Responding to India’s Growing Steelmaking Raw Materials Needs

Don Carroll     President BHP Billiton India

Global Steel 2005 Conference, Goa
Thursday, 10 March 2005
Disclaimer

The views expressed here contain information derived from publicly available sources that have not been independently verified. No representation or warranty is made as to the accuracy, completeness or reliability of the information. Any forward looking information in this presentation has been prepared on the basis of a number of assumptions which may prove to be incorrect. This presentation must not be relied upon as a recommendation or forecast by BHP Billiton.
• Introduction to BHP Billiton
  – Global Assets
  – Carbon Steel Materials

• India – Case for Growth
  – Indian Economy
  – Steel Growth in India
  – Constraints
  – Factors for India to reach full potential
  – BHP Billiton commitment to India

• BHP Billiton Expansion plans
  – Coking Coal Expansions
  – Iron Ore Expansions
  – Manganese Expansions

• BHP Billiton Benefits to India

• Concluding remarks
• **Introduction to BHP Billiton**
  - Global Assets
  - Carbon Steel Materials

• **India – Case for Growth**
  - Indian Economy
  - Steel Growth in India
  - Constraints
  - Factors for India to reach full potential
  - BHP Billiton commitment to India

• **BHP Billiton Expansion plans**
  - Coking Coal Expansions
  - Iron Ore Expansions
  - Manganese Expansions

• **BHP Billiton Benefits to India**

• **Concluding remarks**
The world’s largest diversified resources company

- Petroleum
- Aluminium
- Base Metals
- Carbon Steel Materials
- Diamonds & Spec Prod
- Energy Coal
- Stainless Steel Materials
The largest company in a consolidating sector

Market value of minerals industry: US$523 bn
Value of Top Five: US$217 bn
Value of BHP Billiton: US$78 bn

Source: Datastream
BHP Billiton – Carbon Steel Materials assets

WA Iron Ore (85-100%)
Prod: 110Mtpa
Years of Life: 35
No 3 Seaborne supplier

QLD Coal (50 – 80%)
Prod: 52Mtpa
Years of Life: 50
No 1 Seaborne supplier

Samarco Iron Ore (50%)
Prod: 15Mtpa
Years of Life: 40
Low cost pellet producer

Manganese (60%)
Prod: Ore 4.1Mtpa
Alloy etc 0.7Mtpa
Years of Life:
Aust 25
SA 30
No 1 Supplier

Illawarra Coal (100%)
Prod: 7Mtpa
Years of Life: 45
Niche supplier

100% nominal production capacity
BHP Billiton has large Met Coal Assets

BHP Billiton

Mitsubishi

Managed by BHP Billiton

BMA Marketing

CQCA JV:
Peak Downs Mine
Goonyella Mine
Norwich Park Mine
Saraji Mine
Blackwater Mine
Hay Point Terminal

Gregory JV:
Gregory Mine
Crinum Mine

BHP Mitsui Coal PIL:
Riverside Mine
South Walker Creek Mine

Illawarra:
West Cliff Mine
Appin Mine
Elouera Mine
Dendrobium Mine (mid 2005)

50% BHP Billiton / 50% Mitsubishi
80% BHP Billiton
20% Mitsui & Co
100% BHP Billiton
BHP Billiton’s Coal Transportation

• Coal produced is transported to Hay Point & Dalrymple Bay coal terminals south of Mackay and Clinton & Barney Point terminals in Gladstone by an electric rail system.

• Each train has up to 120 wagons, and carries approx. 9000 tonnes of product coal.

• Ports can handle vessels up to 200,000 tonnes capacity.
BHP Billiton Illawarra Coal Operations

Dendrobium from mid 2005

- **Mined Area**
- **Current Mining Area**
- **Portal**

Map showing locations such as Appin, West Cliff, Dendrobium, Elouera, and Wollongong, as well as the Port Kembla Coal Terminal and Port Kembla Steelworks.
Location of Iron Ore Mines

Newman to Nelson Point - 426km
  • Jimblebar spur line is 32km

Yandi to Nelson Point - 310 km
  • Yandi spur line is 30km
  • Area C spur line extension from Yandi is 38km

Yarrie to Finucane Island - 208km
BHP Billiton Western Australian Iron Ore’s Joint Ventures

**Mt. Newman JV (≈38Mwmt/a)**
- 85 per cent BHP Billiton Minerals Pty. Ltd.
- 10 per cent Mitsui - Itochu Iron Pty. Ltd.
- 5 per cent CI Minerals Australia Pty. Ltd.

*Note: Jimblebar is 100% owned by BHP Billiton Minerals Pty Ltd*

**Wheelara Joint Venture (Sub Lease of Jimblebar) (12Mt/a)**
- 51 per cent BHP Billiton Minerals Pty Ltd
- 10 per cent Maanshan Iron & Steel Co
- 10 per cent Tangshan Iron & Steel (Group) Co
- 10 per cent Wuhan Iron & Steel Corporation
- 10 per cent Jiangsu Shagang
- 4.8 per cent Itochu Minerals & Energy of Australia
- 4.2 per cent Mitsui Iron Ore Corporation Pty Ltd

*BHPBIO is the operator and marketer for each of the Joint Ventures*
BHP Billiton Western Australian Iron Ore’s Joint Ventures

Mt. Goldsworthy Mining Associates JV (≈7.5Mwmt/a)
- 85 per cent BHP Billiton Minerals Pty. Ltd.
- 7 per cent Mitsui Iron Ore Corporation Pty. Ltd.
- 8 per cent CI Minerals Australia Pty. Ltd.

• POSMAC JV
  (Sublease of Mt. Goldsworthy JV’s ‘C deposit’) (~15Mt/a)
  - 65 per cent BHP Billiton Minerals Pty. Ltd.
  - 20 per cent POSCO
  - 7 per cent Mitsui Iron Ore Corporation Pty. Ltd.
  - 8 per cent CI Minerals Australia Pty. Ltd.

Yandi JV (≈42Mwmt/a)
- 85 per cent BHP Billiton Minerals Pty. Ltd.
- 7 per cent Mitsui Iron Ore Corporation Pty. Ltd.
- 8 per cent CI Minerals Australia Pty. Ltd.

BHPBIO is the operator and marketer for each of the Joint Ventures
BHP Billiton Iron Ore Ports
BHP Billiton Manganese

BHP Billiton (60%)  
Anglo American (40%)

Samancor

Samancor Manganese

Mines
  - Wessels
  - Mamatwan
  - Gemco

Alloys
  - Metalloys
  - Temco

South African operations

Australian operations
BHP Billiton Manganese Operations

**Mamatwan (open pit)**
- ROM 2.3 million tpa
- Sinter plant + 800 K tpa

**Wessels (underground)**
- ROM 1.2 million tpa
- Beneficiation plant 900 K tpa

**Temco**
- Capacity
  - ROM 130,000 tpa FeMn
  - 120,000 tpa SiMn
  - 330,000 tpa Sinter

**Gemco**
- Capacity
  - ROM >6.5 million tpa

**Metalloys**
- Capacity
  - 397,000 tpa FeMn
  - 104,000 tpa SiMn
  - 75,000 tpa MCFeMn
Presentation layout

• Introduction to BHP Billiton
  – Global Assets
  – Carbon Steel Materials

• India – Case for Growth
  – Indian Economy
  – Steel Growth in India
  – Constraints
  – Factors for India to reach full potential
  – BHP Billiton commitment to India

• BHP Billiton Expansion plans
  – Coking Coal Expansions
  – Iron Ore Expansions
  – Manganese Expansions

• BHP Billiton Benefits to India

• Concluding remarks
Over time, India’s traditionally controlled economy has been reformed to give way to liberalisation.

1950s to 70s
- State controlled industrialisation
- Green revolution
- Nationalisation

1980s
- Entry barriers lowered for many sectors
- Fiscal profligacy

1990 onwards
- De-regulation and de-licensing
- Lowering of tariffs and taxes
- FDI allowed
- Reduced real interest rates
- Further reduction in taxes and tariffs
- Privatisation
- Infrastructure creation

Balance of payment crisis
As a result India’s GDP growth has been accelerating

**Real GDP***

US$ Billions

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP (US$ Billions)</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>60</td>
<td>4.2%</td>
</tr>
<tr>
<td>1960</td>
<td>86</td>
<td>3.2%</td>
</tr>
<tr>
<td>1970</td>
<td>118</td>
<td>3.0%</td>
</tr>
<tr>
<td>1980</td>
<td>159</td>
<td>5.8%</td>
</tr>
<tr>
<td>1990</td>
<td>279</td>
<td>5.4%</td>
</tr>
<tr>
<td>2000</td>
<td>473</td>
<td>6.3%</td>
</tr>
<tr>
<td>2003</td>
<td>558</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>604</td>
<td></td>
</tr>
</tbody>
</table>

**Real GDP*/capita**

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP/capita</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>164</td>
<td>2.2%</td>
</tr>
<tr>
<td>1960</td>
<td>199</td>
<td>0.8%</td>
</tr>
<tr>
<td>1970</td>
<td>216</td>
<td>0.7%</td>
</tr>
<tr>
<td>1980</td>
<td>231</td>
<td>3.6%</td>
</tr>
<tr>
<td>1990</td>
<td>328</td>
<td>3.6%</td>
</tr>
<tr>
<td>2000</td>
<td>466</td>
<td>3.6%</td>
</tr>
<tr>
<td>2003</td>
<td>523</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

* Base year = 2002
Source: WEFA-WMM
India’s GDP growth has been consumption driven

India real GDP growth
US$ Billions

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth in 5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>426</td>
</tr>
<tr>
<td>2003</td>
<td>558</td>
</tr>
</tbody>
</table>

CAGR = 5.6%

Sources of GDP Growth
Percent

- Fixed asset investment: 62%
- Private consumption: 26%
- Government spending: 11%
- FDI: 3%

* Net trade contribution –2%
Critical measures that could enhance economic growth

There are 4 major areas for boosting economic growth

• Encourage FDI (adopt some of China’s techniques)
  – e.g. establish Special Economic Zones

• Development of infrastructure
  – Roads, rail, ports, airports

• Free up the Private sector
  – especially in Mining and Resources

• Streamline bureaucracy and procedures
  – Permitting, resource allocation
India’s domestic steel demand has shown moderate growth

Million tons

CAGR – 6.6%

Current demand break-up

- Infrastructure: 25%
- Consumer durables: 5%
- Automotive: 7%
- Construction: 19%
- Others: 19%
- Manufacturing: 25%

Source: Ministry of Steel
Supported by a growing middle class

### Household income* distribution

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High income (&gt; $18,000)</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2%</td>
<td>27%</td>
</tr>
<tr>
<td>Upper middle income</td>
<td>20</td>
<td>26</td>
<td>38</td>
<td>6%</td>
<td>10%</td>
</tr>
<tr>
<td>($4,000-$18,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle income</td>
<td>33</td>
<td>41</td>
<td>41</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>($2,000-$4,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower middle income</td>
<td>27</td>
<td>18</td>
<td>10</td>
<td>-5%</td>
<td>-9%</td>
</tr>
<tr>
<td>($1,400-$2,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low income (&lt; $1,400)</td>
<td>20</td>
<td>13</td>
<td>8</td>
<td>-5%</td>
<td>-7%</td>
</tr>
</tbody>
</table>

* Annual Income at PPP levels (PPP = Purchasing Power Parity); Average size of a household 5.8 people

Source: NCAER
### But the Indian steel industry faces barriers to fulfil potential

#### Key issues

<table>
<thead>
<tr>
<th>Logistics infrastructure</th>
<th>Description</th>
<th>Impact on industry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• High rail freight tariffs</td>
<td>• Higher costs</td>
</tr>
<tr>
<td></td>
<td>• Port/Shipping bottlenecks</td>
<td>• Reduced steel exports competitiveness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coking coal and coke availability and cost</th>
<th>Description</th>
<th>Impact on industry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Indian coal has high ash</td>
<td>• Higher costs</td>
</tr>
<tr>
<td></td>
<td>• Exposure to availability and prices of coking coal in international markets</td>
<td>• Lower quality coke negatively impacting steel production</td>
</tr>
<tr>
<td></td>
<td>• Competition for seaborne hard coking coal</td>
<td>• Coal shortages could impact industry growth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Need to develop import facilities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Iron ore availability</th>
<th>Description</th>
<th>Impact on industry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Huge in country reserves</td>
<td>• Tight iron ore supply situation for domestic steel makers</td>
</tr>
<tr>
<td></td>
<td>• Captive resource policy</td>
<td>• Higher domestic prices</td>
</tr>
<tr>
<td></td>
<td>• Sub-optimal mining</td>
<td>• Possible Iron Ore Imports?</td>
</tr>
<tr>
<td></td>
<td>• Insufficient investment and development</td>
<td></td>
</tr>
</tbody>
</table>
## Existing barriers/constraints faced by the Indian iron ore industry

**Key issues**  
**Description**  
**Impact on industry**

### Sub-scale mining
- 225 mines with only 10 producing more than 2 million tons annually  
- High grading of reserves  
- Environmental degradation  
- Higher costs on  
  - Mining/processing  
  - Shipping  
- Lack of investment and technology  
- Sterilization of low grade resources

### Lack of logistics infrastructure
- Railway network shared with passengers leading to congestion and delays  
- High rail freight tariffs  
- Lack of availability of rakes  
- Ports have insufficient capacity to handle increasing volume of exports  
- Potential to create shortfall

### Regulatory hurdles/delays
- Delays in obtaining approvals for mining i.e., PLs, MLs, forest and environment clearances etc  
- However, encouraging signs of change in the air  
- Higher inland/port handling cost reducing competitiveness of exports  
- Longer lead times and uncertainty on delivery dates

### Absence of merchant iron ore market
- Captive mining  
- Spot sales where surplus available  
- Uncertainty of supply and prices  
- Need for structured merchant mining
• Indian coking coal requirement is likely to grow going forward driven by increasing production of finished steel by the BF-BOF route.

• However domestic supply likely to remain static at 8 million tones making India heavily dependent on imports.

And there is shortage of Coking Coal in India

Estimated Demand for Coking coal

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>24</td>
</tr>
<tr>
<td>2010</td>
<td>34 - 40</td>
</tr>
<tr>
<td>2015</td>
<td>48 - 60</td>
</tr>
</tbody>
</table>

Source: Industry Reports; Press Clippings
Summary - Factors for India to reach full potential

- Indian steel demand has great potential for strong growth
- India has significant iron ore reserves
- India needs significant improvements to reach its potential
  - Accelerated infrastructure developments
    - Rail: further upgrading and improved connectivity
    - Ports: development of new ports, expansions of existing ports
  - Continued expansion and development of domestic steel industry
    - Improved BF operations – lower fuel rates, higher PCI rates and high productivity
    - Higher coke quality via improved technology and superior hard coking coals
    - Increased imports and use of imported high quality, low ash coking coals
  - Mining improvements – iron ore
    - Accelerated exploration and resource development
    - Adoption of state of the art mining and beneficiation methods and techniques
    - Resource optimization
BHP Billiton’s commitment to India

1. Major supplier to steel industry; coking coal, >6 million tonnes pa and growing, new supplier of high grade manganese ore
2. Expansion of Corporate presence Delhi office to 25+, new office in Orissa
3. Various exploration activities, iron ore, diamonds, bauxite etc

Potential future developments:-

- **SAIL – BHP Billiton Strategic Alliance**
  - MOU with Steel Authority of India (SAIL) for potential joint development of Iron Ore Mines in India and Coking coal mines in other countries
  - Strategic alliance to maximize resource utilization while exploiting the finite natural resources in an economic and environment-friendly manner

- **POSCO India steel plant**
  - Assessing involvement in possible JV with Posco for proposed 10m tpa steel plant in Orissa, where BHP Billiton would supply raw materials and infrastructure to the project and the local steel industry

- **Assessing other opportunities**
Presentation layout

• **Introduction to BHP Billiton**
  – Global Assets
  – Carbon Steel Materials

• **India – Case for Growth**
  – Indian Economy
  – Steel Growth in India
  – Constraints
  – Factors for India to reach full potential
  – BHP Billiton commitment to India

• **BHP Billiton Expansion plans**
  – Coking Coal Expansions
  – Iron Ore Expansions
  – Manganese Expansions

• **BHP Billiton Benefits to India**

• **Concluding remarks**
High value incremental growth to ~100Mtpa capacity

- Majority brownfields

Expansion: 42 mtpa
- 70% hard coking coal
- 15% semi soft coking coal
- 15% thermal coal

Pre Feas ~18 Mtpa
Various Q Coal Projects (BMA & BMC)

Approved ~14 Mtpa
Maruwarri Illawarra Expn. Q Coal (BMA & BMC, ie: Poitrel)

58 Mtpa*
Dendrobium Q Coal 52-57Mtpa (inc. Broadmeadow)
Q Coal 57-59Mtpa

~10 Mtpa
Other
Illawarra
Q Coal

FY04
FY10

*All production figures are quoted on a 100% equity basis
Queensland Coal: 52Mtpa to 57Mtpa expansion for mid 2005

- Capital cost US$94 million (100%)
- 132Mbcm of contract stripping – additional operating cost over ~ 2 years
- Additional mobile mining equipment - Norwich Park, Peak Downs, Saraji and Goonyella
- Improvements to Saraji, Peak Downs Prep plants
- Broadmeadow (3.6mtpa) - start-up mid 2005, capex further US$68M (100%)
- Queensland Rail - +8Mtpa capacity contracted + a further 8Mtpa for continued growth

Note: All numbers are 100% equity basis, unless otherwise specified
Further expansions underway

Queensland Coal: 57Mtpa to 59Mtpa for 2nd half 2006

- Hay Point Coal Terminal Expansion + 6Mtpa (34Mtpa - 40Mtpa)
- 32Mbcm contract stripping at Saraji –
- Capital cost US$175M (100%)
- ~US$100 million of the capital cost to allow further expansions of the Hay Point port

Illawarra Coal: 7Mtpa to 14Mtpa

- Dendrobium – Start up mid 2005 (3.6Mtpa). Considering incremental expansion + 0.6Mtpa
- New West Cliff longwall in production
- Future growth will focus initially on debottlenecking at Appin & West Cliff
- Possible investment in an additional longwall unit

Note: All numbers are 100% equity basis, unless otherwise specified.
Maruwai discovery: potential coking coal province

- The Maruwai discovery is located in Central/East Kalimantan and contains a range of coals
- Our vision is for a long term integrated basin development
- Expect to start with high quality HCC development of up to 5Mtpa and grow
- River barging likely transport option
- Contractor operation likely
- Pre-Feasibility Study near completion
- Expect to complete Feasibility Study end 2005
BHP Billiton iron ore expansions to 118Mt; studying further expansion to beyond 150Mt

- Expansion to 118 million tonnes total cost US$575M (100%)
- 118 million tonnes by H2 2006
- Mining
  - Newman to 45 Mtpa
  - Development of OB18 for blending
  - Plant modifications at OB 25
- Rail
  - Procurement of more rolling stock
  - Increased rail flexibility
  - Additional track
- Port
  - New car dumper
BHP Billiton Manganese – Capturing market opportunities

Producing to meet unprecedented demand

• Operations running at record rates to capture market opportunities especially in China
• Reliable supplier of choice
• Operating Excellence continuing to deliver benefits
• Good HSEC progress

Low cost, low risk expansions

• Increased mine output at no/low additional capital cost

Challenges

• BEE in RSA
BHP Billiton’s value to India

• BHP Billiton can offer:-

  ➢ Complete suite of steelmaking raw materials, esp. coking coal

  ➢ Long term proven resources of high quality coking coal in demand by global steelmakers

  ➢ Demonstrated willingness to invest in major mine and infrastructure developments

  ➢ Proven ability to manage high capacity ports and rail infrastructure

  ➢ Ability to manage complex joint ventures for mutual benefits

  ➢ Full commitment and “partnership” to expanding business to meet the future needs of India and the growing Indian steel industry

  ➢ Excellent track record of supporting local communities and the highest standards of environmental and safety performance
Summary

• The outlook for future India steel demand is very robust
  – With high demand for raw materials, coking coal, manganese even iron ore

• India has potential to meet this growth if constraints can be overcome
  – Infrastructure, streamline complex development processes
  – Critical to promote mining development and resource utilisation

• BHP Billiton and its partners are very well placed to meet India’s needs
  – Only supplier with complete suite of steelmaking raw materials

• Coal expansions to 100Mtpa will be brought on line incrementally – in line with customer demand

• Expansions in other businesses actively advanced to meet global need

• New steel capacity in India can benefit from utilising BHP Billiton raw materials and expertise in coking coal, iron ore and manganese ore