Changes In U.S. Coal: Global Implications

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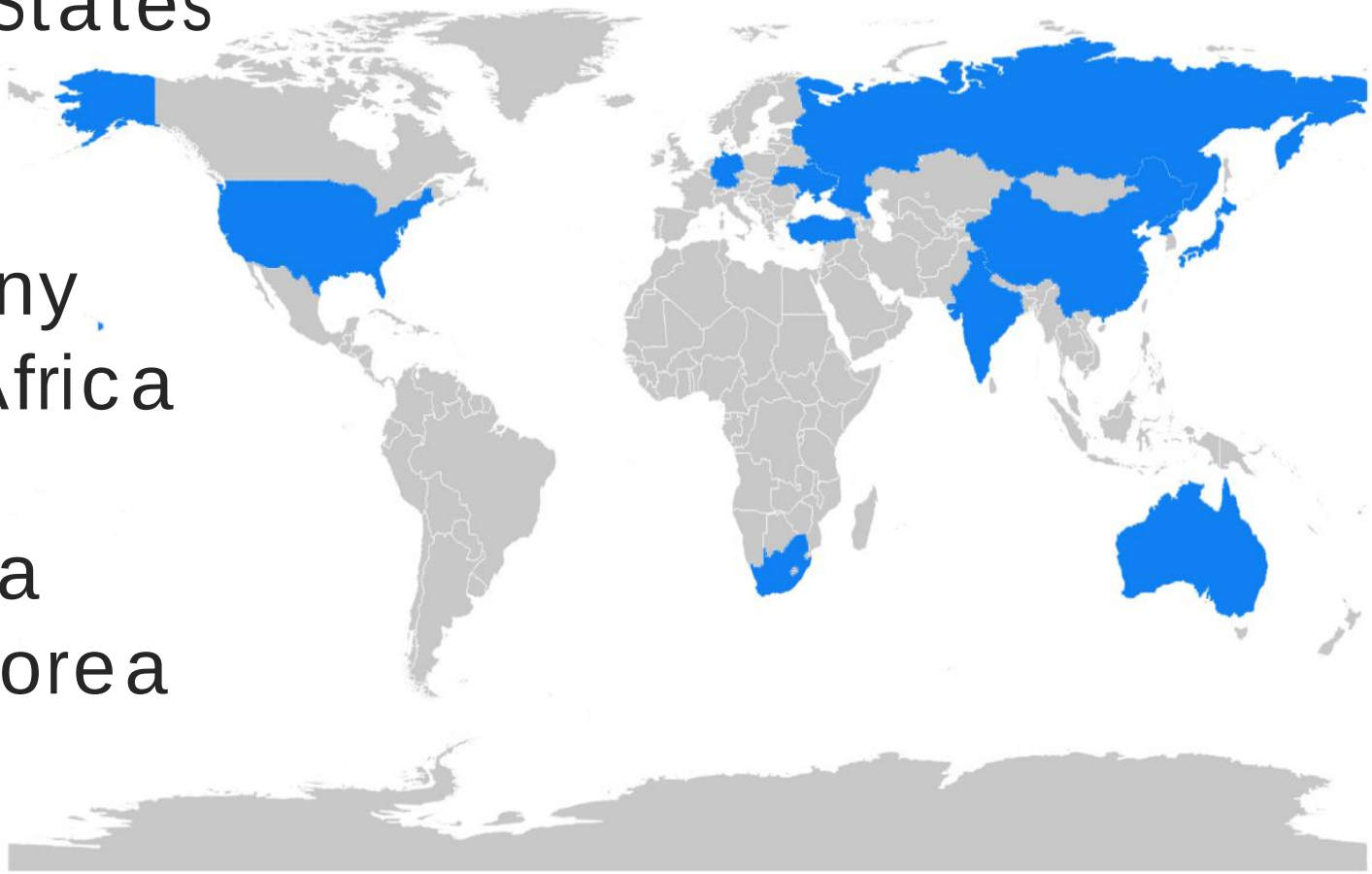
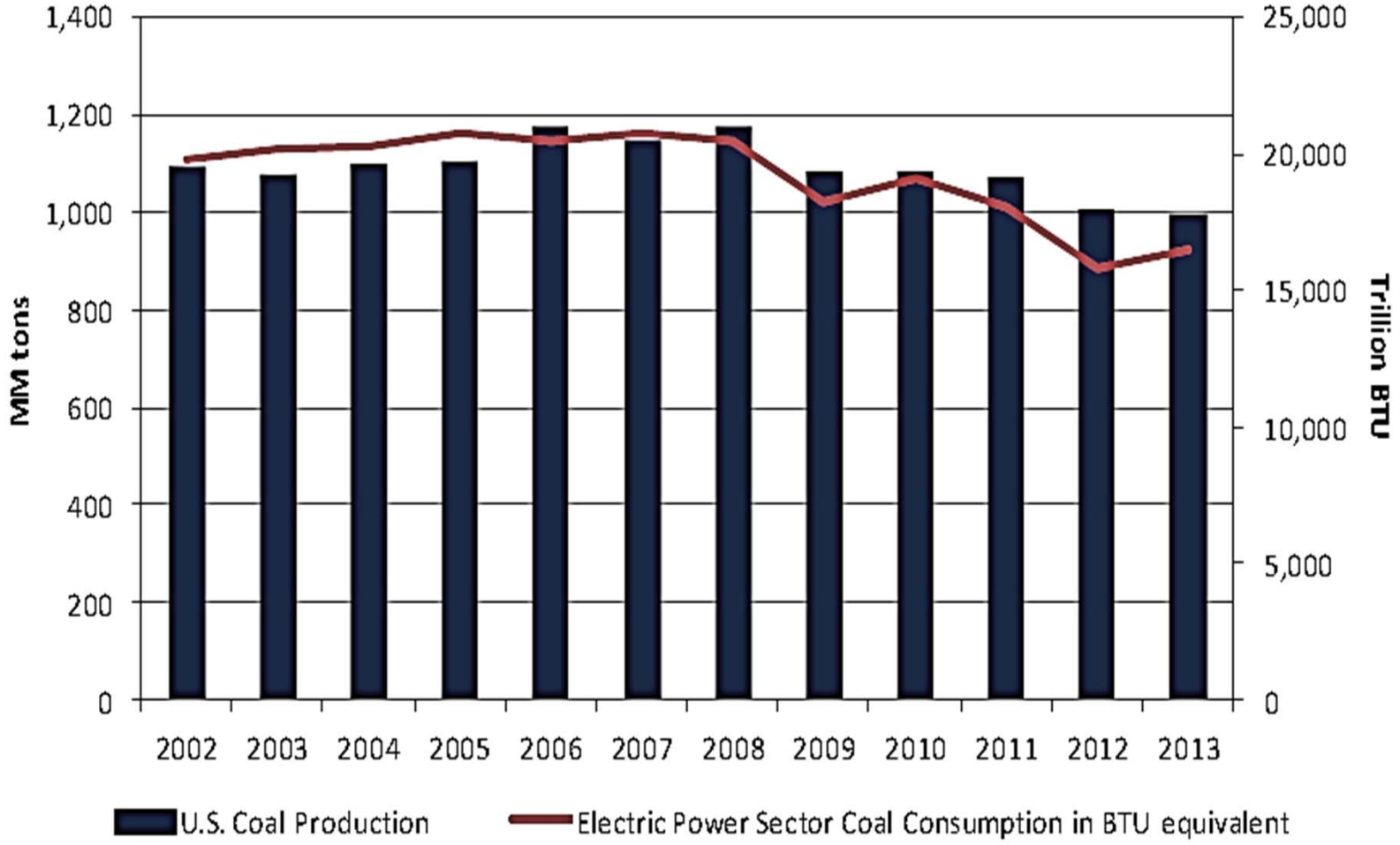
Major Global Coal Consumers

China
United States
India
Russia
Germany
South Africa
Japan
Australia
North Korea
Ukraine
Turkey



U.S. Domestic Thermal Coal Business Has Not Been Growth Story



Source: McCloskey Coal Report and EIA.
Note: 2013 Electric power sector coal consumption is annualized based on first 10 month consumption in 2013.

U.S. Changes

Why did coal have 50% of market share in the US?

- Abundance/reasonable mining costs – led to political protection
  - Natural gas, nuclear, hydro, renewables not competitive
- Incentives debt, taxes, low regulation on pollution, energy policy at state and federal levels
- Costs and risks distributed through system in alignment with overall growth
  - Steady, stable, modest profits fit with steady, stable rise in income and business growth

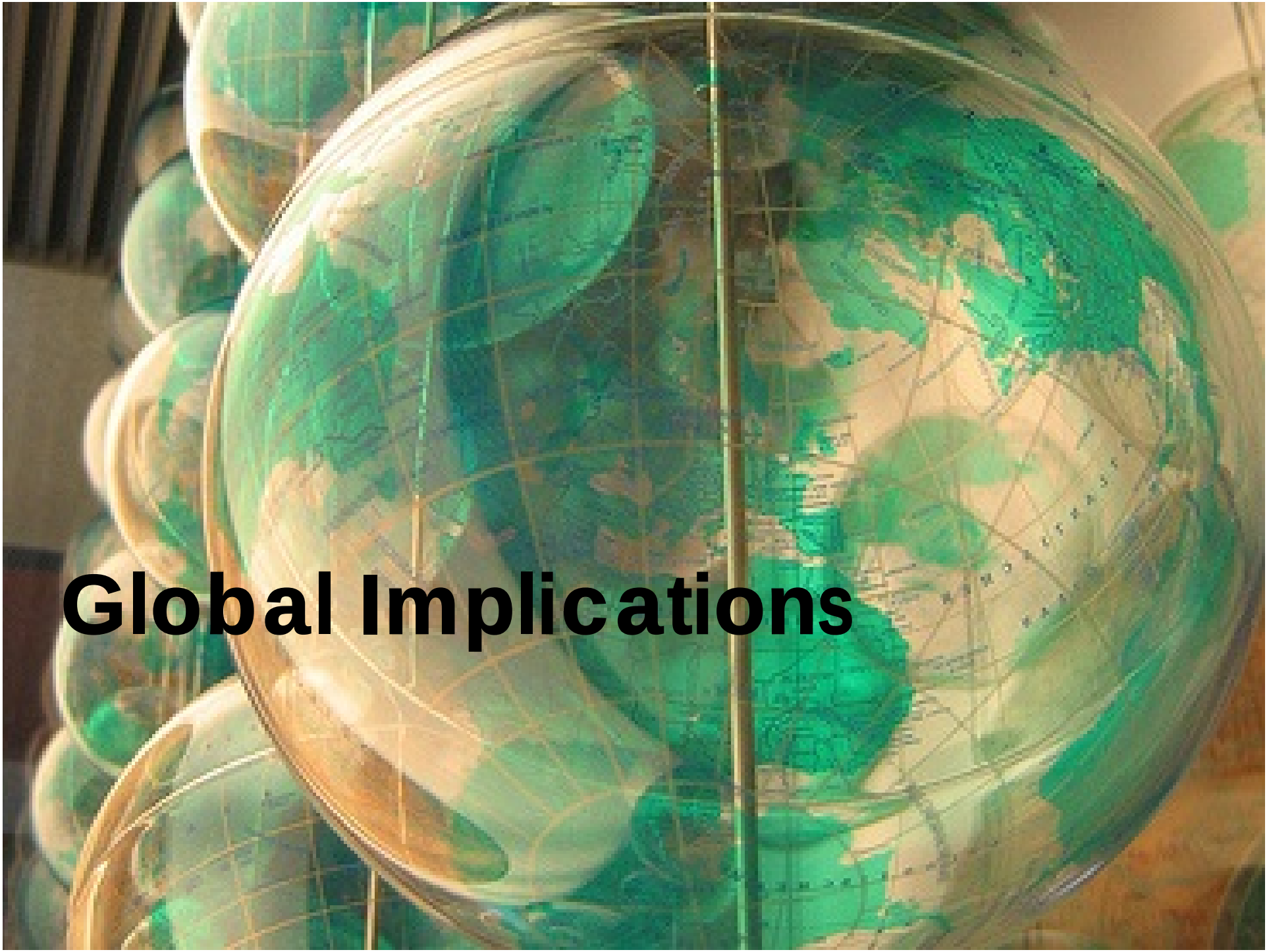
Current 41% of market, estimated 16% of market – 2036
(Black and Veatch)

Why?

Natural Gas, Renewables and Efficiency, Change in Economy (Less Demand)

U.S. Changes

Policy and Generation Choices Going Forward


Global Implications

Global Implications

- U.S. and China will continue to burn coal
- U.S. and China consumption will decrease
  - Contradictory trends: political and economic
- Different paths/same destination – less coal

Message:

Two largest economies in world, who burn the most coal, are moving away from it

Global Implications

Industry debt is unmanageable

- Since 2009 over $60 billion across the world in expensive acquisitions.
- Prices have all but collapsed. Assets fail to produce value.

Chinese debt work-out over the next few years

- Significant coal component related to mining and power plants

Message: Coal industry poorly positioned as partner in new investments.

Global Implications

Individual Coal producers – lost value in coal sector

Coal power generation is in trouble

Message:

Strong companies today face lagging profits with coal investments, weak companies today burdened with legacy debt, coal, and non-coal

14th Annual Coaltrans USA

Coaltrans Conferences
www.coaltrans.com

Mining/Coal Equity Market Capitalizations Have Taken a Beating – 2011 vs. Today

BHP Billiton

2011 Market Cap of: $193,139.4 MM

2013 Market Cap of: $153,664.3 MM

Vale

2011 Market Cap of: $134,149.5 MM

2013 Market Cap of: $62,997.3 MM

Rio Tinto

2011 Market Cap of: $121,969.7 MM

2013 Market Cap of: $97,621.7 MM

Angelo American

2011 Market Cap of: $58,943.8 MM

2013 Market Cap of: $29,352.4 MM

Glencore Xstrata

2011 Market Cap of: $46,411.5 MM

2013 Market Cap of: $35,672.5 MM

Teck Resources

2011 Market Cap of: $25,886.2 MM

2013 Market Cap of: $13,707.8 MM

Peabody

2011 Market Cap of: $10,264.9 MM

2013 Market Cap of: $4,437.2 MM

CONSOL Energy

2011 Market Cap of: $8,626.6 MM

2013 Market Cap of: $8,708.8 MM

Arch Coal

2011 Market Cap of: $2,997.2 MM

2013 Market Cap of: $0,897.3 MM

Alpha Resources

2011 Market Cap of: $4,103.3 MM

2013 Market Cap of: $1,184.3 MM

Walter Energy

2011 Market Cap of: $4,619.2 MM

2013 Market Cap of: $0,679.5 MM

Patriot Coal

2011 Market Cap of: $0,825.2 MM

Cloud Peak

2011 Market Cap of: $1,199.4 MM

2013 Market Cap of: $1,181.0 MM

James River

2011 Market Cap of: $228.5 MM

2013 Market Cap of: $22.5 MM

Source: FactSet.

Global Implications

Use of coal raises price of power

- Coal investment is costly
- Development goals: raise GDP, wages and decrease poverty. Reluctant to raise power prices.

Potential for alternatives, lower prices are economic incentive

- U.S. shale gas
- World renewables market

Message: New energy investments can be competitive/profitable, protect environment and stabilize prices.

Global Implications

A reconsideration of subsidies

- IEA work on fossil fuel subsidies
  - Unsupportable fiscally
  - Harms competition
  - Disproportionate benefit to rich and middle class
  - Inefficient antipoverty tool
  - Undermines environmental goals

Message: Subsidies for coal no longer ensure affordability, reliability and profits in face of changing markets. Continue to undermine environmental goals.

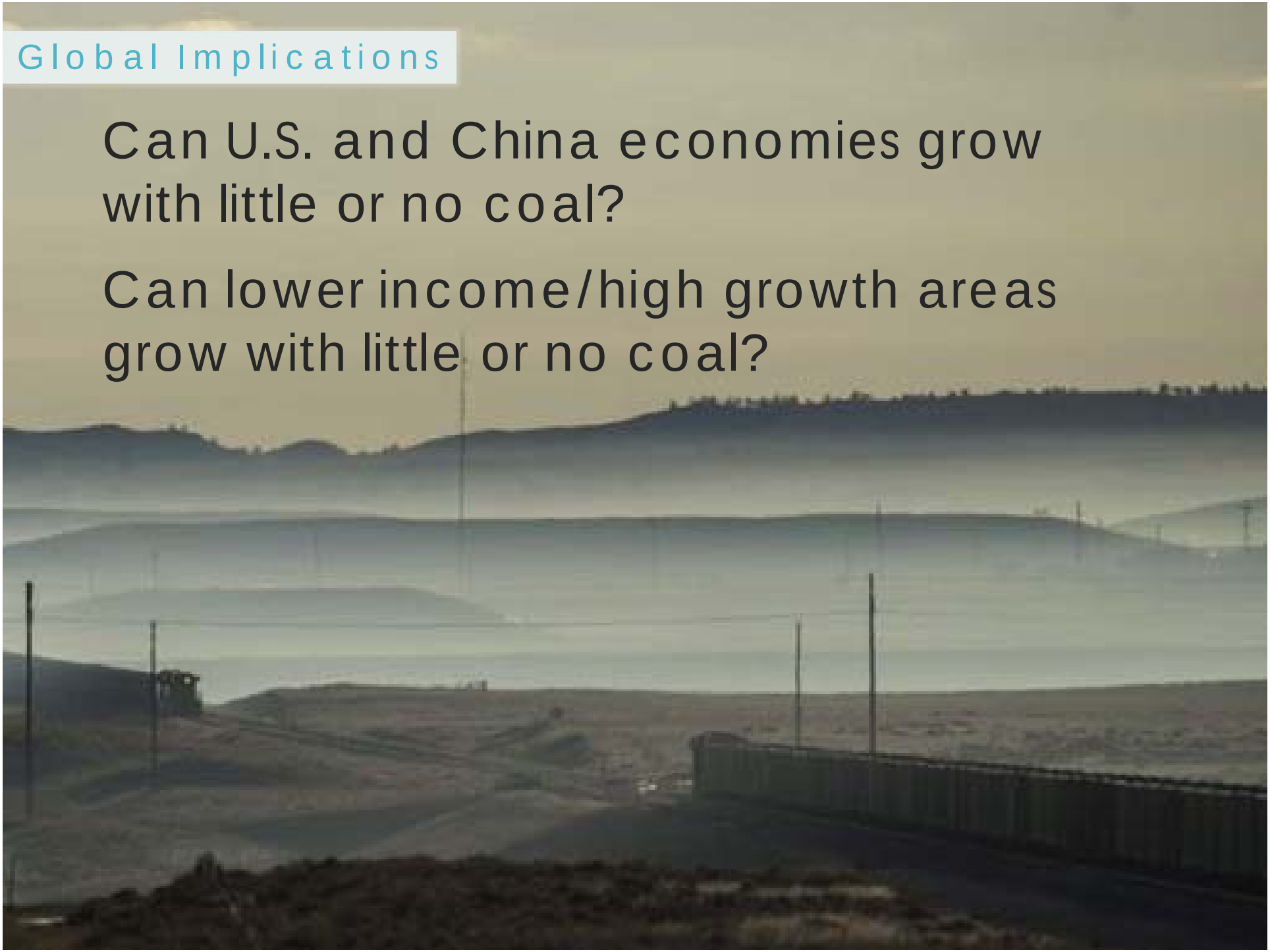
Global Implications

Renewables and Efficiency

- New markets take time – a ‘multi-speed’ world
- Subsidies are political choices
- European: German utility opposes renewables
  - Business harm: wholesale prices/scarcity investing
  - Loss of valuation
- U.S. losses on renewables pale against FF losses (Solyndra vs. USDA write offs)
  - Market losses at Energy Futures Holding – almost $20 billion

Message:

In the end renewables win on dollars. Getting to end. Constant battle.



Global Implications

Can U.S. and China economies grow with little or no coal?

Can lower income/high growth areas grow with little or no coal?

Growth Hasn't Translated Into Higher Valuations

U.S. Coal Relative Valuation Were Among Last in Class

Global Implications

Will diminished demand for coal drive down prices and make it attractive to China and U.S. again and to Turkey, Vietnam, Korea, Japan, India, Europe?

- Different markets and politics
- Competition, and increasingly policy choices, are forcing coal prices down
- Market price for coal is a disincentive to new mining and plants –it's not worth it at low power prices
- Coal plant and mine investments are capital intensive, large amounts of debt
    - Rising production costs are problem everywhere
- Pollution and climate change pushing capital further away

Message: Coal is not cheap. Risks cumulative. Industry shrinking. Finance and policy response – weak and ineffective. But....