21st Century Coal: Powering Progress and Global Development

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21st Century Coal

Symbol for the Future of Coal in the World

- Introduced by the governments of China and the U.S. in 2009 to advance development of clean energy solutions
- Rests on a solid foundation of progress, advancement and innovation across our industry in recent decades in areas including safety, productivity sustainability and near-zero emissions technology
- Provides the solution for economic progress and energy access for the nearly one in five people on the planet who have no access to electricity
Coal: Powering Prosperity

**Key Discussion Themes**

- Global Energy Access is a First Priority and Fuels Economic Growth
- Long Term Coal Market Fundamentals Remain Strong
- Education is the Backbone of Our Industry
Mining position and sales based on 2011 reported sales volumes in millions of tons. Reserves based on 2011 10-K filing in billions of tons.

<table>
<thead>
<tr>
<th>Mining Operations</th>
<th>Position</th>
<th>Sales</th>
<th>Reserves</th>
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<tr>
<td>S. PRB</td>
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<tr>
<td>Midwest</td>
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<tr>
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<td>#1</td>
<td>8</td>
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<tr>
<td>Australia</td>
<td>#5</td>
<td>25</td>
<td>1.2</td>
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Global Energy Access is the First Priority
Energy is a Human Right and a Rapidly Rising Need

3.6 Billion People Have No or Only Partial Access to Electricity

Electricity Enables People to Live Longer and Better

United Nations Links Affordable Energy to Quality of Life

Every 10-Fold Increase in Per Capita Electricity Use Drives a 10-Year Increase in Longevity

The Economic Miracle Powered by Coal

Near Perfect Correlation Between Coal Use and GDP Growth

Long-Term Coal Market Fundamentals Remain Strong
Coal Expected to Overtake Oil as World’s Largest Energy Source in 2013

**Total World Primary Energy Demand by Fuel**

- **Coal**
- **Oil**
- **Natural Gas**
- **Nuclear**
- **Hydro**
- **Renewables**

2013

Annual World Coal Demand Expected to Grow ~1.3 Billion Tonnes in Five Years

- New coal-fueled generation of 395 GW expected by 2016
- Steel production expected to grow 20%, requiring additional 200 MTPY of metallurgical coal
- More than 85% of global demand growth in China/India
- Seaborne demand expected to grow at 7% CAGR

Source: Peabody Global Analytics.
China Demand Expected to Grow ~1.0 Billion Tonnes by 2016

**Imports Expected to Double From 2011 to 2016**

- ~240 GW of coal-fueled generation expected to come on line by 2016
  - Much of buildout occurring in coastal areas
  - Represents >800 MTPY of thermal coal use over time
- China NDRC seeks coking coal production limits for “special and scarce” resource
- China reducing domestic production; continuing to close small inefficient mines

**China Gross Coal Imports**

Source: Peabody Global Analytics, China National Bureau of Statistics. 2008, 2009 imports exclude ‘other lignite’ product, now reported in total import figures. Projections assume 7.5% annual China GDP growth, as outlined in 12th Five-Year Plan.
India Likely to be World’s Fastest Growing Coal Importer

- ~75 GW of new coal generation expected to start over five years
  - Requires additional ~250 MTPY of thermal coal use over time

- Thermal demand expected to outpace production by >150 MTPY within five years
  - Coal India ordered to increase coal imports to meet shortfalls

- Blackouts highlight need for increased coal imports and improved power grid

- Multiple new port projects under way to enable increased imports

Source: Peabody Global Analytics and other industry sources.
Education is Integral to the Future of the Coal Sector
The Importance of Global University Networks

- Worldwide skills shortage for individuals with a science, technology, engineering and mathematics (STEM) education
- Strong link between STEM education and levels of innovation
- Multi-university networks promote knowledge transfer and sharing of best practices at local, regional and international level
- Investing in education makes good business sense
Peabody’s Global University Network

BTU Operations
Trading and Local Offices
BTU Corporate Headquarters
Key BTU University Partnerships

London
Essen
Urumqi
New Delhi
Beijing
Singapore
Jakarta
Brisbane
Ulaanbaatar
St. Louis
Gillette
Tucson
University Partnership Case Study: Ereen Mine Restoration, Mongolia

June 2009

May 2010

August 2010
Peabody: Defining the Meaning of Long-Term Strategic Energy Partner

“When Mining is Complete, We will Leave the Land in a Condition Equal To or Better Than We Found It.”

- Peabody aspires to be a strategic energy partner to Asian governments and communities
- We seek to forge cooperation throughout Asia on the basis of safety and sustainability
- In Indonesia, Peabody’s team coaches employees of transaction partners in improving safety in various areas
- Ensuring that health, safety and environmental impacts are addressed

55km haul road construction well underway with corrugated and box culverts for water drainage

Improving bridge and overpass infrastructure in Indonesia through new construction
Supercritical Technology
Being Deployed Globally

China Houses 40% of the World’s Advanced Coal Fleet

Technology Achieves One-Fifth the Average Emission Rate of Existing U.S. Coal Fleet and Lower CO₂ Emission Rate

Supercritical and ultrasupercritical operating plants and plants under construction.
Peabody Plan: Leadership to Advance 3Es

Five Key Steps to Alleviate Energy Inequality

- Ensure at least half of new generation from coal
- Replace older coal plants with supercritical plants
- Develop 100 CCS projects in a decade
- Deploy coal-to-gas, coal-to-chemicals, coal-to-liquids
- Commercialize near-zero emissions technology
Key University Partnerships
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