

# View from the Street: North American Natural Gas Outlook

2011 IPAA Mid-Year Meeting

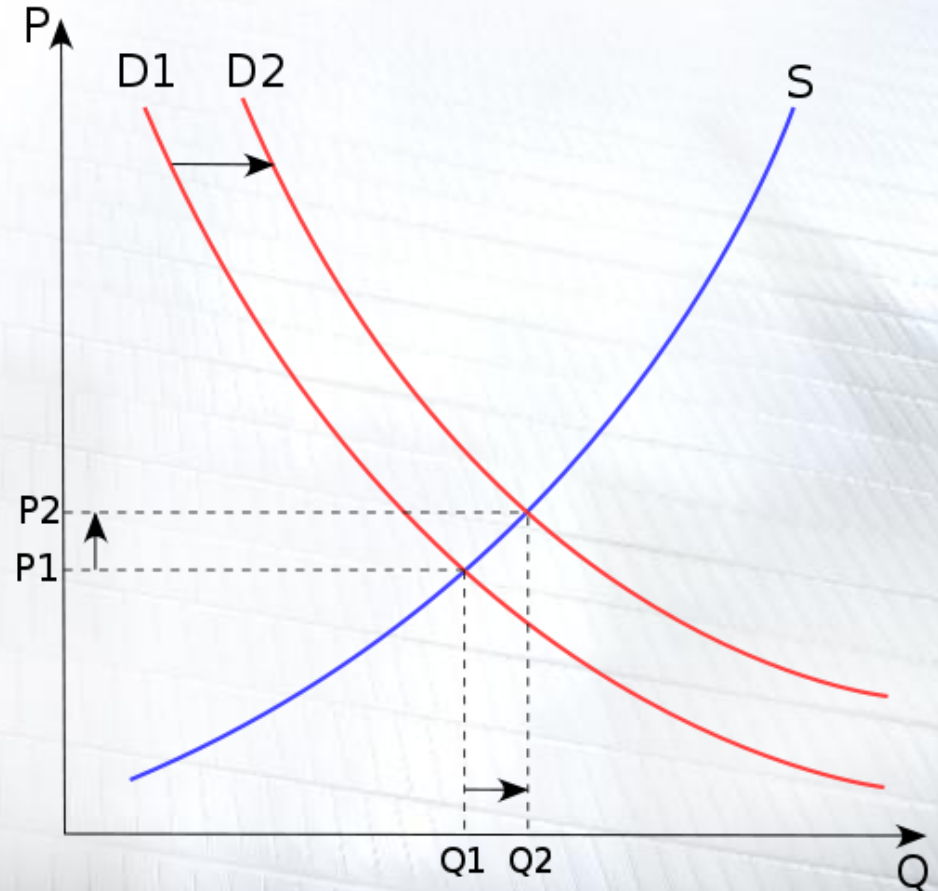
Keith Barnett



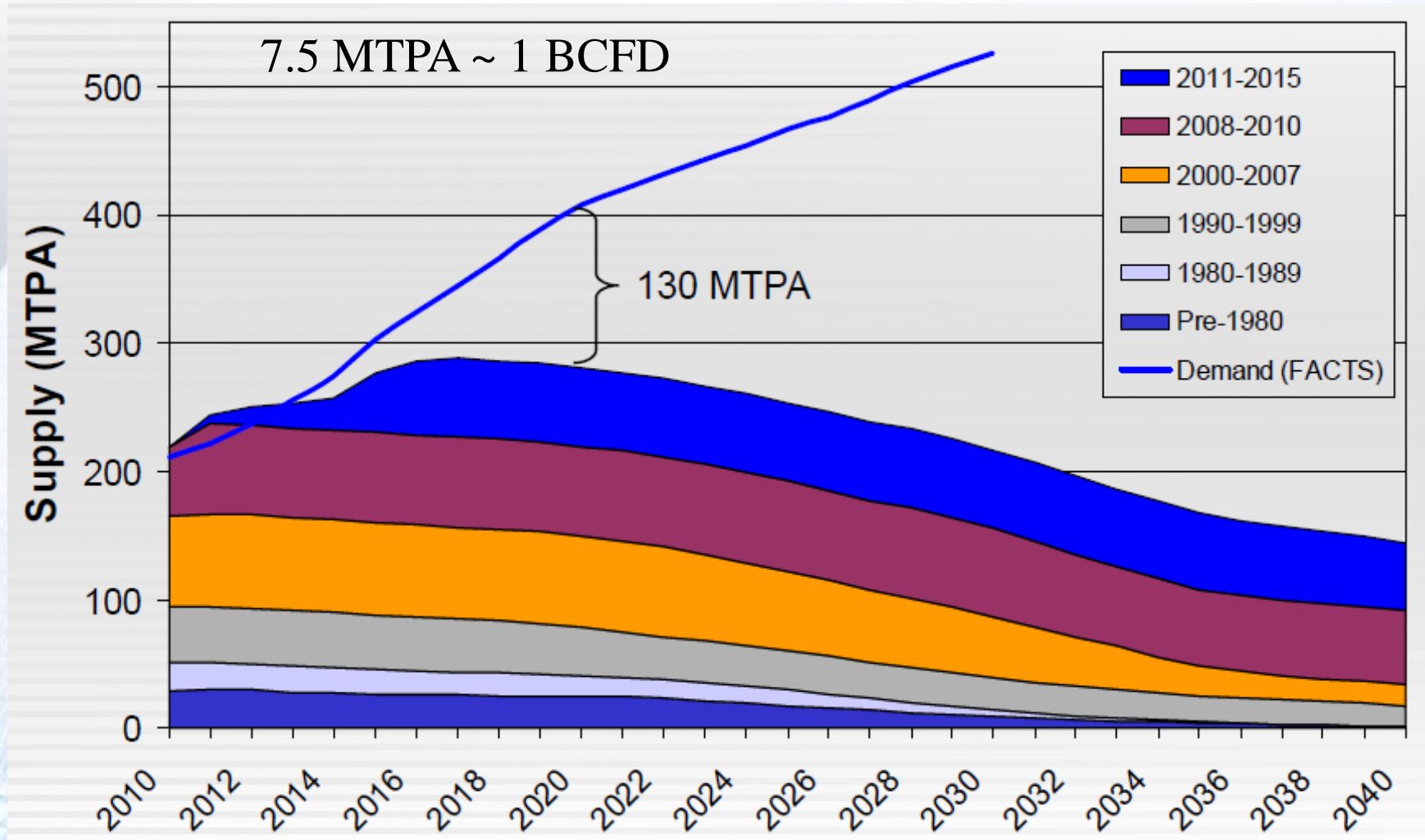
# Classic Conundrum: Supply / Demand and Price

Between 1999 and 2007 supply was constrained and price allocated gas between industrials and power generators

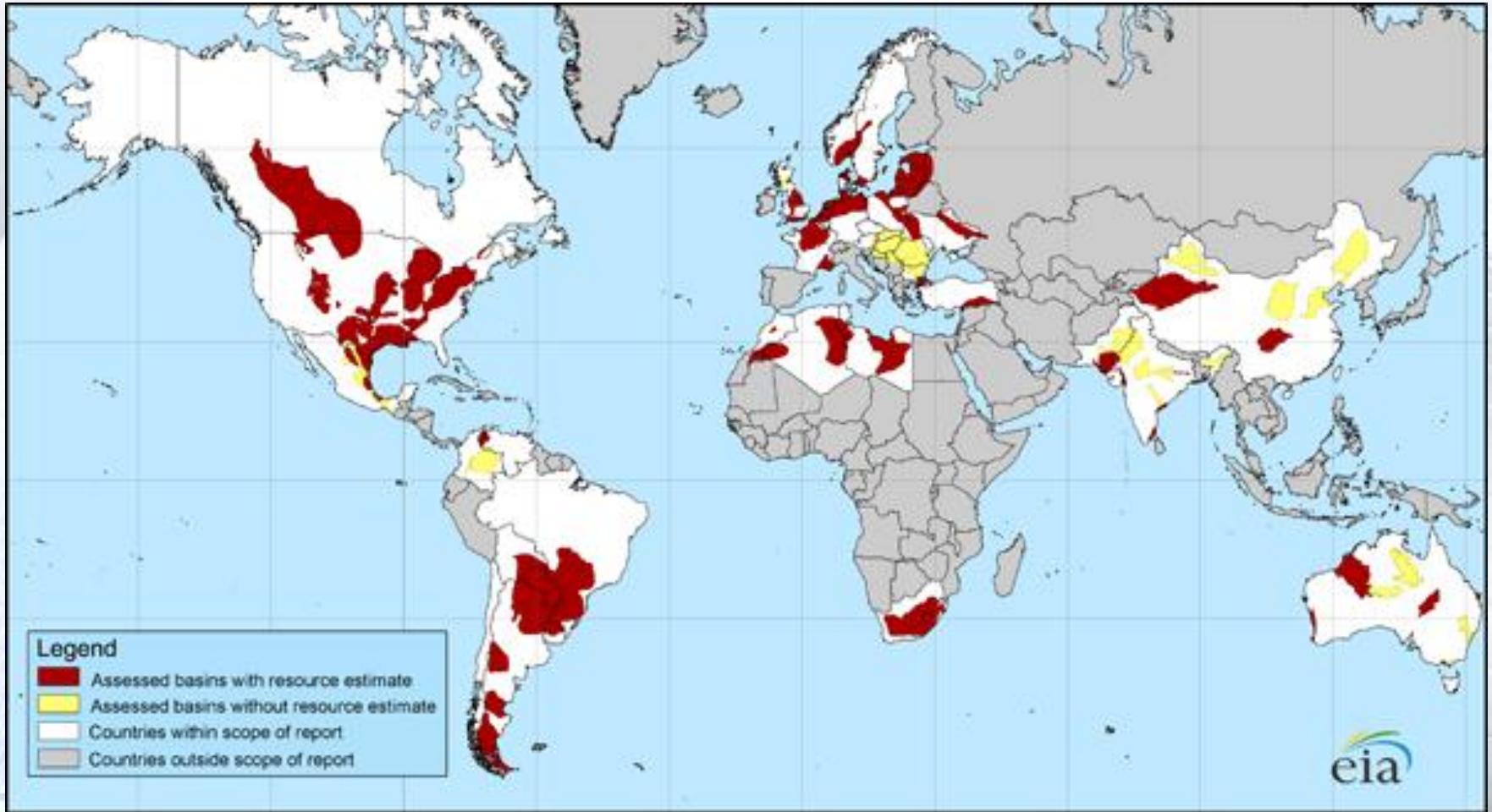
Hydraulic fracturing technology unlocking the unconventional resources (shale and tight sands) has flattened the supply curve and completely altered the S&D balance making it almost as loose as the period known as the “Gas Bubble” or “Gas Sausage” since it lasted from 1983-1997



# Global Natural Gas Supply / Demand Balance



# Global Natural Gas Unconventional Resources

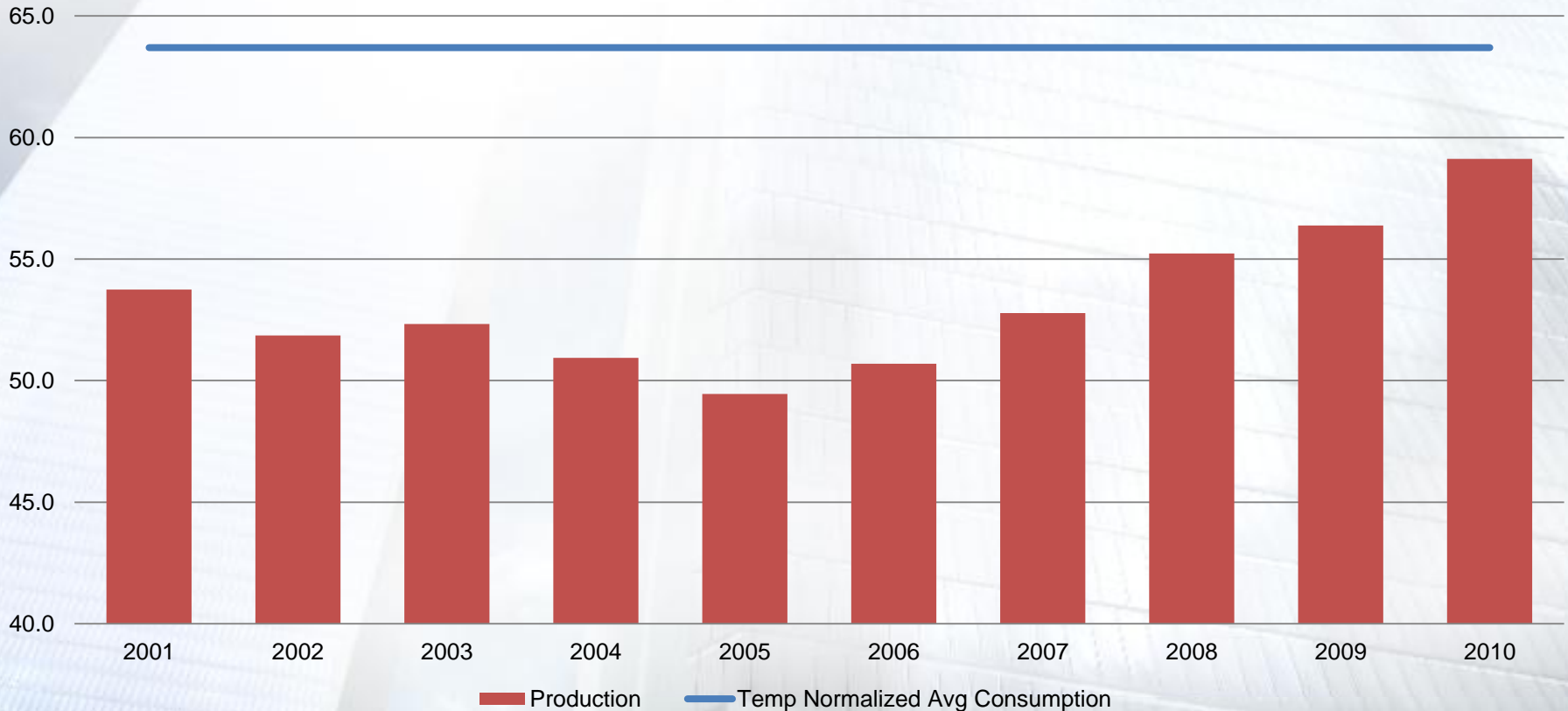


# North American Unconventional Resources



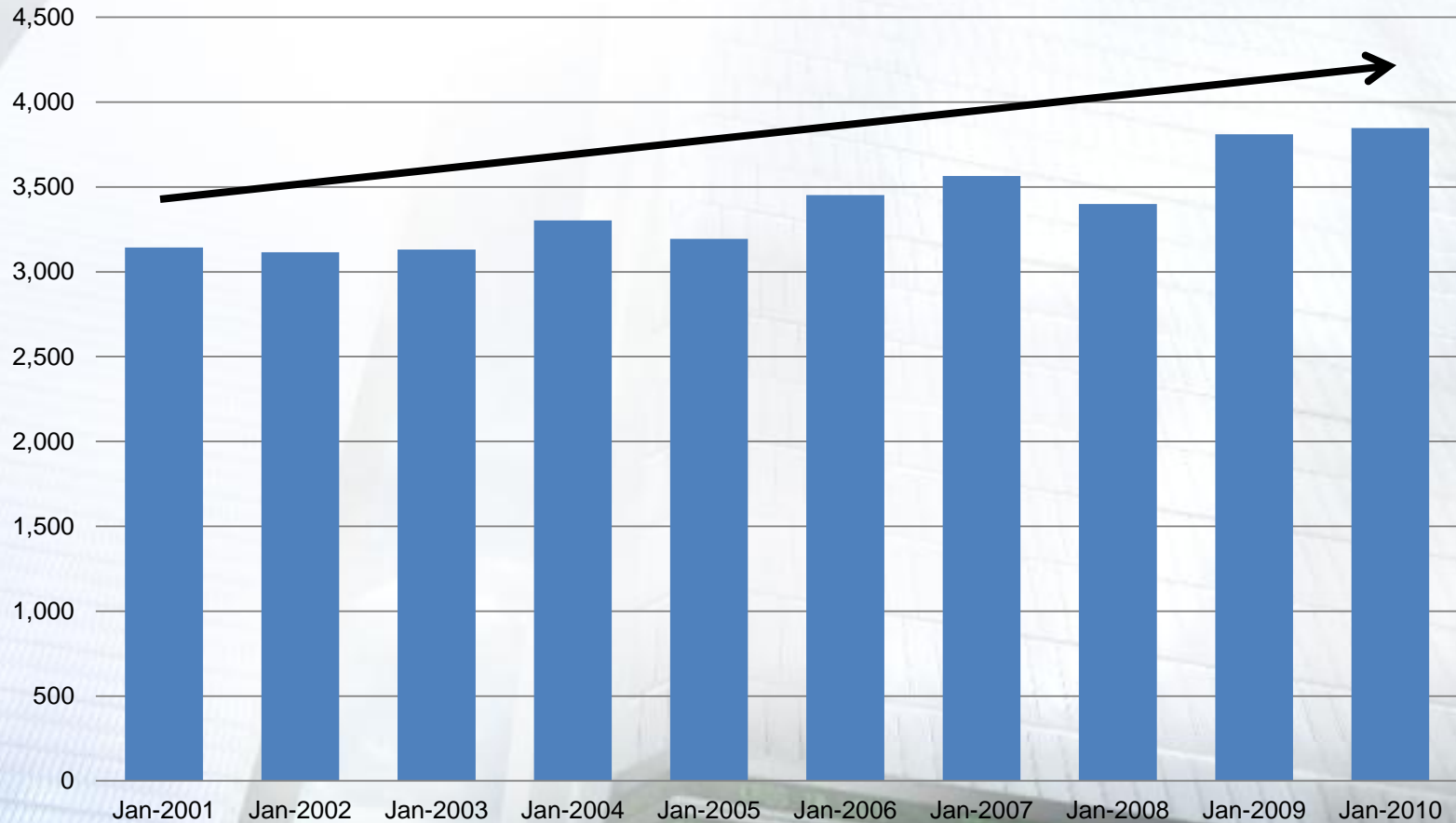
# U.S. Natural Gas Supply / Demand Balance

## U.S. S&D (BCFD)

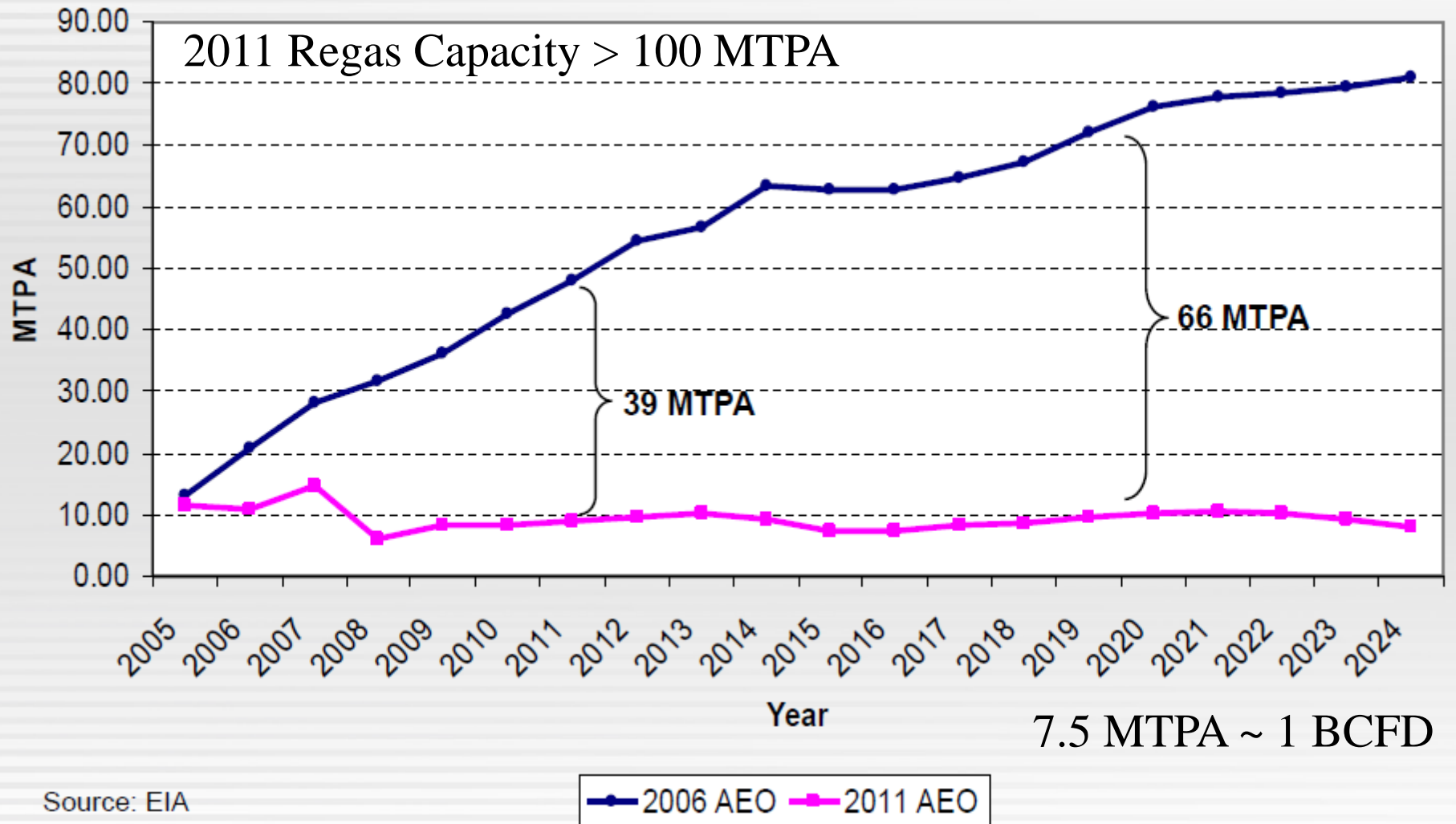


# Natural Gas Storage is Over Built

## Working Gas Inventories (BCF)

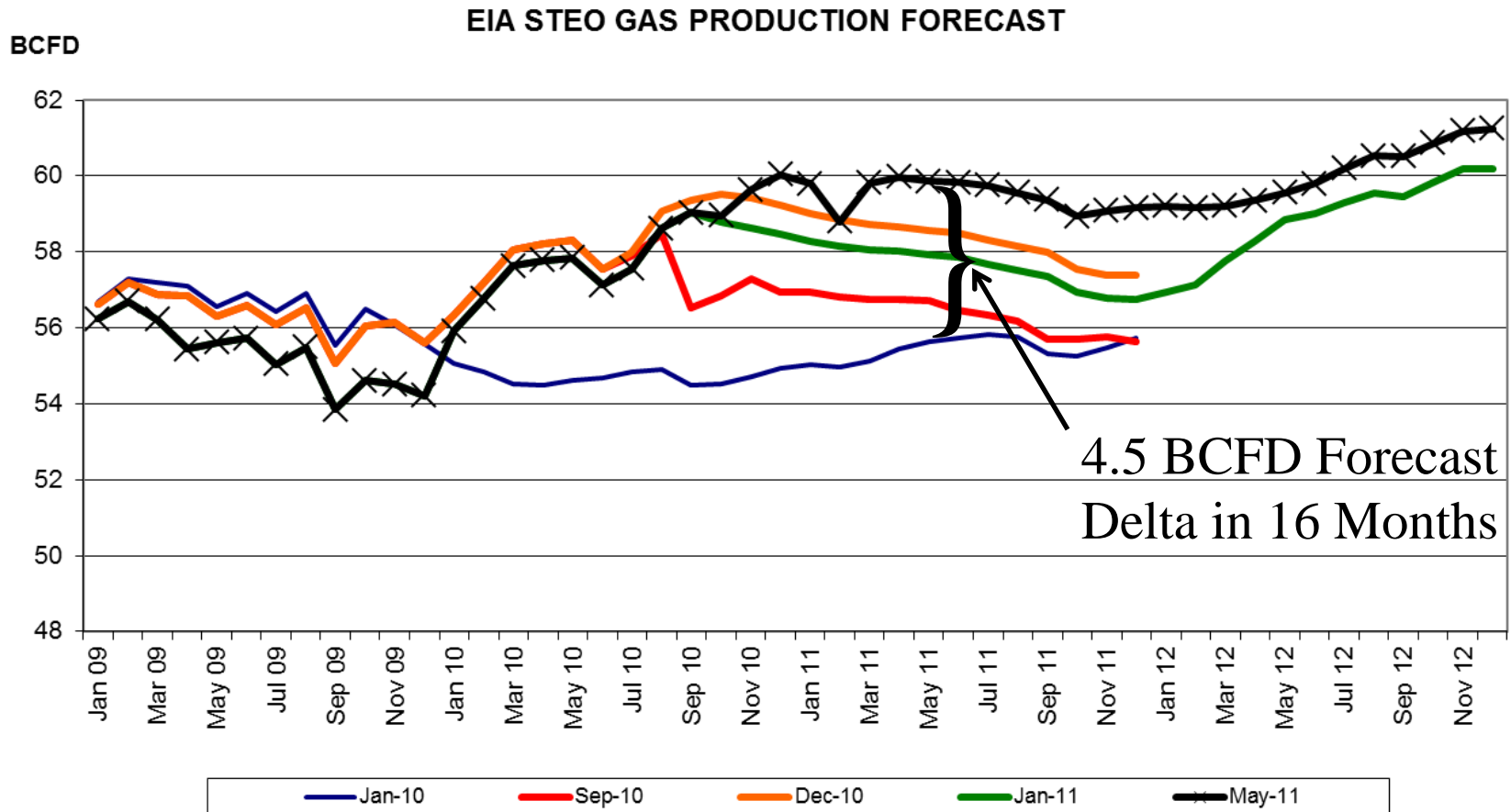


# USA Importation of LNG: Busted by Shale

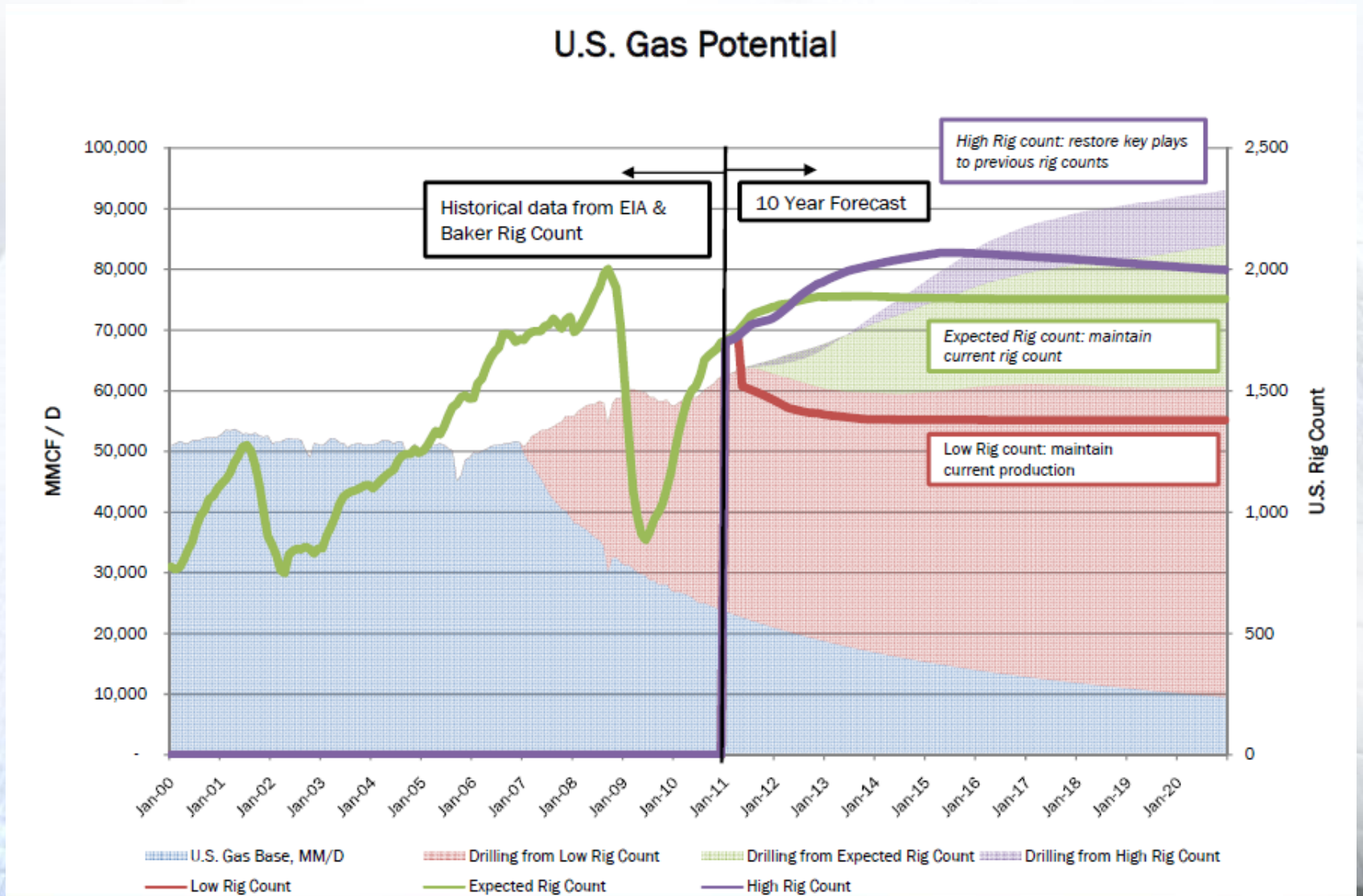




# North American Natural Gas Production



# Potential Range of U.S. Production



# North American Gas Production: A Better Way

Testimonial: "We have found Spring Rock's production forecasting and analysis to among the best natural gas trading tools available. The combination of their background in the field and on the trading floor provide them with a unique understanding of production as well as an extensive list of contacts which they use to quickly identify emerging trends in this arena." US-Based Multinational Investment Bank



**[Info@springrockproduction.com](mailto:Info@springrockproduction.com)**

Testimonial: "We spent a good amount of time comparing Spring Rock's production sample to their competitors; it's the best, by far." A Large Energy-Focused Hedge Fund

# Price Outlook and Financial Implications

- Survey of Analyst
- 2011
  - Range: \$3.75 - \$5.40
  - Median: \$4.50
  - Current Strip: \$4.58
- 2012
  - Range: \$4.00 - \$6.50
  - Median: \$4.95
  - Current Strip: \$5.17

- Grant Thornton E&P Survey
  - Over 100 companies
  - 65% private
  - ~\$700 million avg. assets

Year	Natural gas	Crude Oil
2011	\$4.35 per Mcf	\$85.25 per barrel
2012	\$4.85 per Mcf	\$90.33 per barrel
2013	\$5.29 per Mcf	\$94.21 per barrel

Figure B: Bond offerings for U.S. E&P companies



# How to Balance the Market

## Grow Domestic Demand

- Electric power demand growth
- Retirements of coal plants (25-70 GW range of estimates)
- Renewal of petrochemical industry growth
- Revival of overall economic growth

## Export via LNG

- Sabine Pass – 2 Bcfd
- Freeport – 1.4 Bcfd
- Lake Charles – 2 Bcfd
- Kitimat, Canada – 0.7 Bcfd
- Cove Point
- Jordan Cove
- Oregon LNG

# What are the Risks?

- Financial Market / Analysts and some consumers are focused on environmental risks associated with hydraulic fracturing
  - Marcellus play has highest exposure
    - River Basin Commissions on the eastern edge; growing public involvement in permitting and site prep activities
  - Some negative news story or protest continuously appears
  - Film on GMAIL banner: Shale Gas and America's Future produced by American Clean Skies
- Is it merely a cost issue or will supply be impacted with moratoriums and acreage put off limits?

# Summary and Conclusions

- Shale and other unconventional gas resources have changed the game in North America, but may have a harder time being developed across the globe
- Gas prices are high enough to grow production, but market is loose enough it does not want more gas; something has to give in 2012-2014
- Producers focus on oil and liquid plays might begin to reduce gas production, but more likely it will continue to squeeze gas margins by keeping drilling and service costs higher

# Disclaimer

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