



# ***Energizing***

***The World One BTU At A Time***

## **U.S. China Fossil Energy Industry Forum**

***Martin Considine  
Vice President  
Btu Conversion***

***July 19, 2012***

**Peabody**  
ENERGY

# The Global Coal Supercycle: Fundamentals Remain Strong

- Global supercycle alive and well
- Demand growth significant, supplies constrained
- China coal use and imports escalating
- India emerging as next major growth center
- Other nations represent additional upside
- Coal: The world's fastest growing major fuel





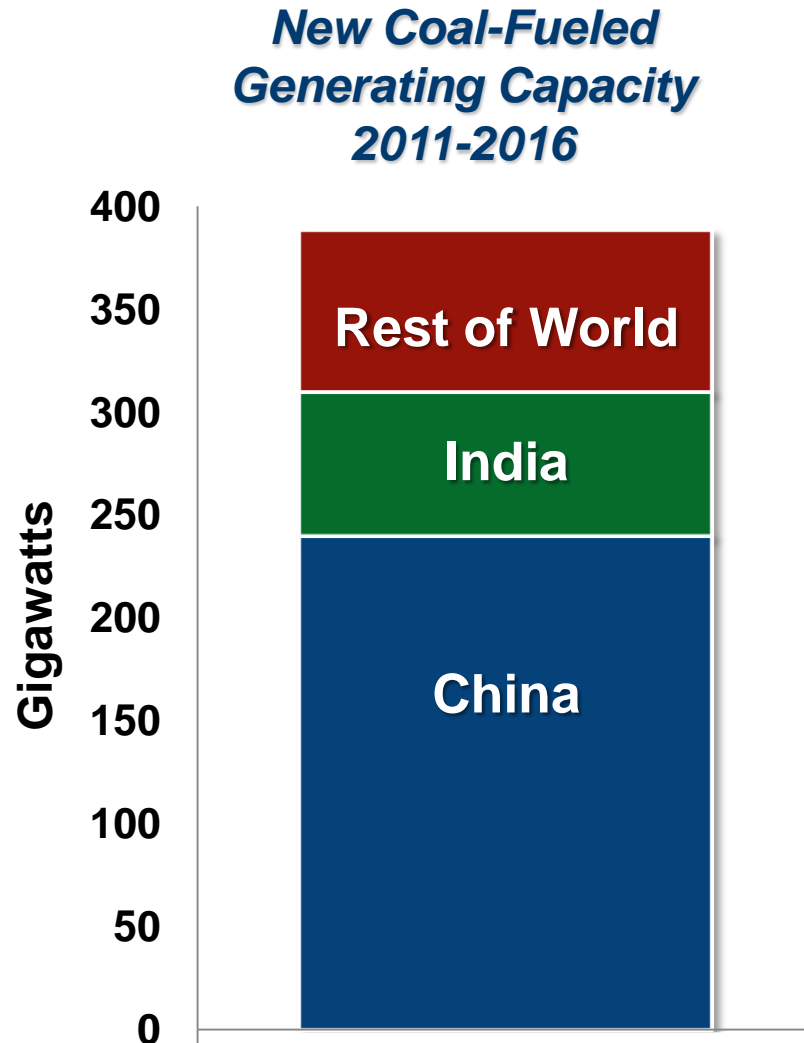
# Global Coal: Variability But Solid Underlying Fundamentals

## *Trends: Rising Global Coal Demand from Record Levels*

- Emerging record coal demand in China and India even assuming easing GDP growth rates
- Unprecedented global urbanization; Record new generation and steel production
- Imports comprise rising share of China, India coal supplies
- Shortages of met coal

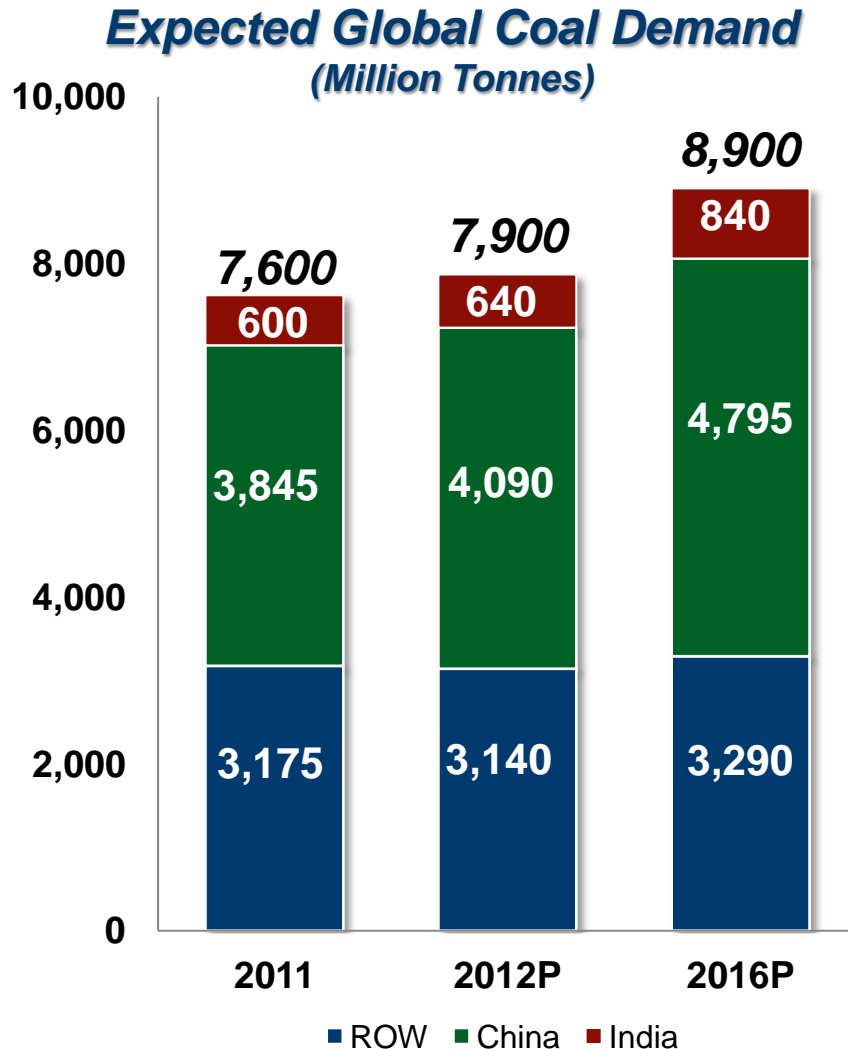


# Major Markets: New Coal Generation Drives Thermal Coal Growth



- Coal-fueled generation expected to grow 385+ GW by 2016
- Additional 1.3+ billion tonnes of coal demand anticipated over time
- Vast majority of growth in China and India, driving higher seaborne demand
- 75 GW of coal growth in other Asian nations and rest of world

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

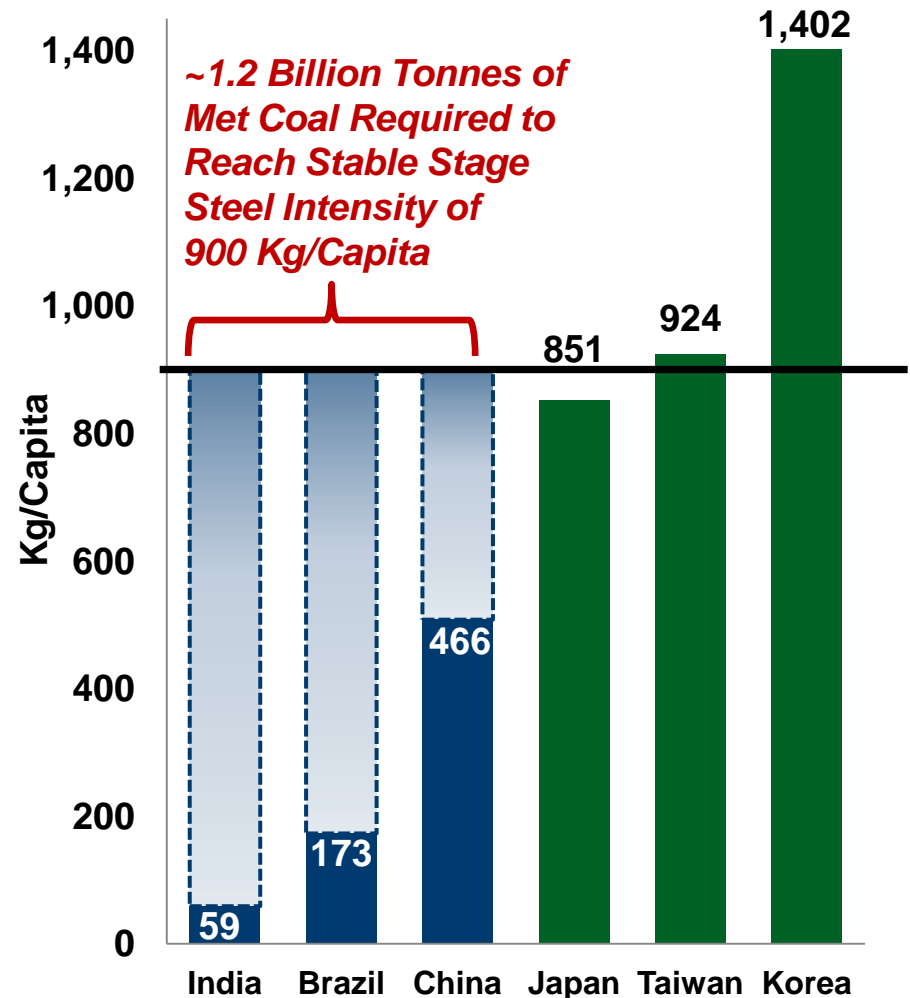


- Volume growth expected to exceed last five-year increase in global demand
- More than 90% of global demand growth in China/India
- Rising share supplied by seaborne markets

# Major Markets: Industrialization and Urbanization Drive Steel/Met Coal Growth

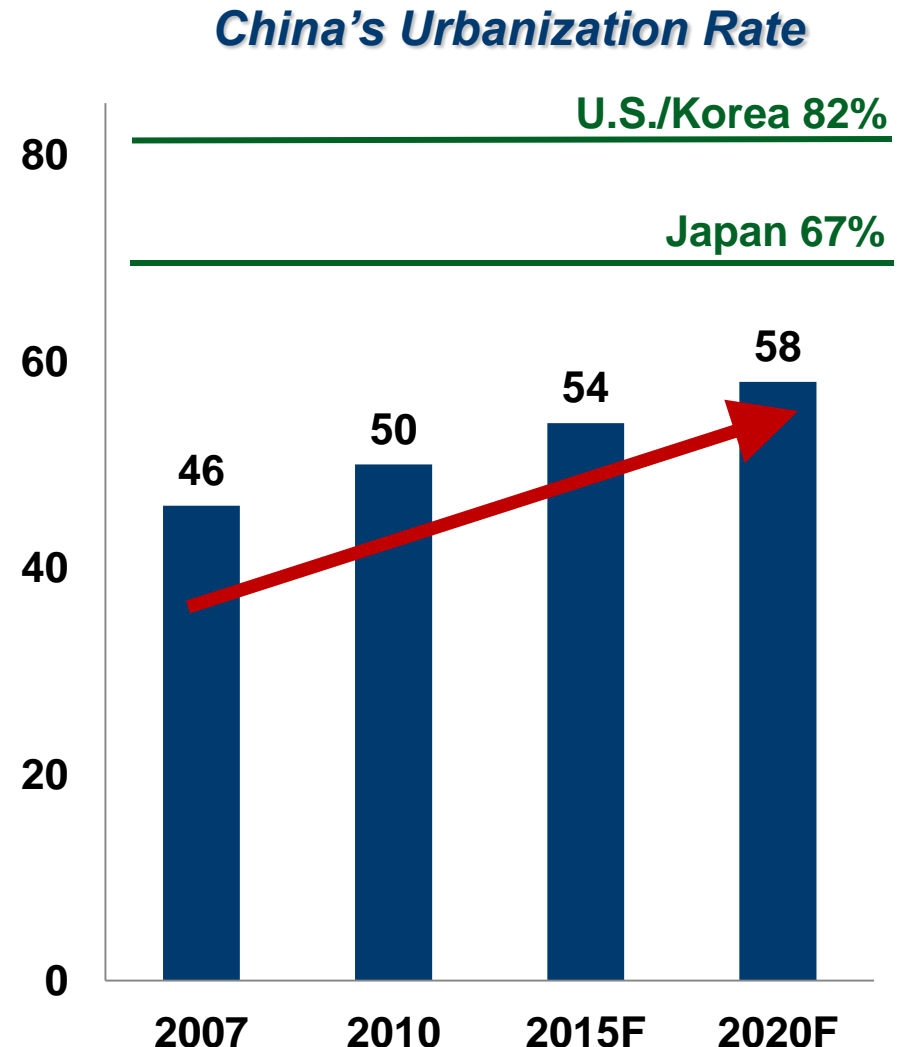
- Significant steel increases required to reach levels of developed Asia economies
- Stable stage intensity may take 20 – 40 years to reach
- Countries to rely on imports for met coal needs

**2011 Steel Consumption Per Capita**



# China's Urbanization Rising Yet Still Far Below Other Developed Countries

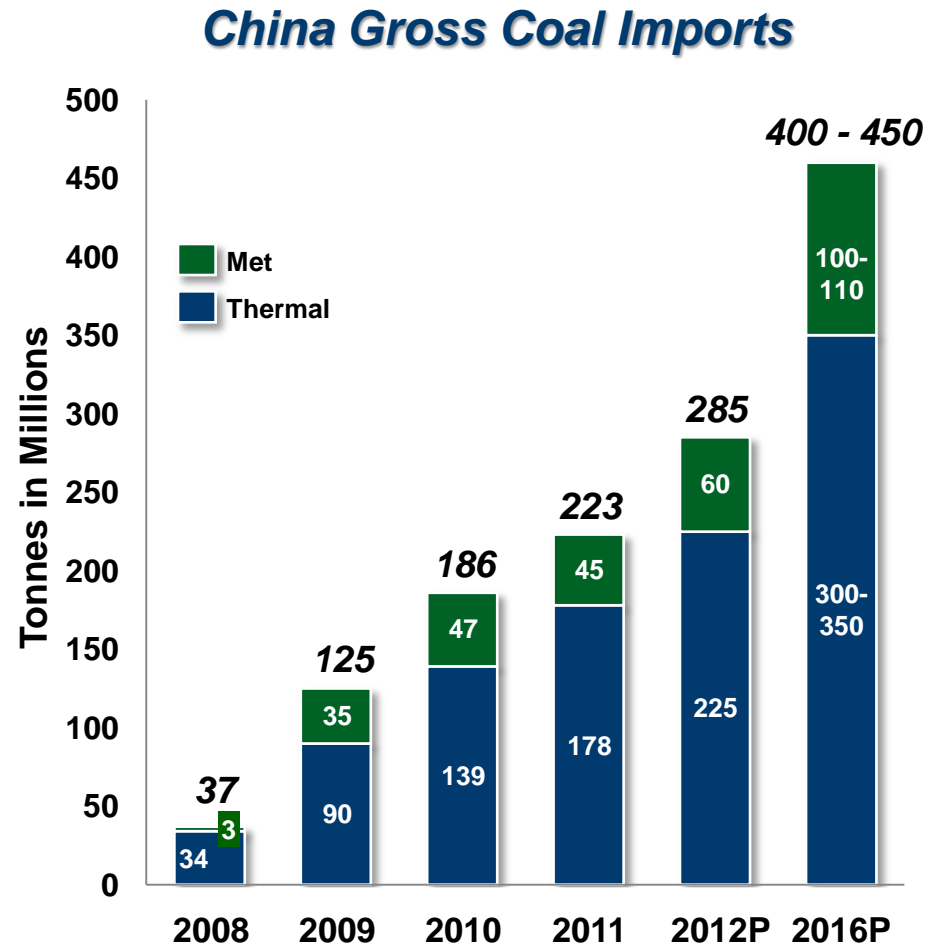
- Greater urbanization to drive construction and manufacturing, which account for nearly 80% of China's steel use
- Each 10% increase in urbanization = ~140 million moving to cities
- Projections include five-year growth of:
  - Floor space: +70%
  - Auto sales: +40%
  - Ships: +100%
  - \$1 trillion investment in key rail and power sectors



# China Coal Imports Expected to Double by 2016

## *Raising 2016 Projected Coal Imports to 400 – 450 Million Tonnes*

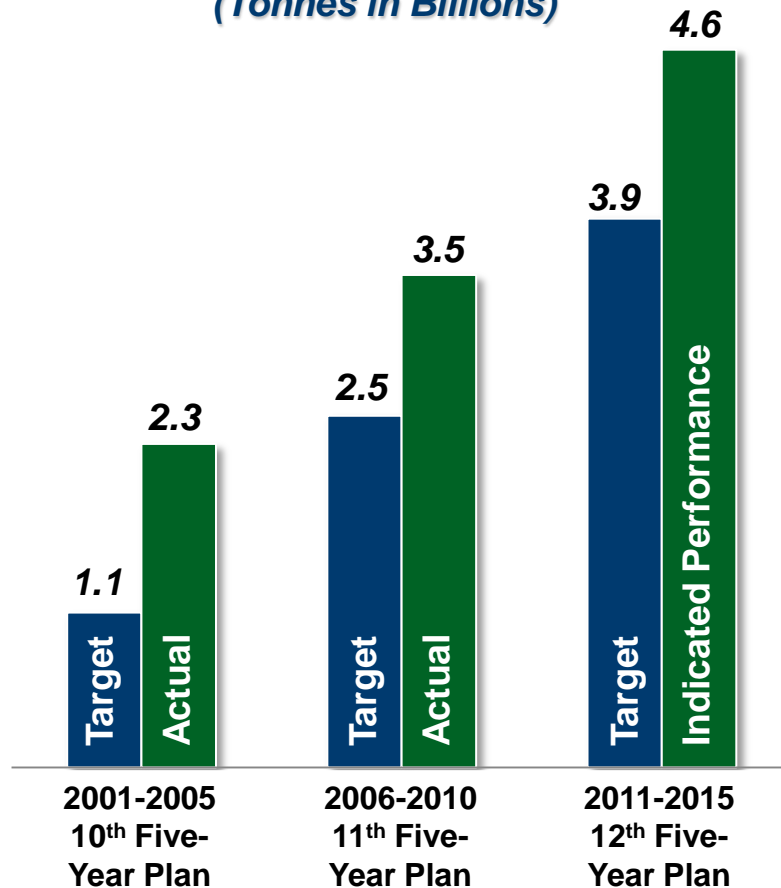
- 2011 coal imports rise 20% to record 223 million tonnes
- Gross coal imports up 68% YTD 2012
  - Met coal imports up 34% YTD
- Imports expected to be 400 – 450 million tonnes per year by 2016





# China Coal Use Consistently Exceeds National Targets

## *China Annual Coal Use for Last Year of Plan (Tonnes in Billions)*

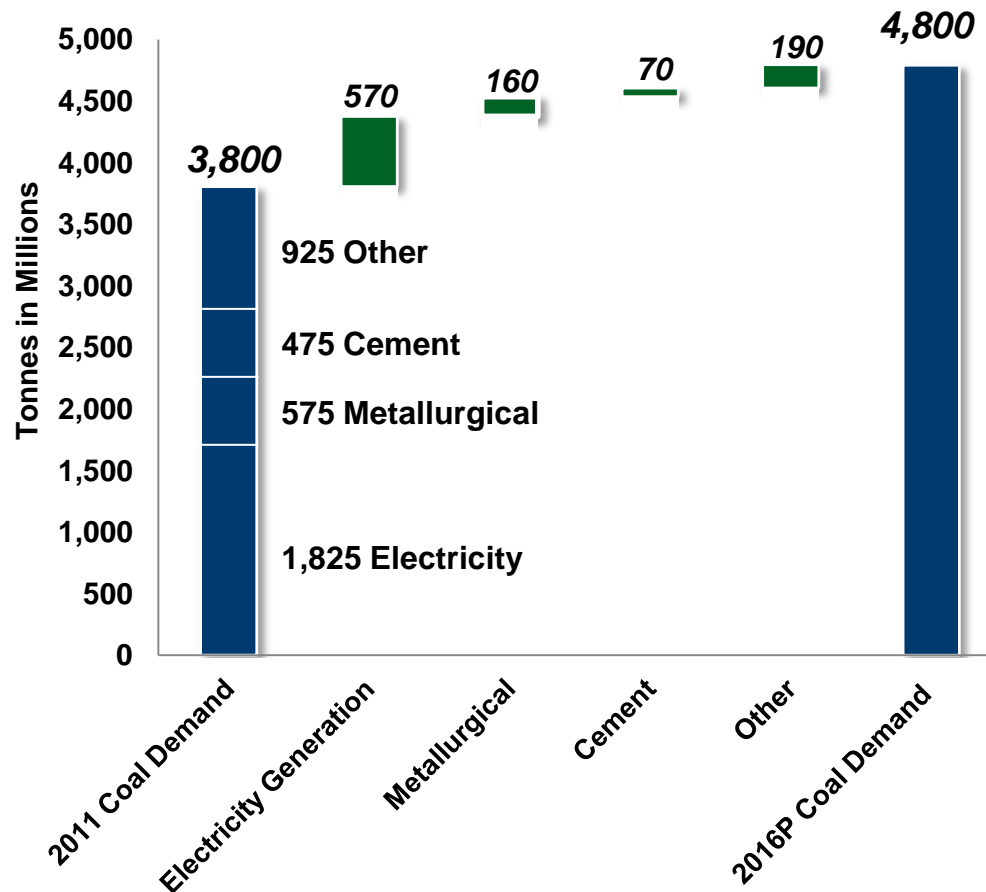


- New stimulus move to add more steel capacity
- 240 GW of coal-fueled generation coming on line in next five years
  - Represents >800 MTPY of thermal coal use over time
- 2011 coal consumption already 3.8 billion tonnes
- New Five-Year Plan encourages imports for first time

# China Coal Demand Expected to Grow ~1.0 Billion Tonnes by 2016

## Electricity-Driven Growth

### 2011 vs. 2016 Expected Demand



- 50 GW of new coal generation coming on line in 2012
- Expect ~240 GW of new coal generation by 2016
  - Every 1 GW of coal requires 3.5 MTPY at full capacity
- Expected 2016 total China demand: 4.8 billion tonnes

# China Leads Global Technology Path With GreenGen

## *GreenGen: Among World's Largest Near-Zero Emissions Coal Plants*



**Control Room at the GreenGen Plant  
Tianjin, China**

- Peabody only non-Chinese partner in GreenGen
- Multi-phase power project with carbon capture and carbon research center
- First 250 MW unit commissioning under way
- Expected to be fully commercial any day now



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