# Asian Supply Dynamics: India Emerges as a Significant Force

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- The Growing Demand for thermal coal in India
- Supply Options
- Asian Supply Dynamics and the Challenges
- BHP Billiton's Positioning
- Summary



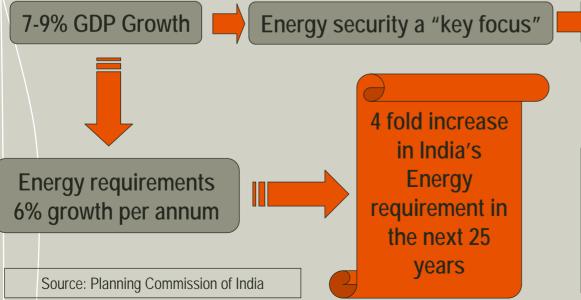
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#### India - A Real Growth Story!

- India's Thermal Coal requirement is approx 380Mtpa and indigenously, it produces in excess of 350Mtpa. However, 2 significant constraints exist in India's thermal coal requirement for self-sufficiency:
  - Logistics constraints (esp. rail) in transporting coal from the main production centres in the East to the demand hubs in the west and south east.
  - Indigenous coal is of a lower quality, relative to global standards, especially in terms of ash content (>30%).



Private sector participation in ownership and operation of fuel assets Broad basing supply chain Focus on longer term price protocol

4.5% increase in global coal consumption in
2006 → 90% of consumption growth and 80% of production growth occurring in the APAC region. At the end of 2006, 909Bt of Coal estimated globally, a third of which are in the APAC region - *BP*

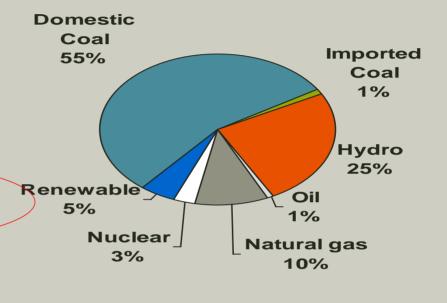
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#### India's Primary Energy Sources for Power

The currently known extractable reserves of coal would be exhausted in 45 years. We are now importing 20-22 mt of coal annually, and much of it is coking coal. Imported coal might become cheaper in coastal areas. By the end of the 11th plan, the imports could be 40-50 mt or even more. Coal will be India's predominant fuel till at least 2031-32. We will be relying more on imported energy. Rail freight tariff for coal needs to be rationalised by doing away with the cross-subsidy from coal to other freight. We've been taking this up with the rail ministry.

Source: Kirit Parikh - Energy Commission India



Domestic Coal
 Hydro
 Natural gas
 Renewable
 Imported Coal
 Oil
 Nuclear



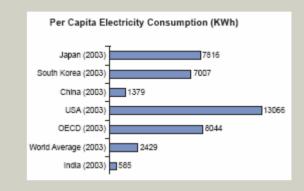
Source: Planning Commission of India

#### Increased Need for Additional Power....

India's current installed power capacity stands at 128,000MW, and of this 70,000MW is fired by coal. To meet peak demand and energy requirements as projected, India plans to increase installed capacity by 4 or 5 fold.

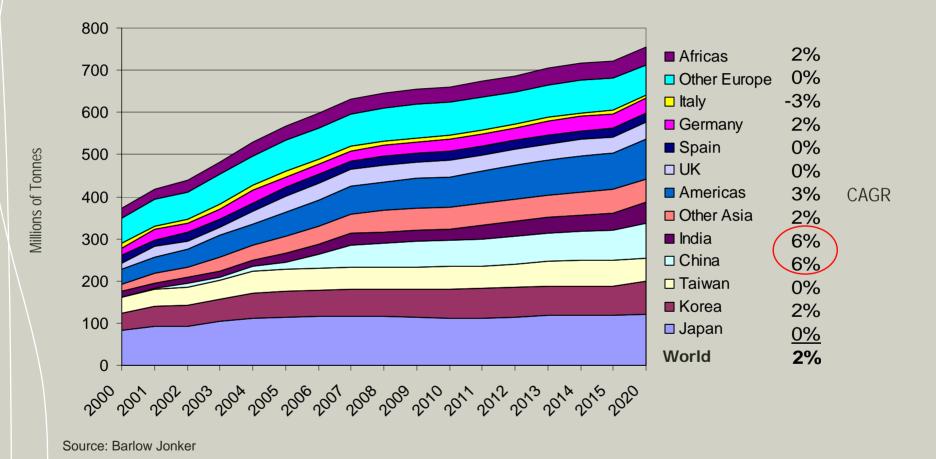


Source: McCloskey



India's importing generators		
	2006	2007
NTPC	5.00	7.00
TNEB	1.20	1.50
GEB	1.20	2.00
Mahagenco	0	2.50
Punjab	0.50	0.50
Haryana	0.50	0.50
DVC	0	0.75
WBPD	0	0.12
Tata	2.00	2.00
Relience	0.70	0.70
Torrent	0.50	0.50
CESC	0.40	0.40
Total	12.00	18.47
Source: The McCloskey Group		

#### **Global Thermal Coal Import Demand**



Global demand growth expected: Pacific market growth is most rapid

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- China and India are key to demand growth expectations
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## The Drivers Behind an Increase in Imported Thermal Coal

#### A deficiency or lack of...

Coal sector reforms Inland infrastructure weaknesses

Bituminous Coals sourced from Indonesia

Exports from China

Alternative sources of energy An efficiency and progress in ...

#### A buoyant economy

Power sector reforms (transparent bidding process)

Cement industry growth – 10%

Port investments

Environmental awareness



• The Growing Demand for thermal coal in India

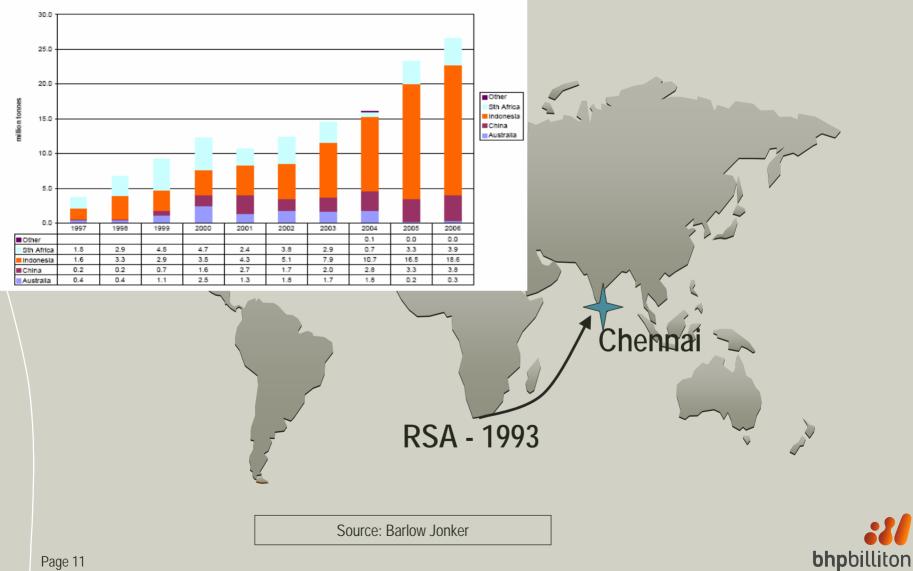
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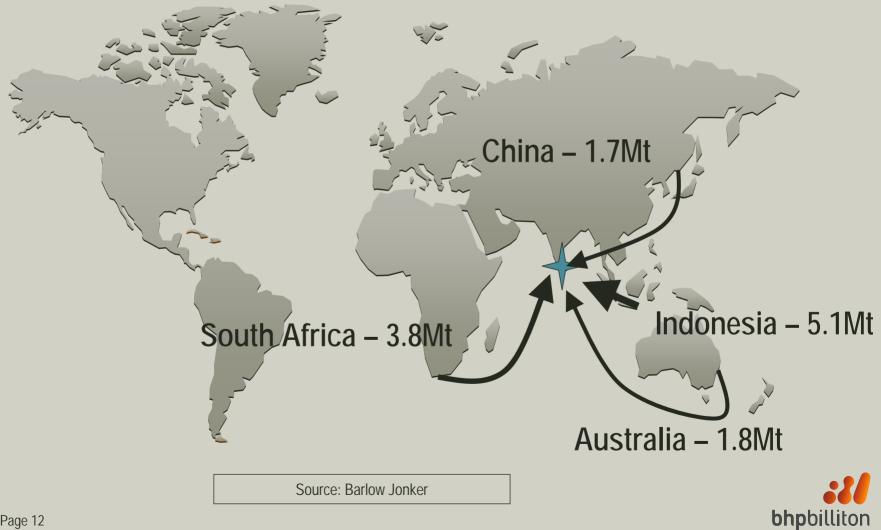


### India's First Import of Thermal Coal

#### Indian Thermal Imports 1997 - 2006



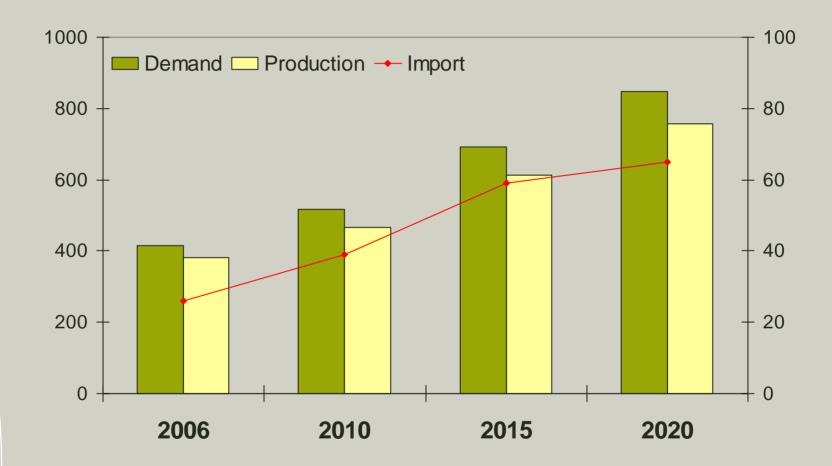
#### India's Import of Thermal Coal - 2002



#### India's Import of Thermal Coal – 12 mo. ending Jun 2007



#### India's Thermal Coal Import Demand



Note: Import coal is estimated on 5500NAR basis

Source: Barlow Jonker

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### Supply Dynamics: India – As a Customer

- Key swing demand centre between the Atlantic and the Pacific
- Power generators are able to burn a wide range of coal specifications
- Large domestic supply to provide blending opportunities
- Growing port infrastructure to increase imports though expansion projects
- India plays a key role the triangular freight route between Australia and China, and thus forms a key freight route, especially after more cape berths are established in India

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## Coming of Age in International Coal Markets

- Pricing on a delivered, multi-source index basis
- Credit and reliability
- Consolidate group requirements
- Producer / end user relationship
- Clean Development Mechanism projects



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BHP Billiton's Positioning

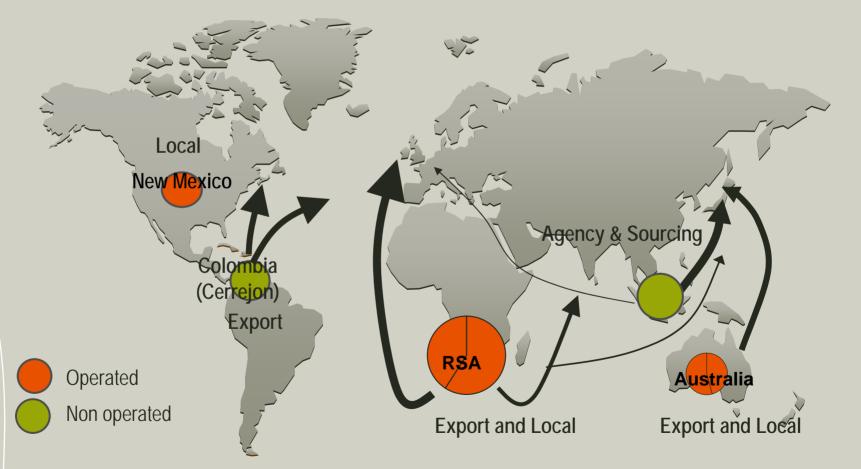
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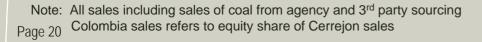
# BHP Billiton is Well Positioned to Capture a Share of India's Growth

- Long presence in India with a deep knowledge & understanding of the market. Sales of 10Mt of coking coal to India in FY07.
- Geographic location of India and BHP Billiton's asset base provides a unique opportunity for a multi-basin supply position.
- Potential to establish a significant long term position in a fast growing and large import market in the Pacific basin – key to identify partners in India for current and future business.



#### 2006 BHP Billiton Thermal Coal Position







## Specifically BHP Billiton in India offers...

- Security of supply
  - BHP Billiton's seabourne thermal coal book is >55mtpa
  - Access to the Atlantic and Pacific traded positions
- Quality assurance
- Risk mitigation
  - Pricing on an index related basis
- Freight position
- Emissions credits
- Strong balance sheet



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# Summary - The Future for Imported Thermal Coal into India is Very Bright

#### This is driven by:

- The inability of domestic resources to ramp up production in a timeframe conducive to the steep growth curve.
- The intrinsic demand for power, and the energy commission decree that coal is the fuel of choice for the next 20 years.
- The economy driving the need for infrastructure growth rapidly fuelling the 10% growth in cement production.
- India is placed, geographically, in a desirable position as a sink for most grades of coal.

#### Translates into

- The industry will move to being **less price sensitive** and more price receptive in line with industry norms.
- Security of supply will become key and thus lead to long term coal supply agreements priced on an index basis – Thus moving away from spot sales and prompt tenders on a fixed price basis.
- End consumers will look for a packaged service directly with producers, rather than merely coal supply to a port, i.e. quality management, forward joint planning, risk mitigation and carbon emissions consultation.



# Thank You



