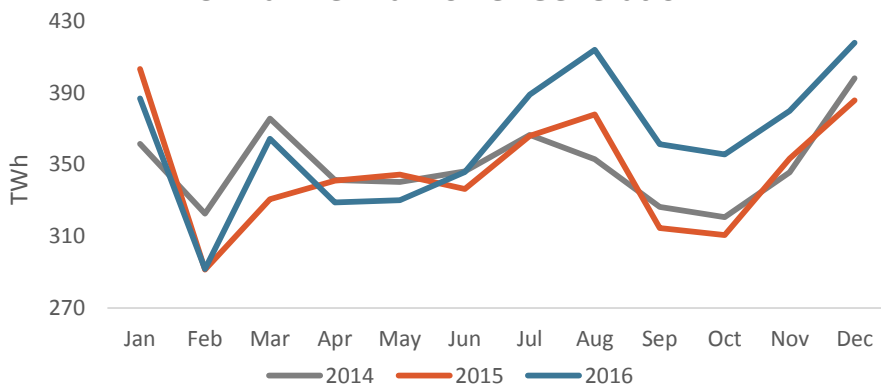
China Power Generation



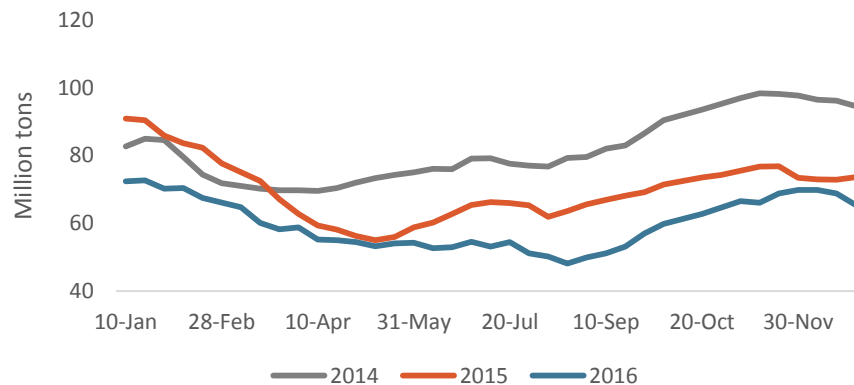
China Coal Production



China Thermal Power Generation



China Stockpile End-Users



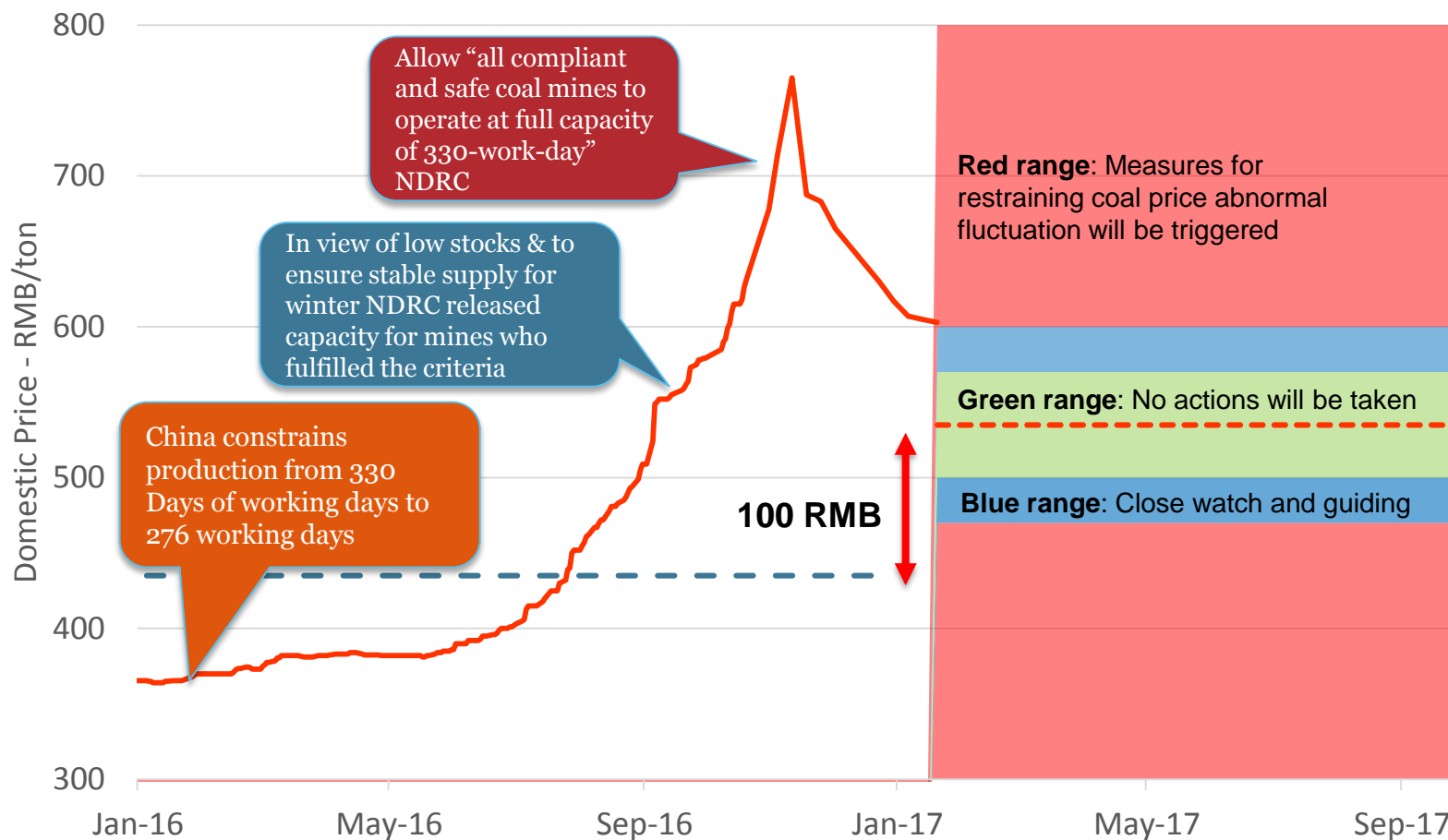
***And Chinese coal demand also improved...***



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## 2016: What changed? Was it just China?

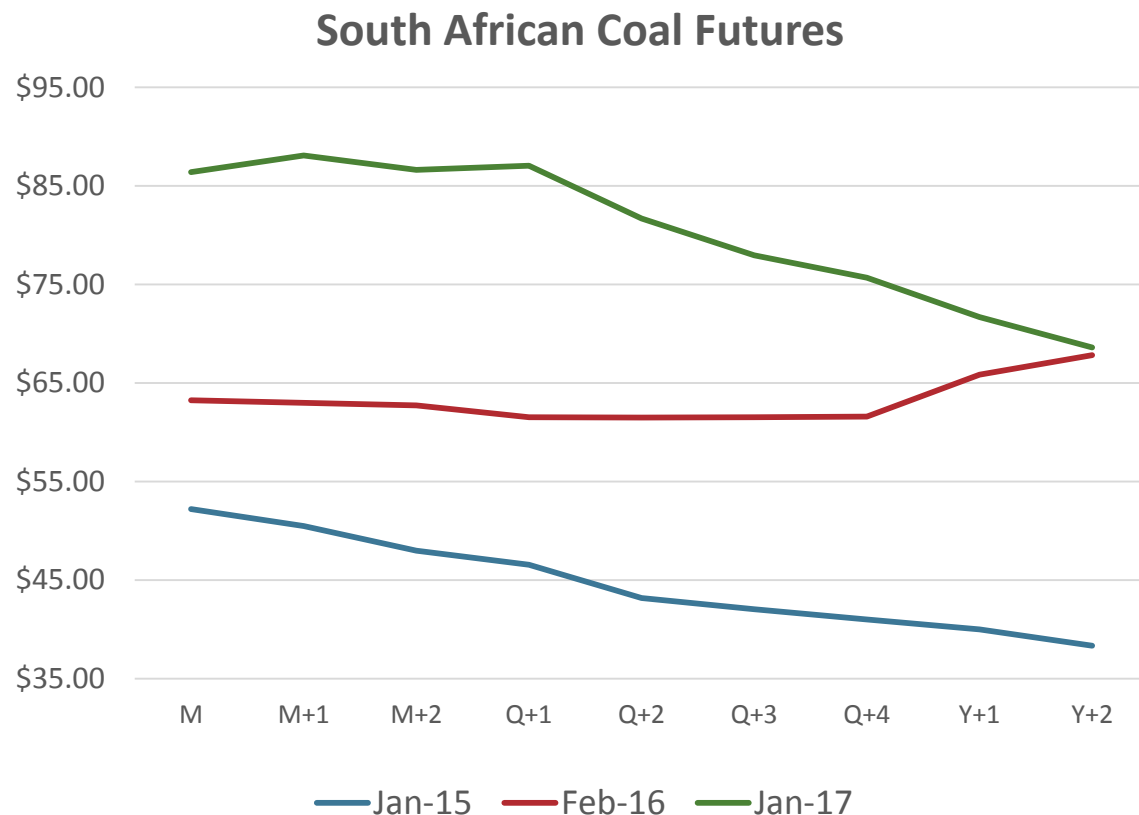
CCI 5500 NAR Price (QHD)



The China policy range equates to a Newcastle range of \$68 to \$80, in average

# The International Coal Market and India

## 2016: What changed? Was it just China?



- *Coal futures are at much higher levels than they were in 2016 or even 2015*
- *But prices at the back of the curve are still not high enough to guarantee future supply*

***In spite of the tremendous prices recovery in spot prices, the structure of the market is still wrong...***

# The International Coal Market and India

## A simple analysis of India's energy needs



**Rodrigo Echeverri**  
Head of Analysis, Energy Coal  
January 31<sup>st</sup>, 2017

# The International Coal Market and India

## Friends or foes?

Gross Electricity Generation [TWh]	2014	2015	2016
<b>Total Generation</b>	<b>1,275</b>	<b>1,298</b>	<b>1,380</b>
Coal	992	1,033	1,104
Oil	16	3	3
Gas	52	51	59
Nuclear	43	44	45
Hydro	135	128	128
Wind	34	35	37
Other	3	3	4
<b>% Coal in the mix</b>	<b>78%</b>	<b>80%</b>	<b>80%</b>
Coal demand - electricity [mt]	<b>650</b>	<b>662</b>	<b>702</b>
Industrial Coal Demand	<b>126</b>	<b>130</b>	<b>135</b>
Cement	25	26	28
Sponge Iron	24	24	25
Other	78	80	82
<b>Total coal demand @ Average kCal/kg NAR</b>	<b>777</b>	<b>792</b>	<b>837</b>
Domestic Supply	567	586	646
Coal India (CIL) - Thermal	466	482	535
Singareni (SCCL)	60	60	63
Captive + Other	41	44	48
<b>Imports @ 5000 kCal/kg NAR</b>	<b>163</b>	<b>160</b>	<b>146</b>

Sources: IHS, IEA WEO 2015, Goldman Sachs, Noble

### YOY GROWTH ASSUMPTIONS

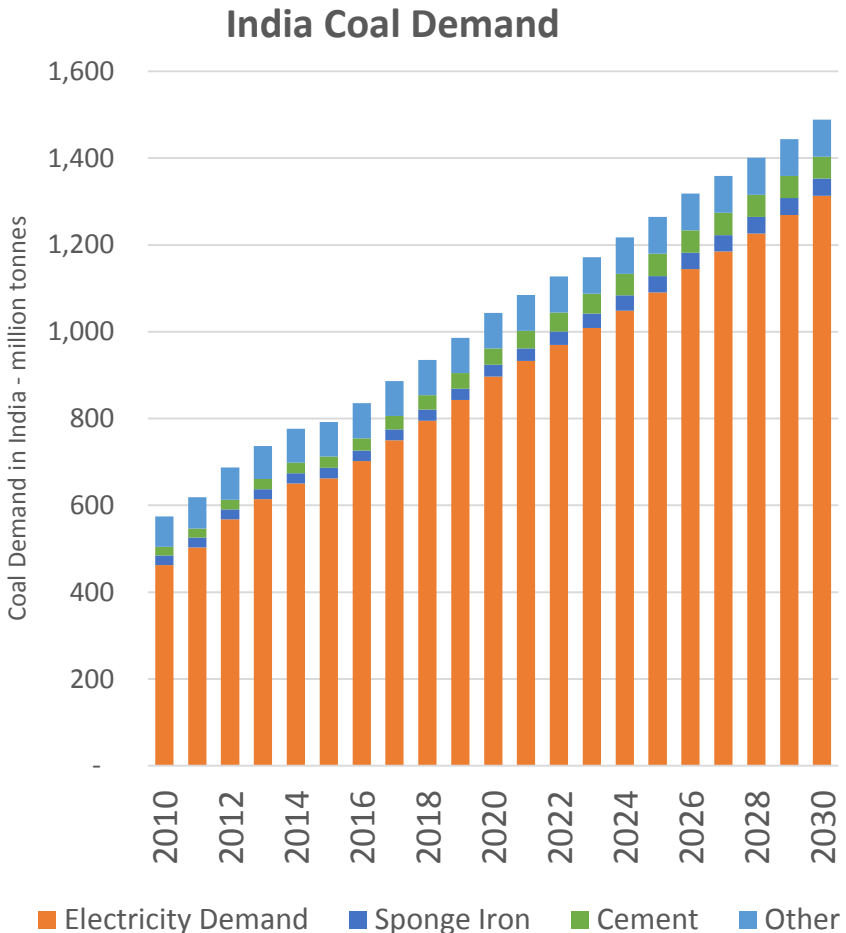
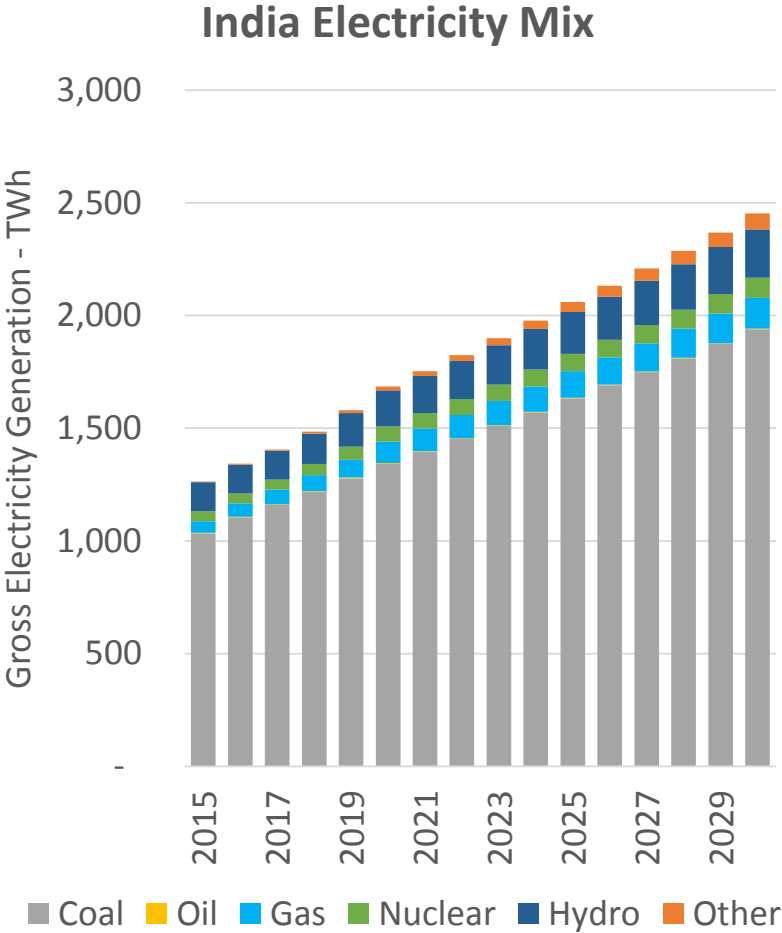
	2014	2015	2016	2017	2021-25	2026-30
<b>Total Generation</b>	<b>11%</b>	<b>2%</b>	<b>6%</b>	<b>6%</b>	<b>6%</b>	<b>5%</b>
Coal	15%	4%	7%	6%	5%	4%
Oil	-1%	-80%	-14%	8%	0%	0%
Gas	-5%	0%	16%	9%	22%	4%
Nuclear	10%	3%	1%	1%	14%	3%
Hydro	-1%	-5%	0%	0%	7%	3%
Wind	11%	3%	6%	30%	30%	15%
Other	11%	3%	6%	50%	50%	20%

## Methodology

- Maintain top-down and bottom up models on the Indian coal market
- Cross-check results with other sources: IEA, Wood Mackenzie, IHS
- Use own assessments in terms of quality, and efficiency
- Uses conservative assumptions on energy mix, similar to the IEA's "New Policies" scenario

# The International Coal Market and India

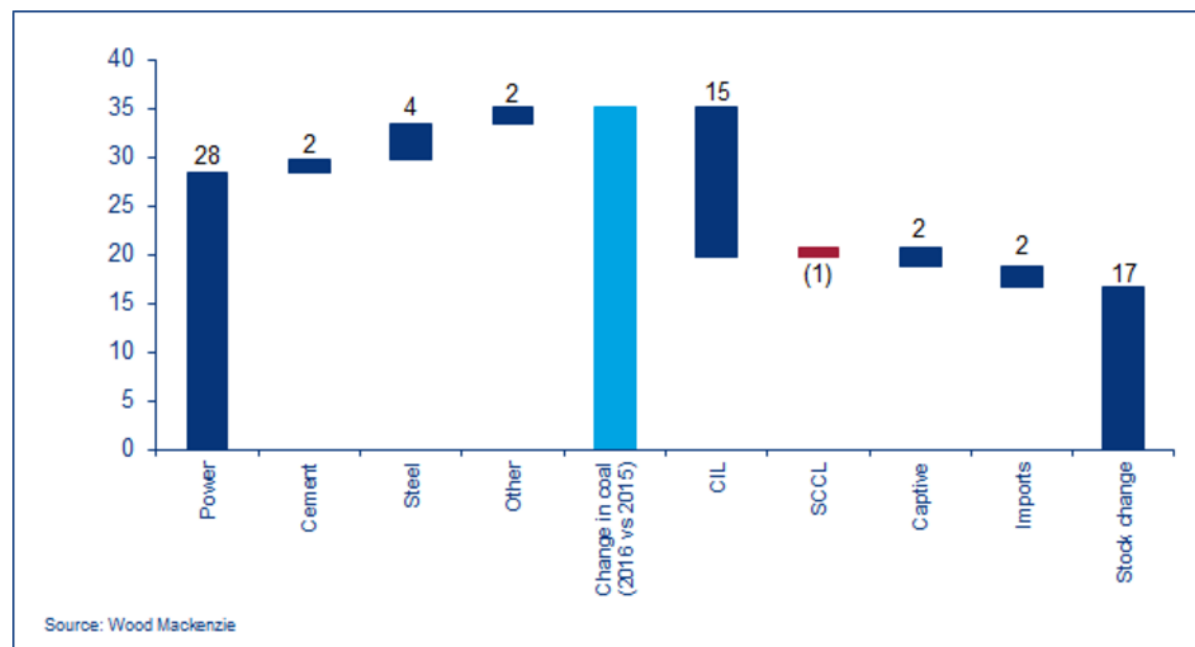
## Friends or foes?



# The International Coal Market and India

## Friends or foes?

Change in coal demand and supply in 2016 (Mt)

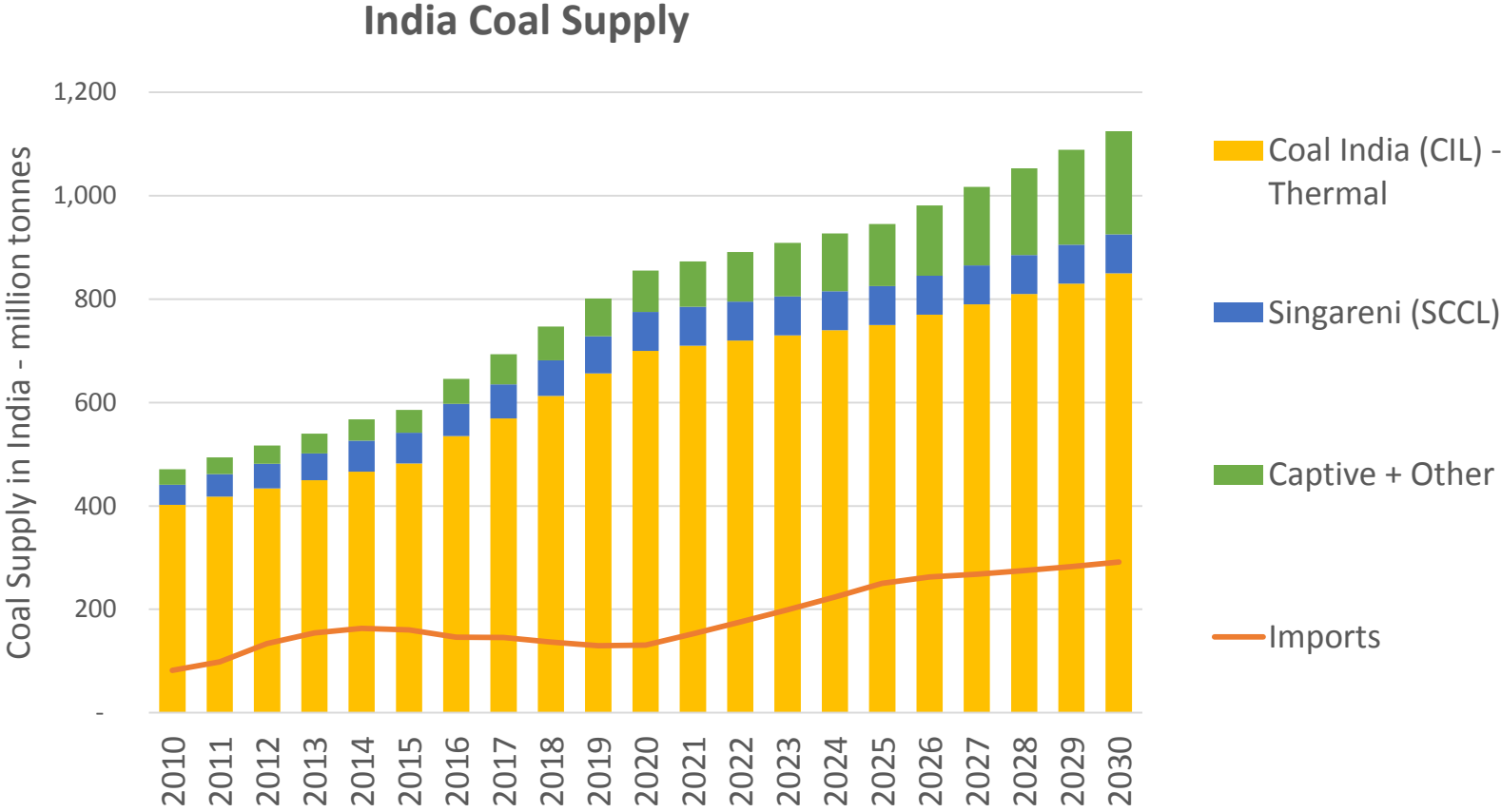


- *On Indian domestic supply, CIL production was up marginally by 3% whereas production from Singareni Collieries and captive coal blocks was stagnant.*
- *Weather-related disruptions and decelerating domestic coal demand growth were the primary reasons for the slow growth at CIL (541 Mt of coal production against a target of 585 Mt).*

- *Legal tussles along with the inexperience of the companies led to a restrictive growth in captive blocks production.*
- *The cost of coal production increased and the National Coal Wage Agreement – X, on which negotiations started in 2016, is expected to put further pressure on costs.*
- *BCCL and ECL reported losses in the third quarter of 2016 as controlled prices make it difficult for high-cost miners to remain in the money.*

# The International Coal Market and India

## Friends or foes?



The model shows that imports are initially offset by domestic coal supply, but the trend is eventually reversed after 2020



# The International Coal Market and India 2017 Onwards: Should we be hopeful?



**Rodrigo Echeverri**  
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February 2<sup>nd</sup>, 2017

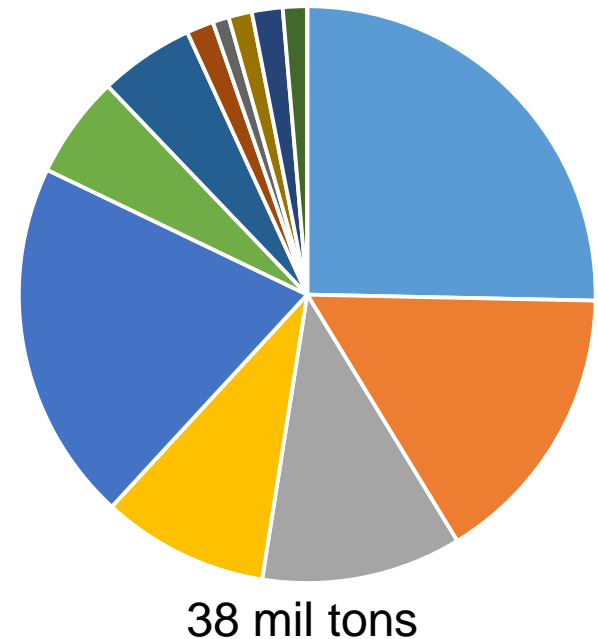
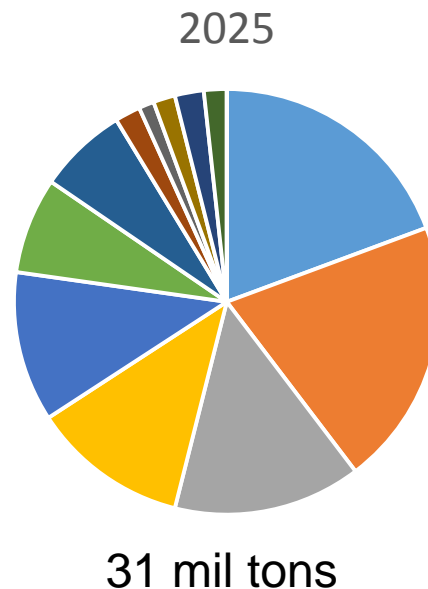
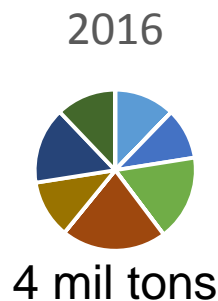


# The International Coal Market and India

2017 Onwards: Should the market be hopeful?

2030

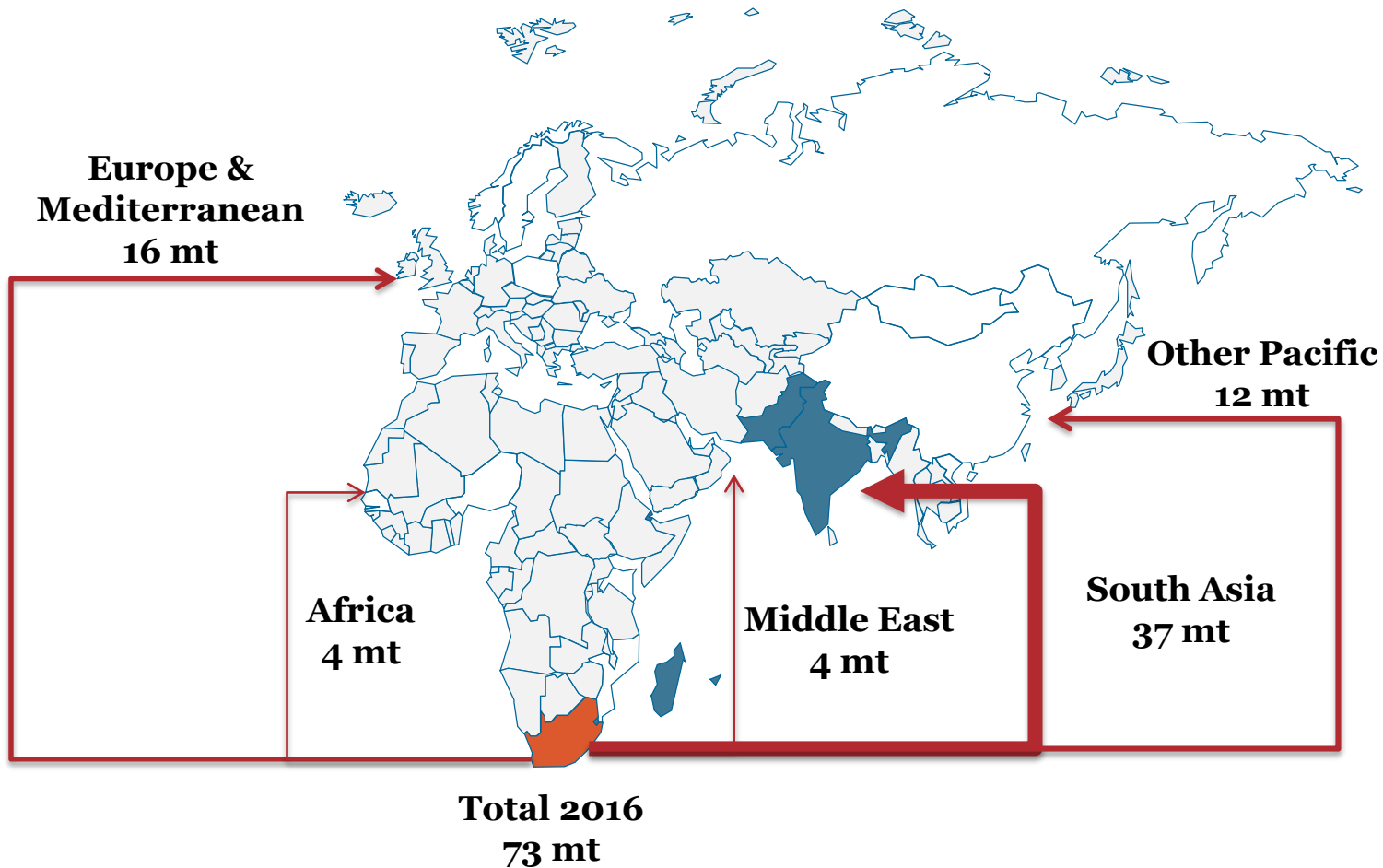
- Nigeria
- Ghana
- Tanzania
- Zambia
- Kenya
- Senegal
- Cote D'Ivoire
- Swaziland
- Namibia
- Madagascar
- Mauritius
- Djibouti
- Other



***African coal imports demand will deliver 40 million tonnes of growth by the end of the next decade***

# The International Coal Market and India

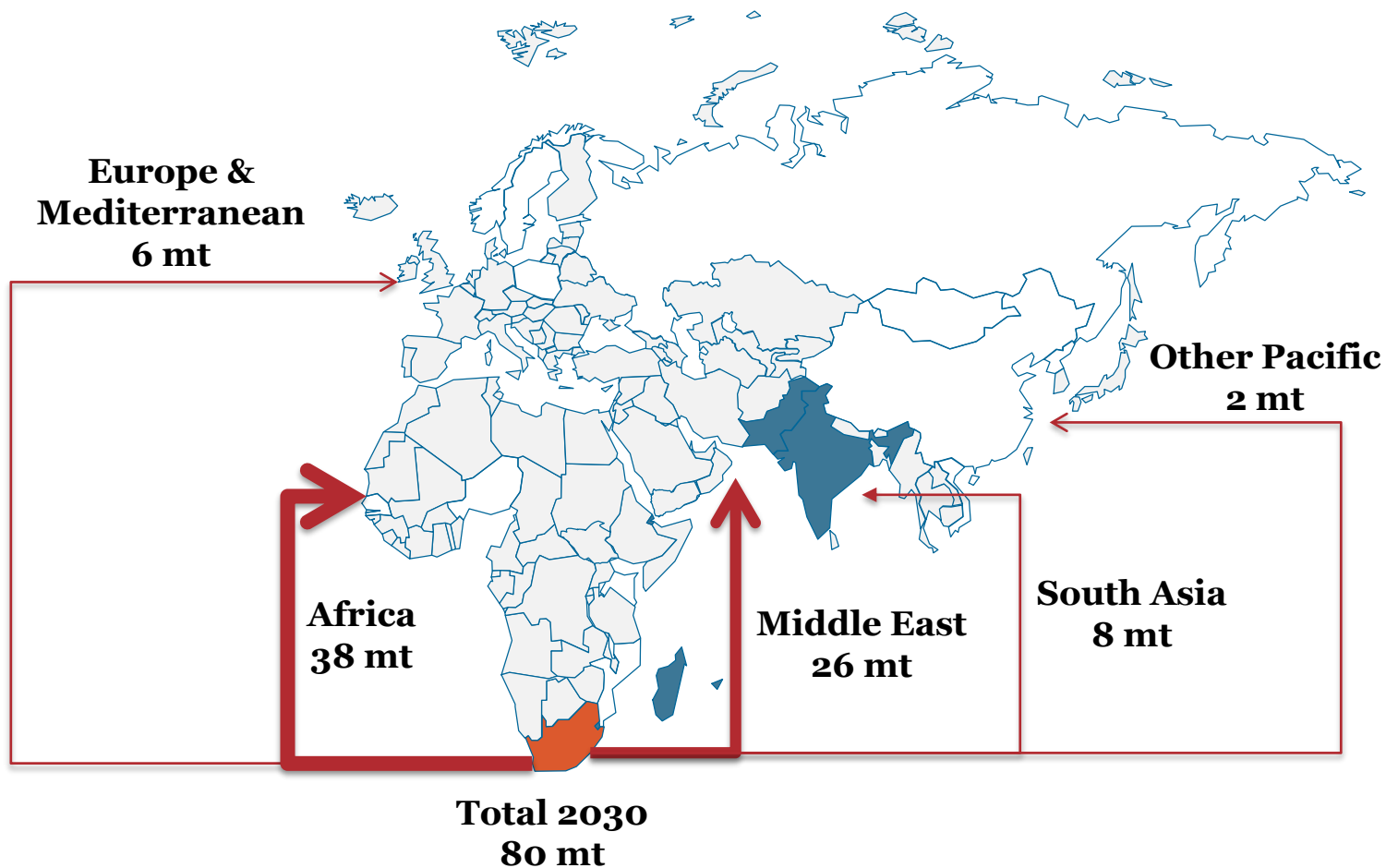
## 2017 Onwards: Should the market be hopeful?



*In 2016, 50% of South African Exports went to South Asia*

# The International Coal Market and India

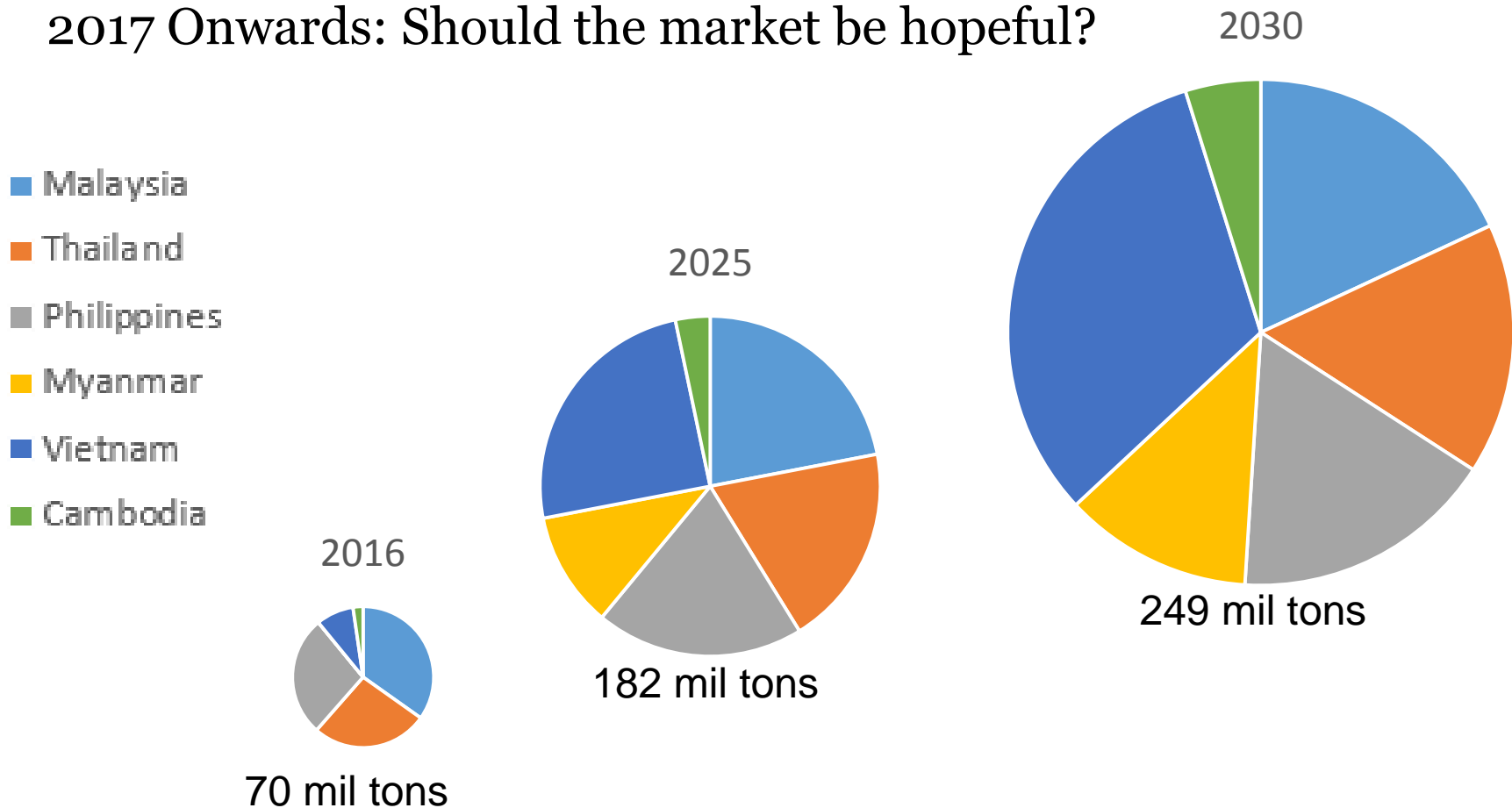
## 2017 Onwards: Should the market be hopeful?



*In 2030, 80% of South African coal exports will go to Africa and the Middle East*

# The International Coal Market and India

2017 Onwards: Should the market be hopeful?

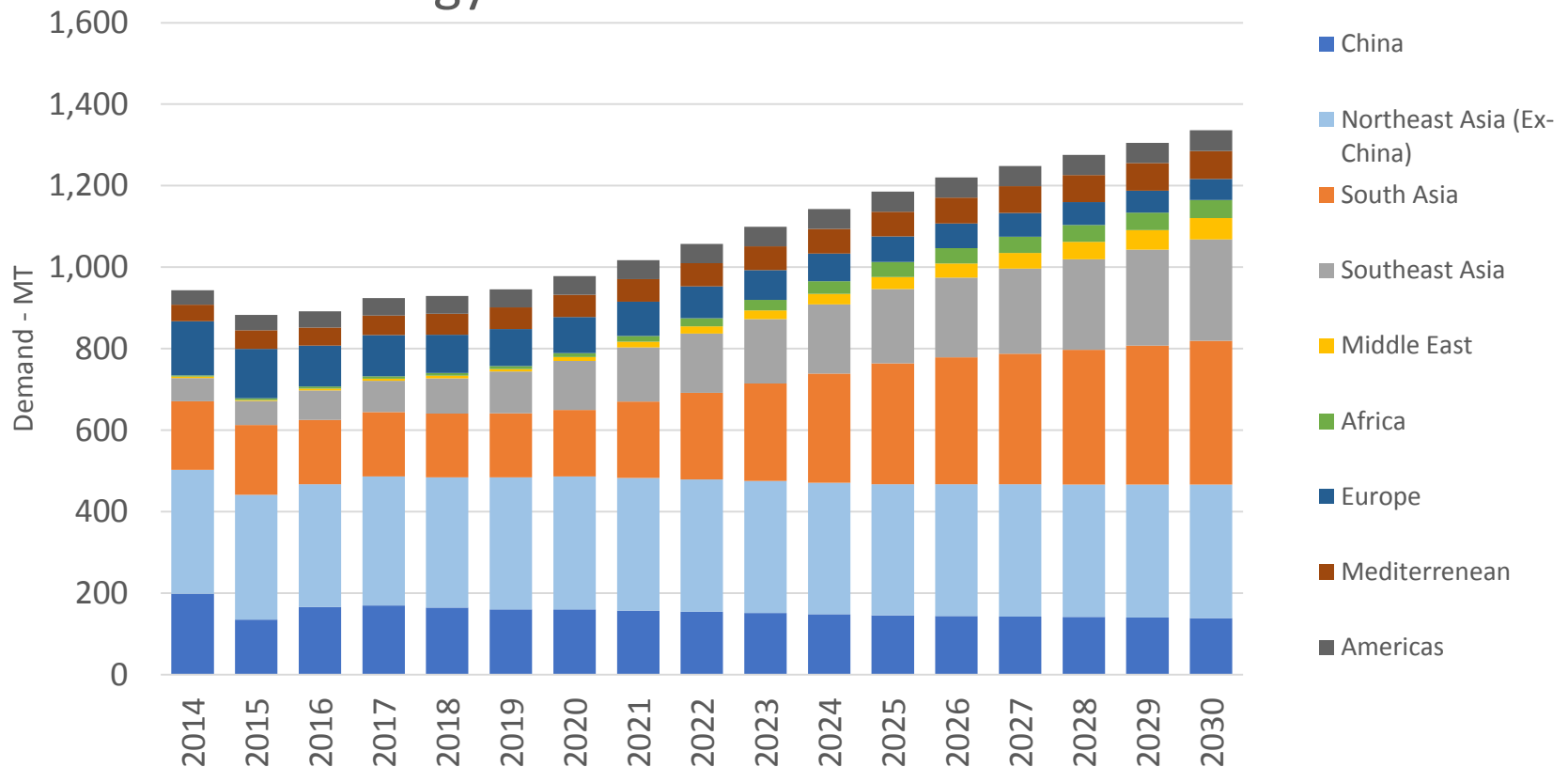


***By 2030, Southeast Asian coal imports will be 50% bigger than the entire Atlantic coal market***

# The International Coal Market and India

## 2017 Onwards: Should the market be hopeful?

Energy Coal Demand - 2014-2030



***The global seaborne coal market will grow by approximately 300 million over 2017-2030***

# The International Coal Market and India

## 2017 Onwards: Should the market be hopeful?

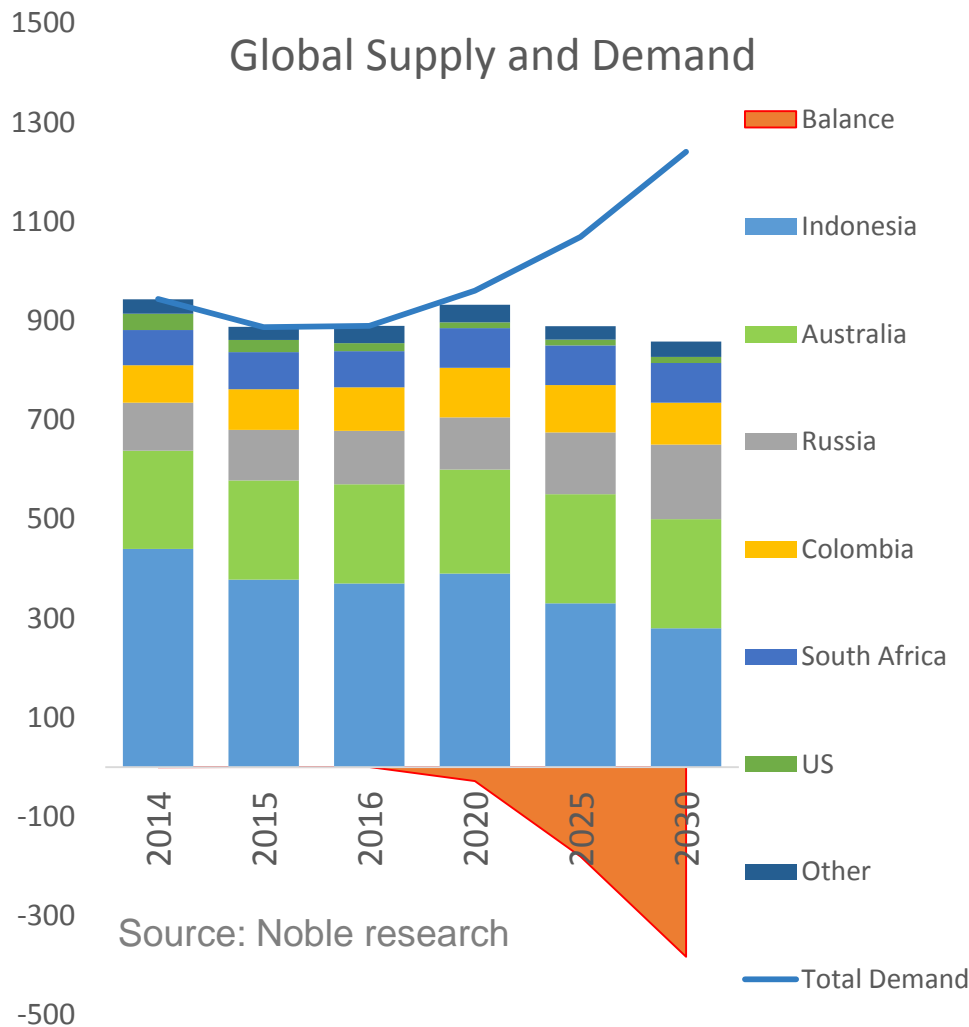
Coal Supply	2014	2015	2016	2017	2020	2025	2030
Indonesia	440	378	370	380	390	330	280
Australia	198	200	200	200	210	220	220
Russia	97	102	108	100	105	125	150
Colombia	75	82	88	85	100	95	85
South Africa	71	75	73	74	80	80	80
US	33	24	16	14	12	12	12
Other	30	26	35	32	35	27	31
<b>Total supply</b>	<b>943</b>	<b>888</b>	<b>890</b>	<b>885</b>	<b>932</b>	<b>889</b>	<b>858</b>
<b>Total Demand</b>	<b>943</b>	<b>883</b>	<b>892</b>	<b>924</b>	<b>978</b>	<b>1,185</b>	<b>1,336</b>
Balance	0	5	-2	-39	-46	-297	-478

Source: Noble research

- At current prices, Indonesia and Australia will not be able to ramp-up production when the market needs it (2017 onwards)
- Only the lowest cost producers with existing spare capacity can expand (Colombia and South Africa)
- Green field projects will be needed from the middle of the next decade - mainly in Australia and South Africa
- Coal from Colombia and USA will also be required to fulfill base requirements in Asia
- Russian coal also important for the mix, but currency uncertainty will remain an issue

# The International Coal Market and India

## Friends or foes?



- In spite of the recent coal rally, current prices do not provide enough incentive for the development of new mines
- By 2020, global demand for coal will exceed the current global footprint for supply
- Indonesian supply will start to decline at the end of this decade
- South African flows will become increasingly regional
- The market will become chronically undersupplied, unless a new wave of investment takes place sooner rather than later

