



ConstellationSM

An Exelon Company

Market Conditions Impacting Natural Gas

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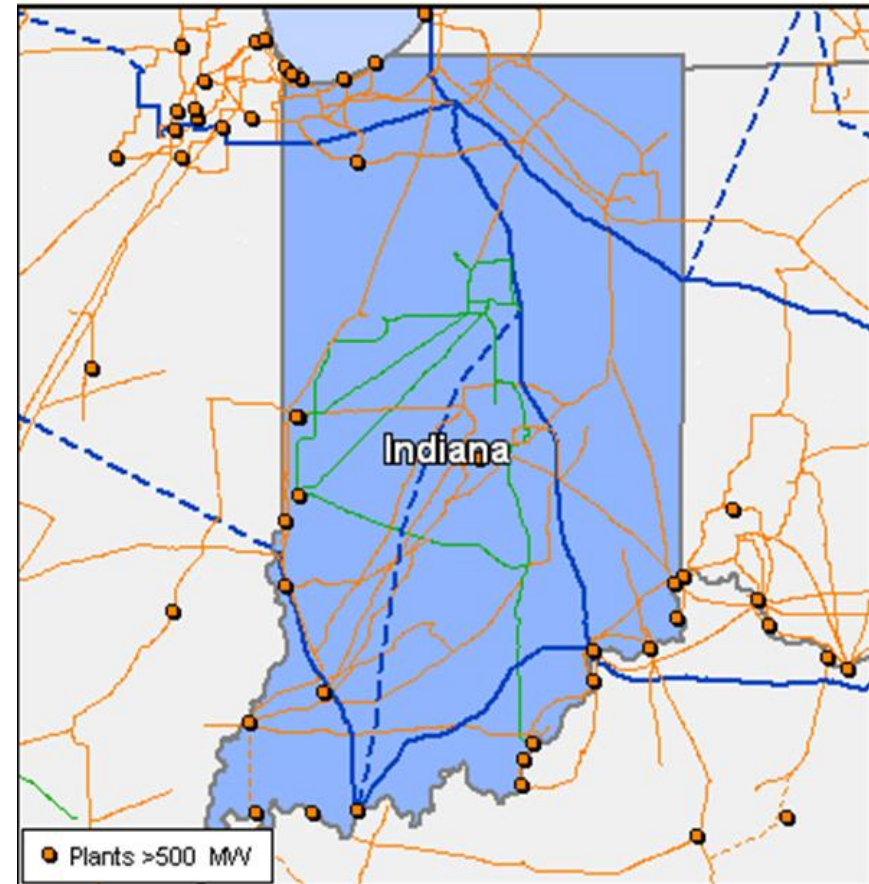
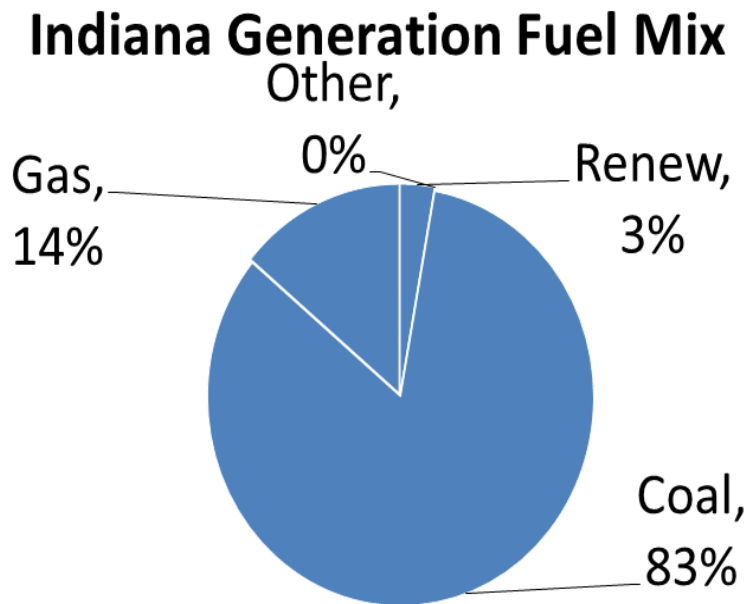
Agenda

1. Weather Demand
2. Supply & Demand Fundamentals
3. Pricing Trends

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Source: NYMEX

Importance of Generation Fuel Mix



Source: EIA, Constellation

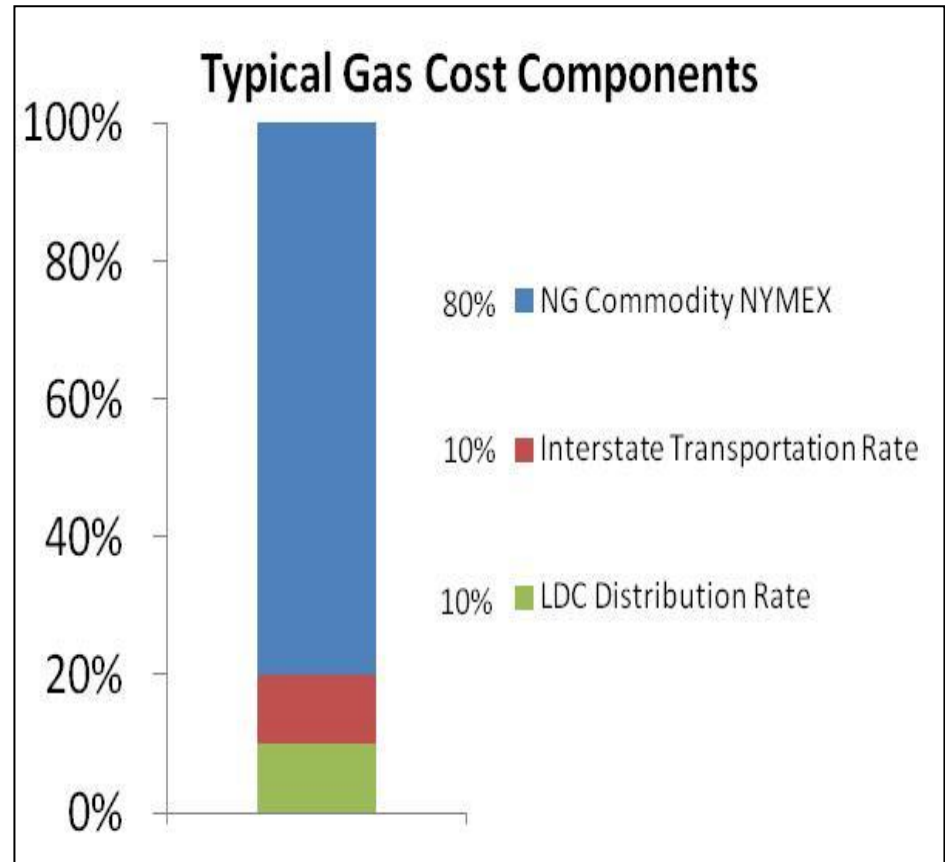
- Coal is main fuel source for electric power
- More than half of Indiana's gas consumption comes from Industrial sector
- Relatively low NG prices rank 28th in nation

Customer Takeaway: Indiana power generation is extremely coal heavy; gas-intensive industries should benefit from new supplies in Marcellus & Utica shale plays

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What are the components of a gas bill?

1. **Energy Commodity** makes up the bulk of the price
2. Most **non-commodity** components are set by utility or pipeline owners



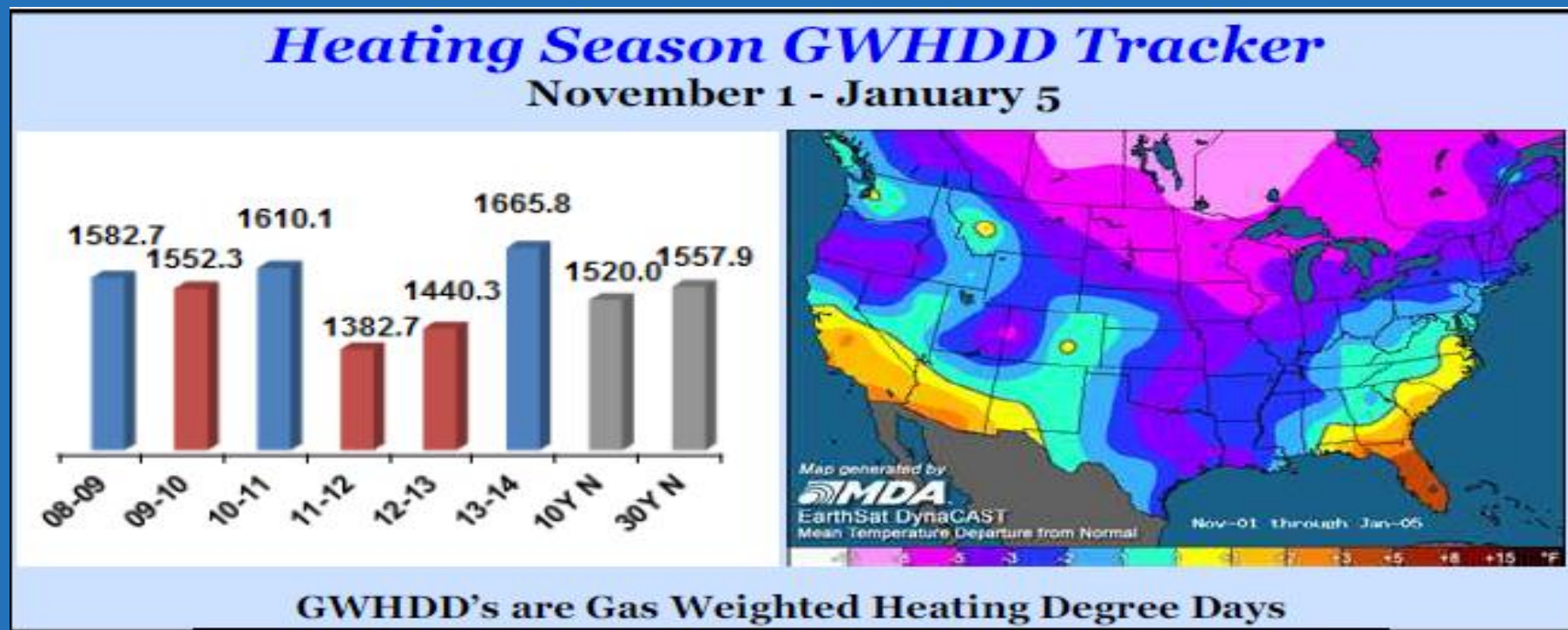
Customer Takeaway: Customer has greatest ability to impact cost by focusing procurement strategy on the commodity component, but should be aware of other savings

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Average 2013 cooling season with late heat



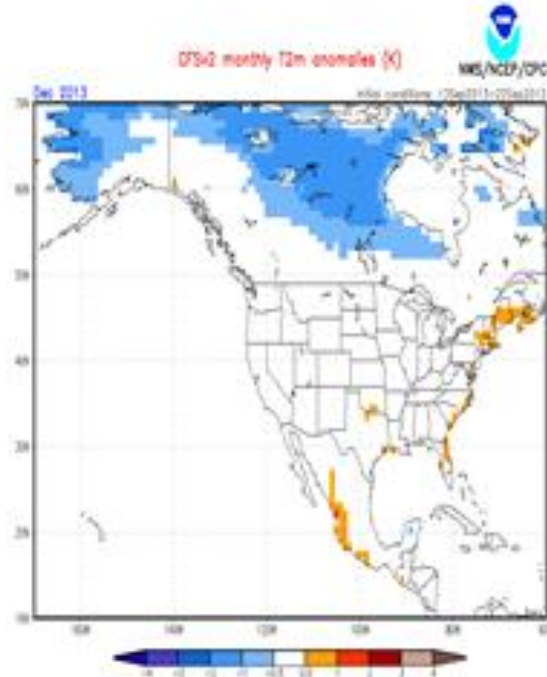
- Gas weighted heating degree days (GWHDDs), which is a measurement of energy intensity, have outpaced the 10-year and 30-year normal
- This heating season is off to the coldest start since the 2000-2001 and is 15% colder y-o-y
- Weather conditions in Alaska and Canada have forced arctic air south into the U.S.

Customer Takeaway: Weather continues to be one of the most important factors influencing energy demand and pricing

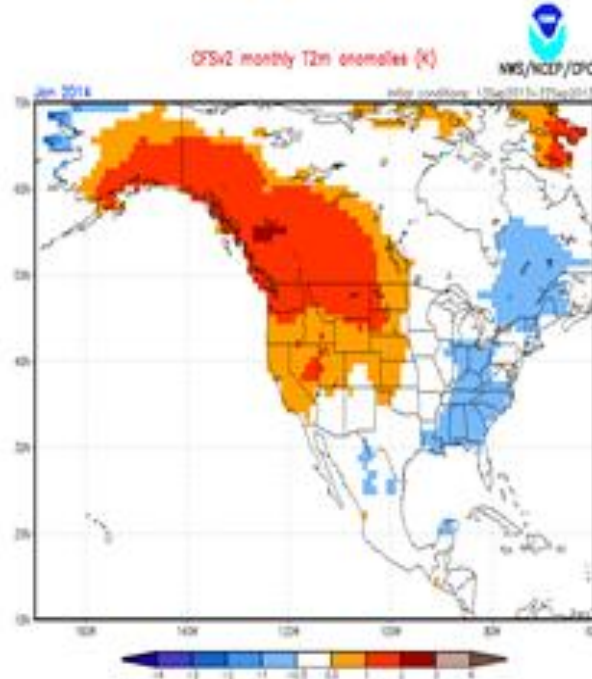
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Winter forecast greatest risk in Jan-Feb

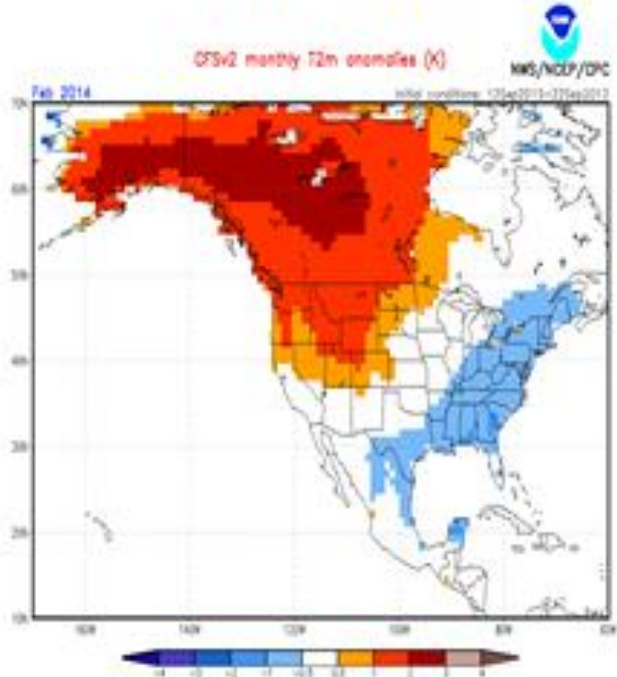
DEC, 2013



JAN, 2014



FEB, 2014



- Initial winter outlook suggested normal temperatures for most of the nation
- **With a colder Jan-Feb for Midwest and East**

Customer Takeaway: Short and long-term weather forecasts can move prices significantly and recent temps are evidence of continued market volatility

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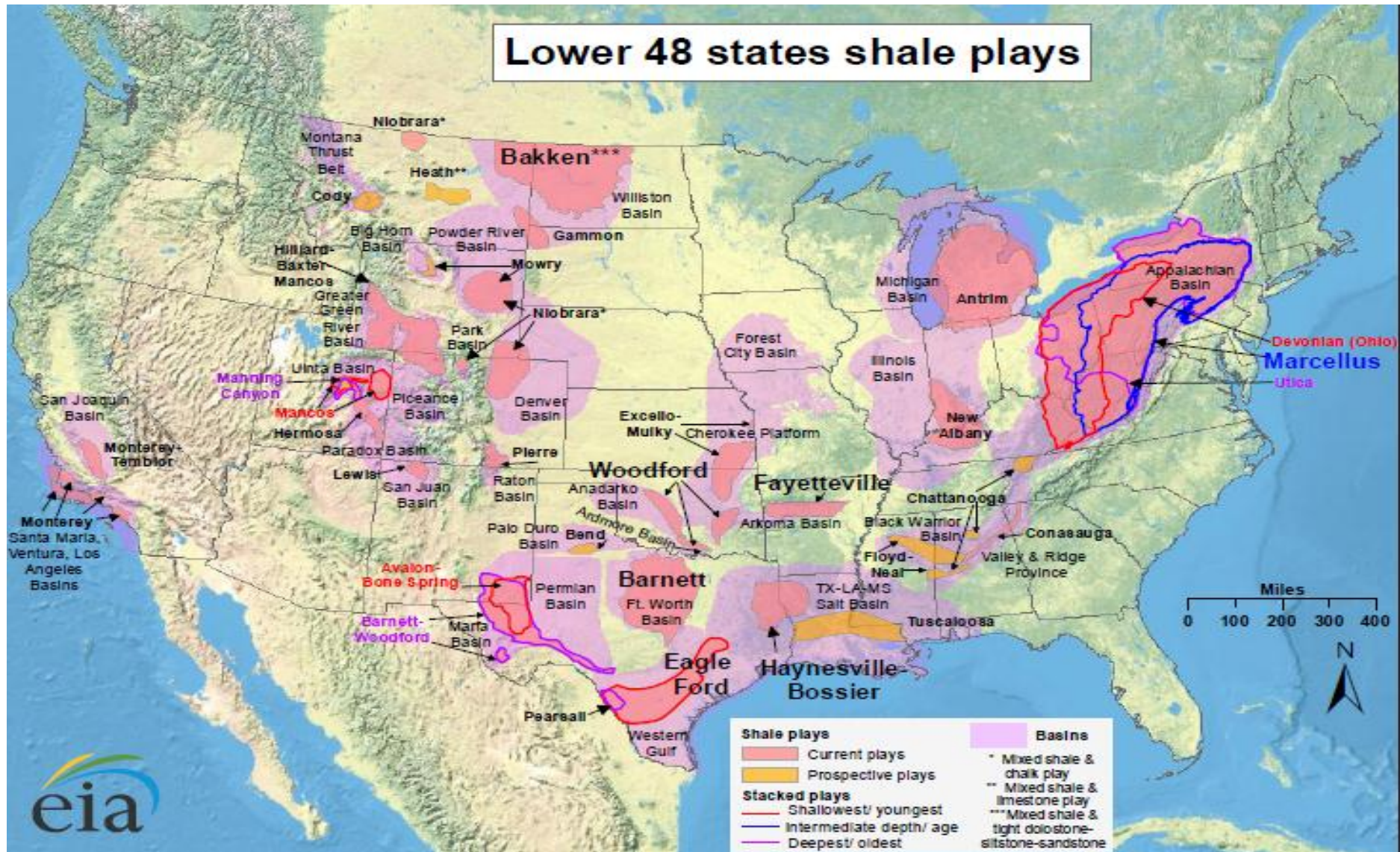
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Source: NYMEX

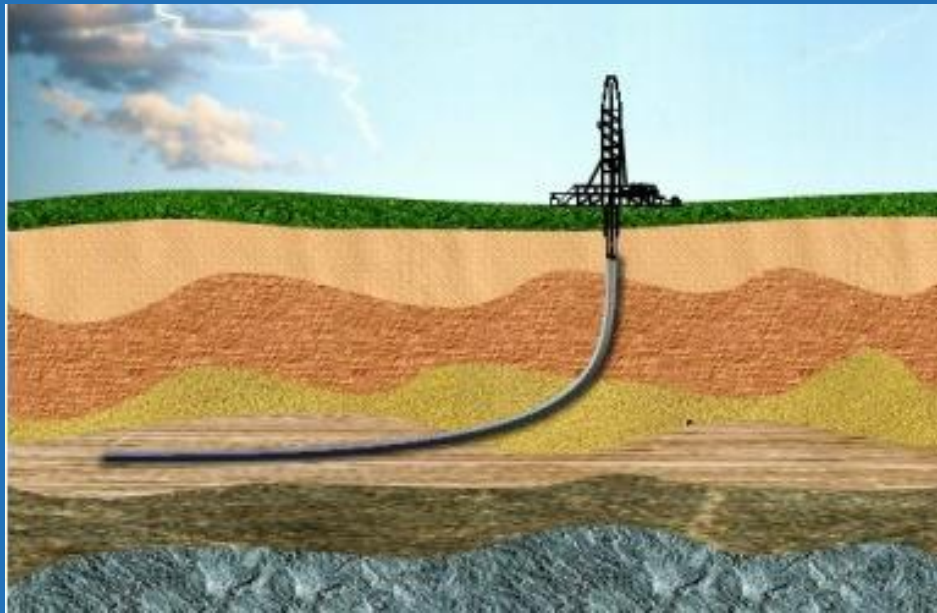
What is shale gas and what has been the impact on prices?



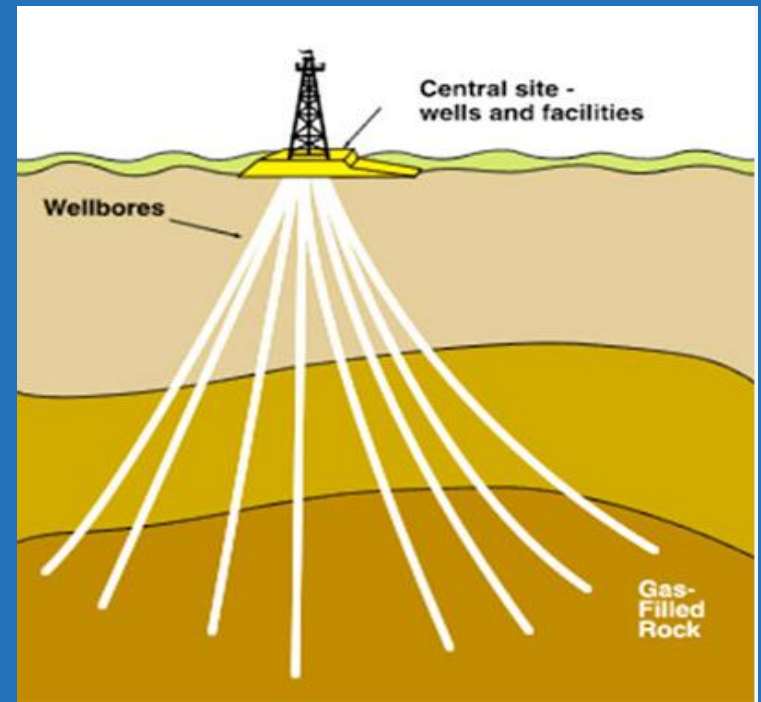
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Sources: EIA

U.S. drilling technology makes leaps and bounds



- Combining horizontal drilling and hydraulic fracking in early 2000s sparked initial shale boom
- Shale production in 2007 was only 3 Bcf/d vs. 27 Bcf/d in 2013



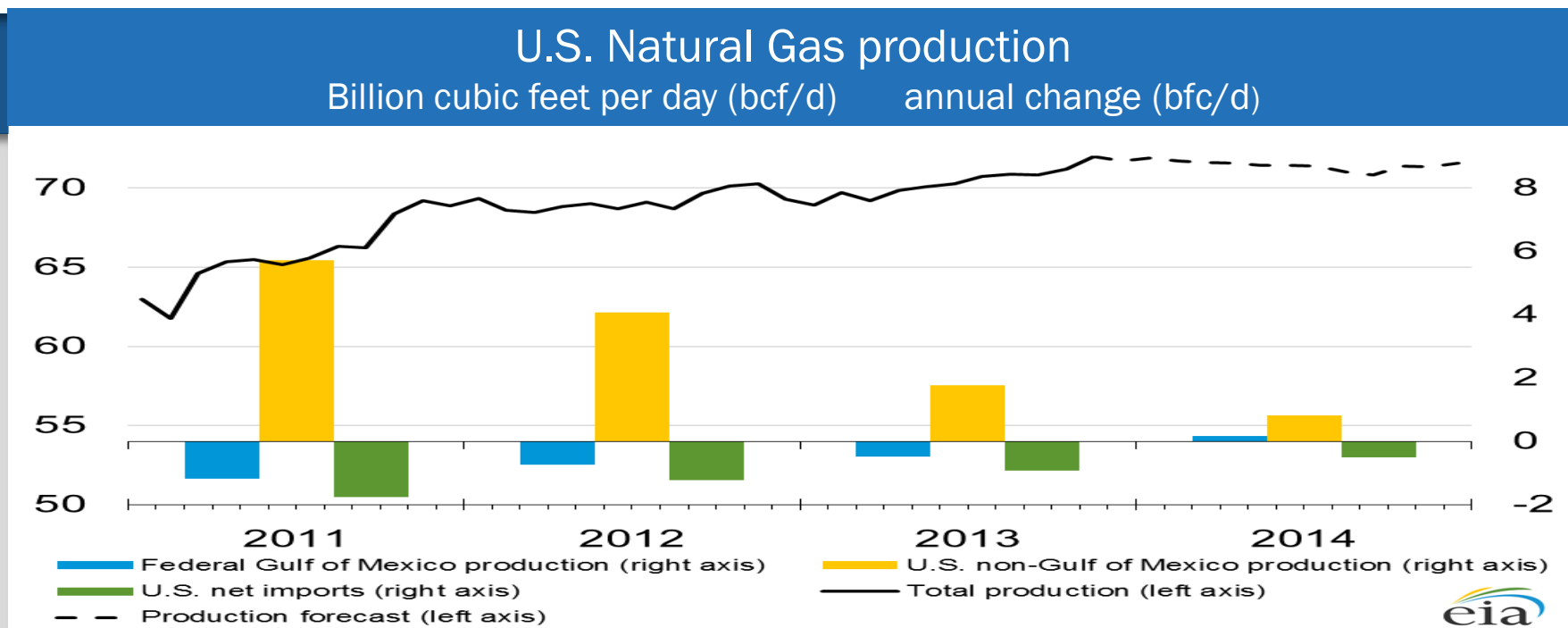
- Improvements in seismic surveying, pad drilling, drilling fluids, rig transport, etc. have increasing efficiencies and gas output
- Study found improvements b/t 2011 and 2012 reduced days drilling time by 18% at play in TX
- Drilling efficiencies have increased with technology advances

Data Source:: RigZone, EIA, Range Resources

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U.S. natural gas production growth slows

- 2011 production grew at record levels but rate of growth slowed
- Current price levels don't justify robust production in near term
- Stronger prices will be needed to incentivize drillers to significantly ramp up



Customer Takeaway: Record low gas prices prompted producers to scale back operations, reducing total number of rigs and focusing on *low hanging fruit*
Short-term Impact to Price → Supportive

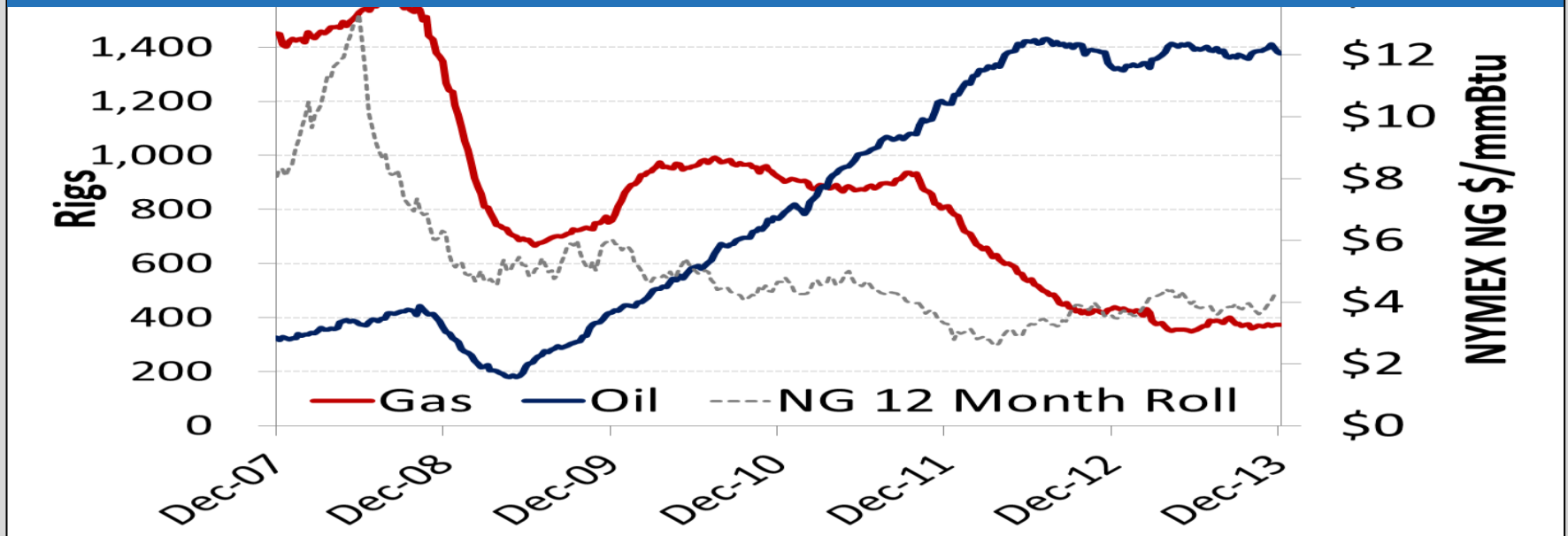
Source: Baker Hughes, EIA

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Record U.S. gas production pushes prices down

- 1600 gas rigs in operation in 2008, 1000 in 2010 → today 372
- Current price levels don't justify robust production in near term

Natural gas rig count near 13-year lows
(-50% decline over past two years)

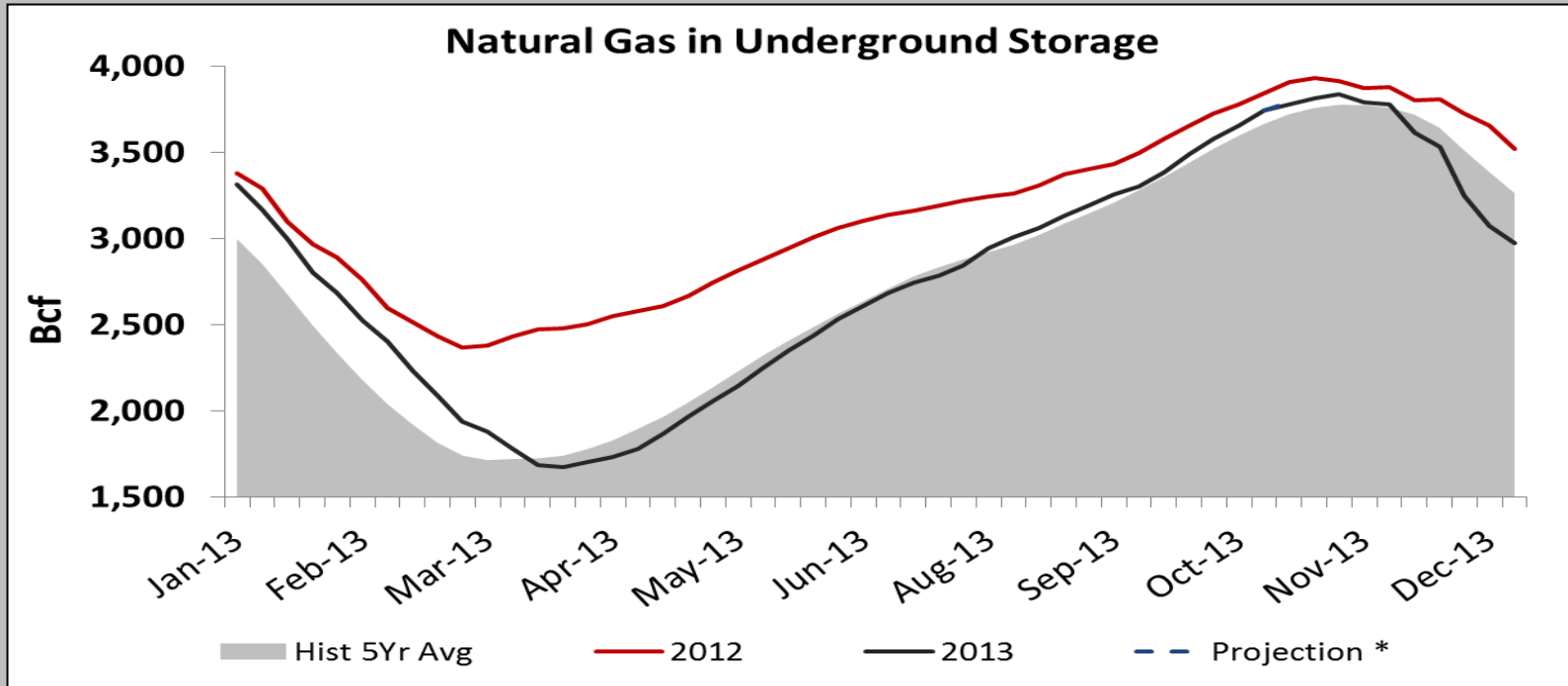


Customer Takeaway: Market was grossly over supplied going into 2012 but has stabilized as supply and demand have tightened

Source: Baker Hughes, EIA

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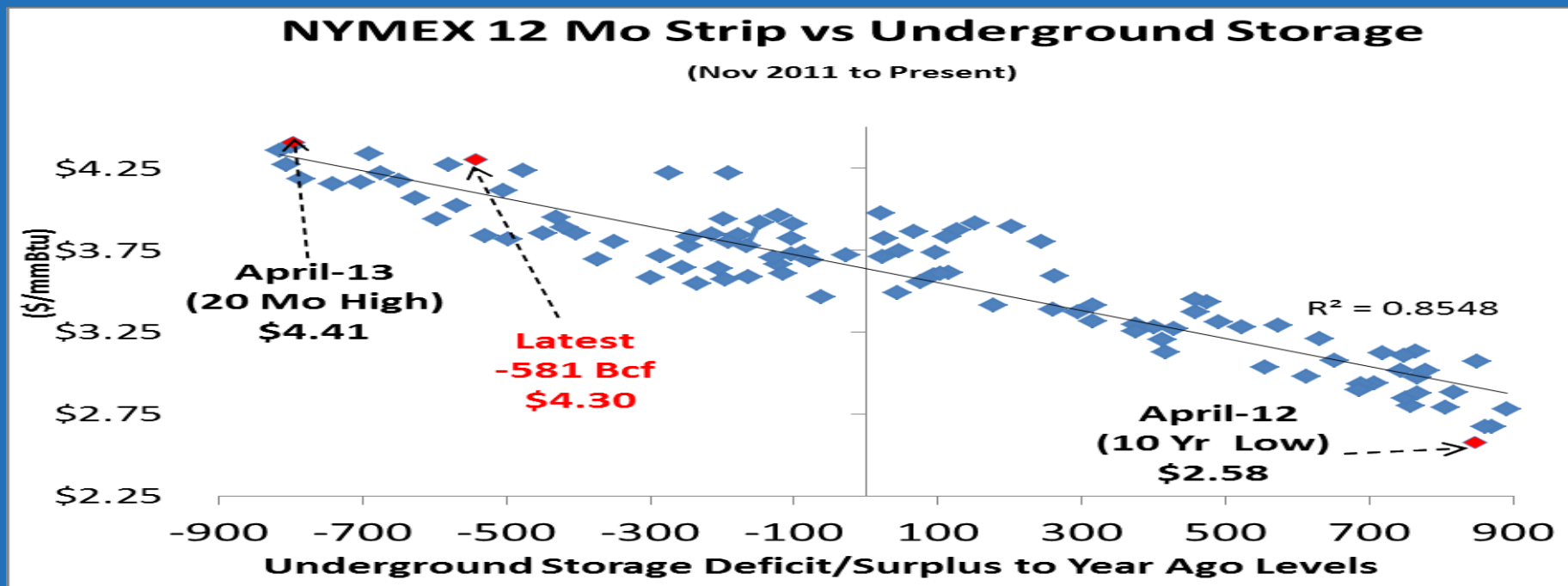
Gas storage levels indicate short-term market tightness



- Current underground gas storage is -16% below 2012 levels and -9% below the 5-yr average
- Recent cold weather has resulted in large pulls from storage banks as utilities and power generators are facing high levels of demand

Customer Takeaway: Gas supplies look adequate for remainder of winter, but will still drive NYMEX price valuations into spring

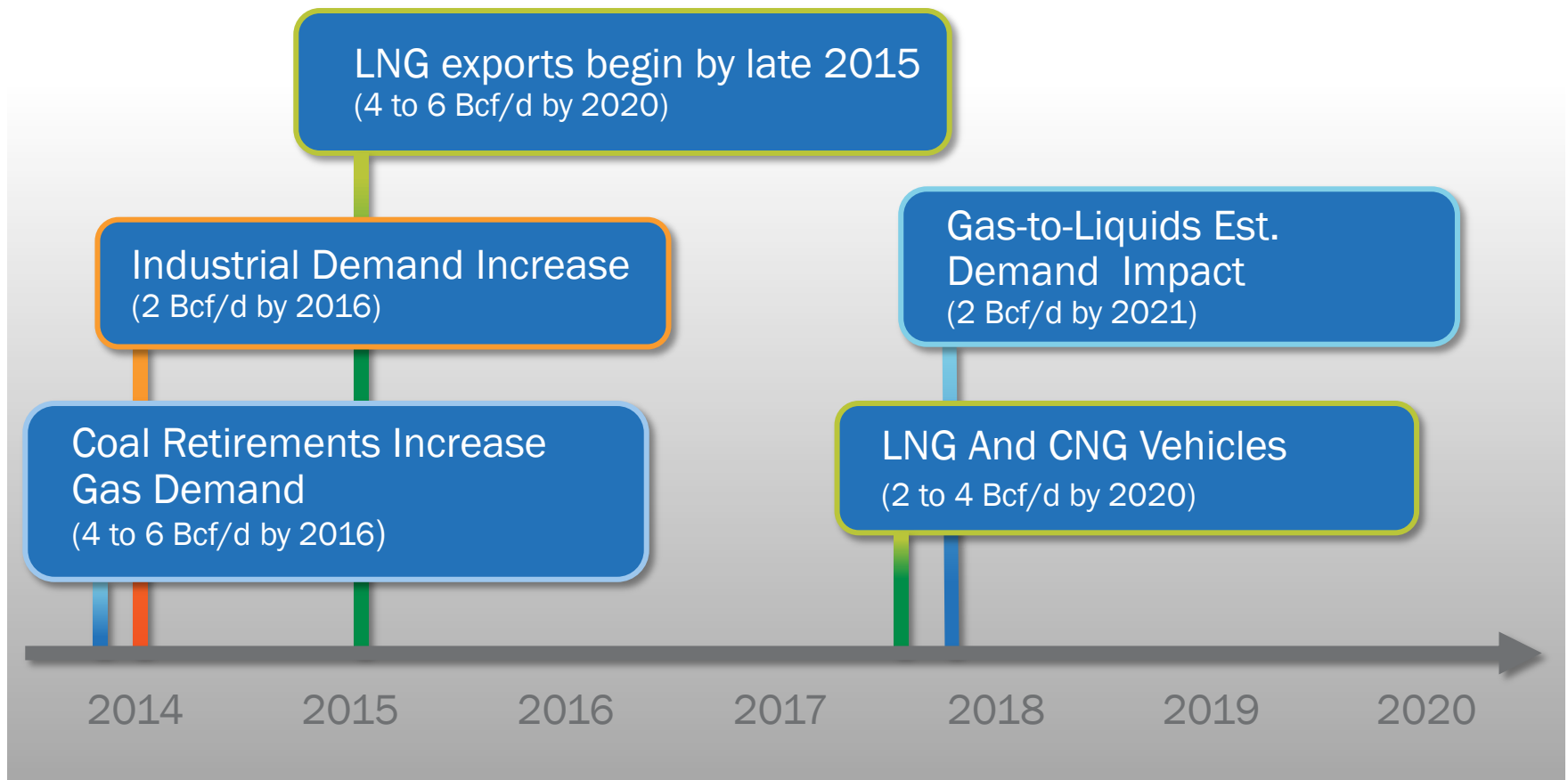
NYMEX Price vs. Storage Relationship



- The chart illustrates the relationship between NG storage vs. NYMEX 12 month strip
- A rising storage levels tends to lead to lower prices while lower storage levels lead to higher prices
- There is a 86% correlation between storage and NYMEX 12 month strip

Customer Takeaways: Storage supply levels are a fundamental driver for natural gas prices, and provide insight into NYMEX trends

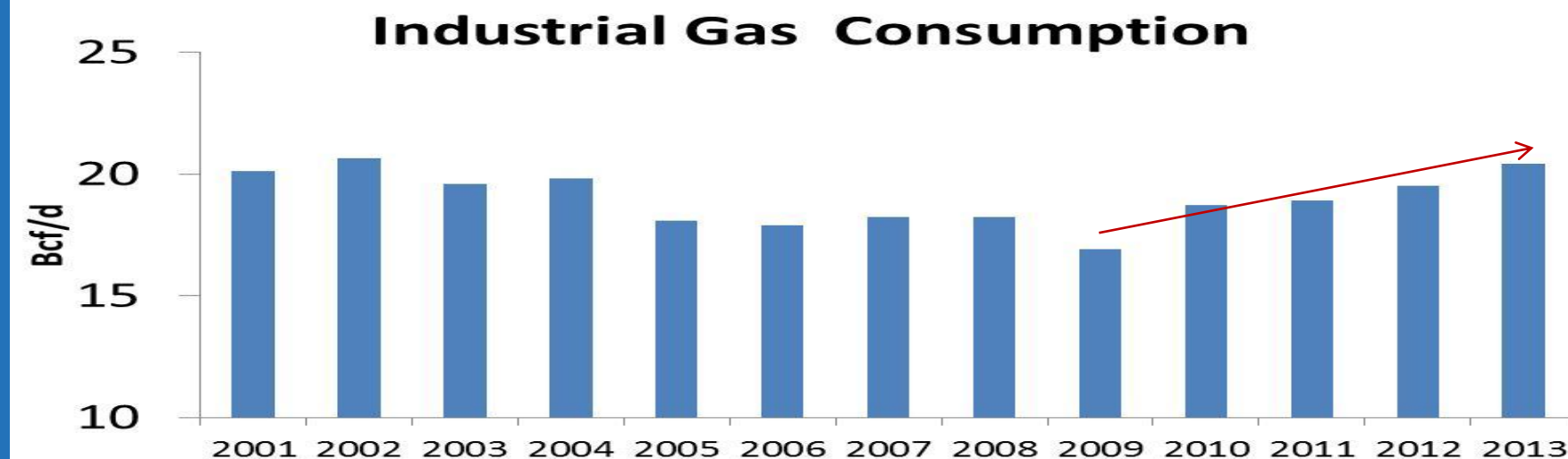
New demand sources on the horizon



Customer Takeaway: U.S. demand growth is currently higher than the world average and is projected to further expand due to changes in power stack, industrial sector, vehicle application and LNG exports

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Industrial gas demand growth continues



- Daily gas consumption by industrial users up +21% (or 3.5 Bcf/d) since 2009
- +70 expansion projects in fertilizer, chemical, steel and gas-to-liquids is expected drive significant demand in long-term

Customer Takeaways: According to recent study by NG Supply Association, industrial sector projected to grow significantly in the coming years due to relatively low cost NG

DOE approves additional LNG export license

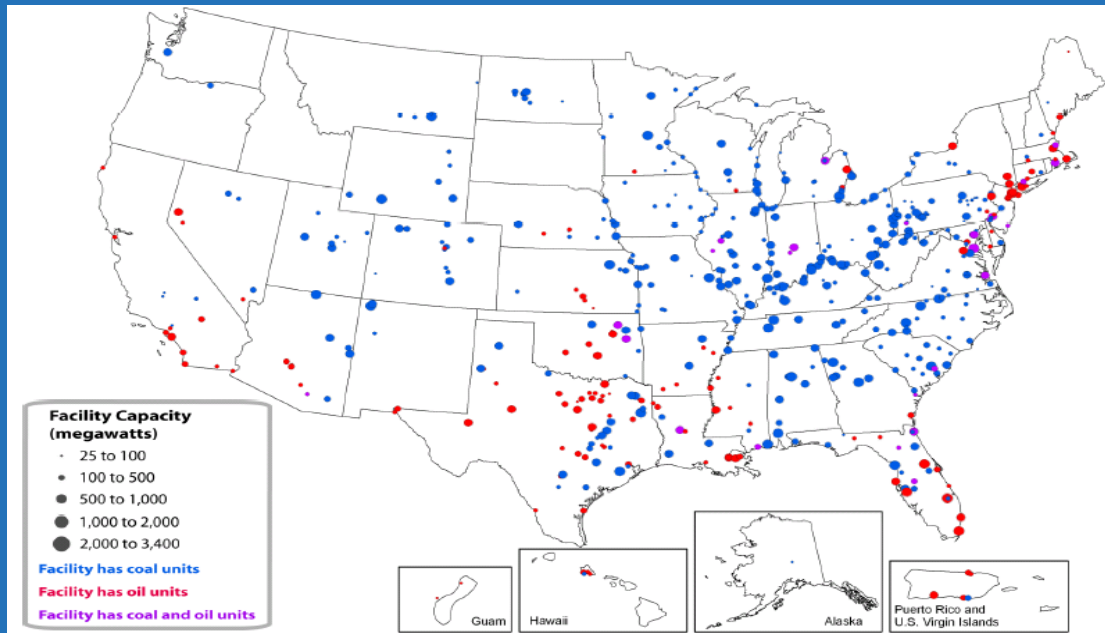
Growing world demand for natural gas and U.S. gas competitiveness are driving LNG export project economics



- The DOE recently approved an additional LNG export terminal
- Total approved export volumes to 6.37 bcf/day
- Project costs are b/t \$3-6B each and off take contracts are being signed with foreign buyers

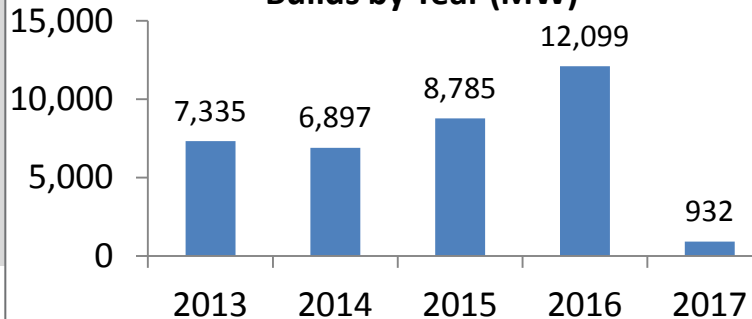
Customer Takeaway: The first cargo is slated for late 2015, with a significant ramp up starting in 2017; LNG exports are supportive of prices in the long-term

Power plant regulations drive NG demand



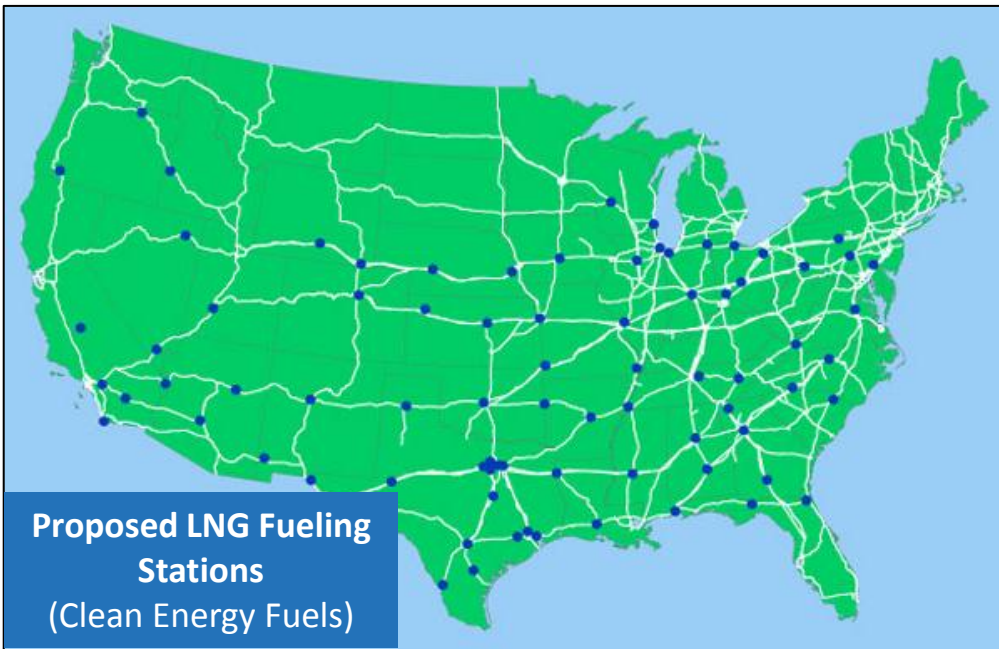
- Objective of EPA *Mercury Air Toxics Standard* is to reduce mercury and acid gas emissions with compliance beginning in 2015
- 1,400 coal and oil units have been impacted and 40% have no advanced pollution controls
- Based on projected costs, generation owners must decide to comply or retire assets

Lower 48 Gas Fired Generation Builds by Year (MW)



Customer Takeaway: Coal power generation costs expected to rise significantly as air standards tighten, leading to increased demand on NG generators.
Impact to Price → Supportive/Bullish

Making a case for natural gas powered vehicles



<i>Nationwide Average Price in Gasoline Gallon Equivalents</i>	
Gasoline	\$3.59
Diesel	\$3.58
CNG	\$2.10
Ethanol (E85)	\$4.66
Propane	\$3.77
Biodiesel (B20)	\$3.75
Biodiesel (B99-B100)	\$4.23



Customer Takeaway: Transport demand in 2013 will total only 120 MMcf/day, but significant progress is being made around infrastructure build out, which should facilitate future demand growth

Sources: DOE, Clean Energy Fuels

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NGV Momentum Grows in 2013

Fleet Announcements

UPS: plans to add 700 LNG vehicles and build 4 refueling stations

AT&T: places order to convert 650 Ford F-350 trucks to dedicated CNG vehicles

Penske Truck Leasing: ordered 100 CNG Freightliner tractors

Clean Energy Fuels: over 1,000 new CNG refuse trucks delivered or ordered in November – February

State of Oklahoma: takes delivery of 242 CNG Dodge trucks

Frito-Lay: expanding fleet of CNG trucks to 208 tractors, or about 20% of its fleet

Procter & Gamble: will work to convert 20% of its North American for-hire truckers to NGV within 2 years

BNSF: testing LNG locomotive

Canadian Natural Railway: conducting LNG trial

Customer Takeaway: Thousands of new gas-powered vehicles on the roads in the coming months and years



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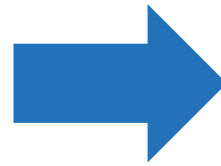
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Managing risk over time in volatile markets

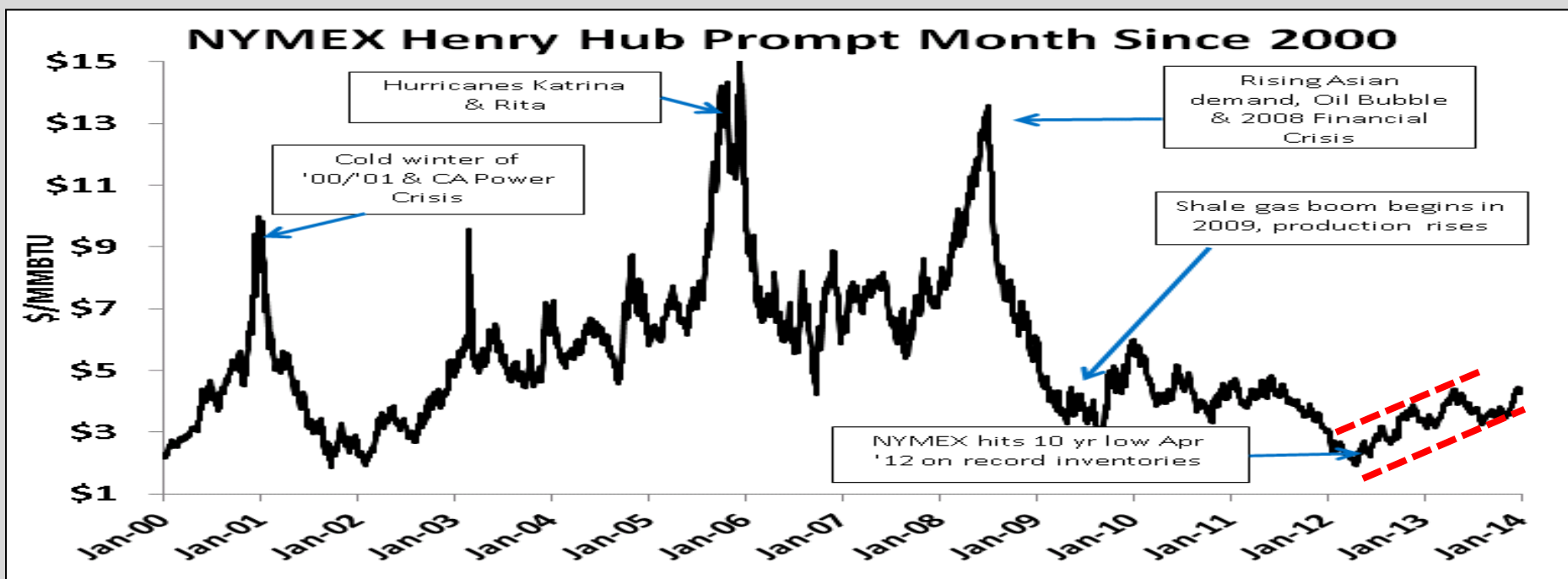
Market Challenges

1. Unknown market drivers
2. Price volatility
3. Best risk management strategy?



Impact to Customer

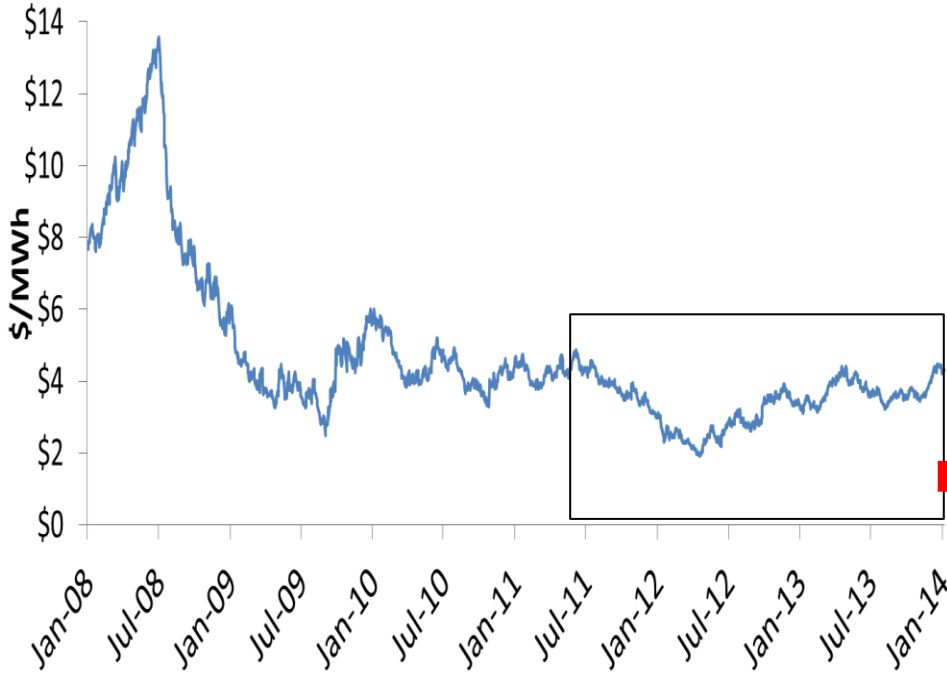
1. Fluctuating energy costs
2. Budget uncertainty
3. Degree of competitiveness



Customer Takeaway: There is unanimous agreement that lower gas prices will result in growing demand, which is supportive of a higher priced market

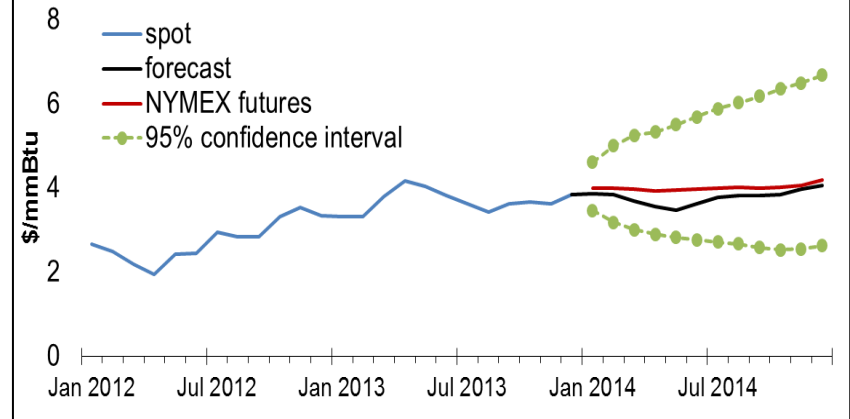
Historical and Forecasted NYMEX Prompt Month

NYMEX Henry Hub Price Trends



- NG prices fell more than 75% since 2008
- Year ago price level of low \$2s vs. current low \$4s
- EIA price forecast for full year 2013 is 28% increase from 2012 Henry Hub settles

EIA Forecast HH Natural Gas Price

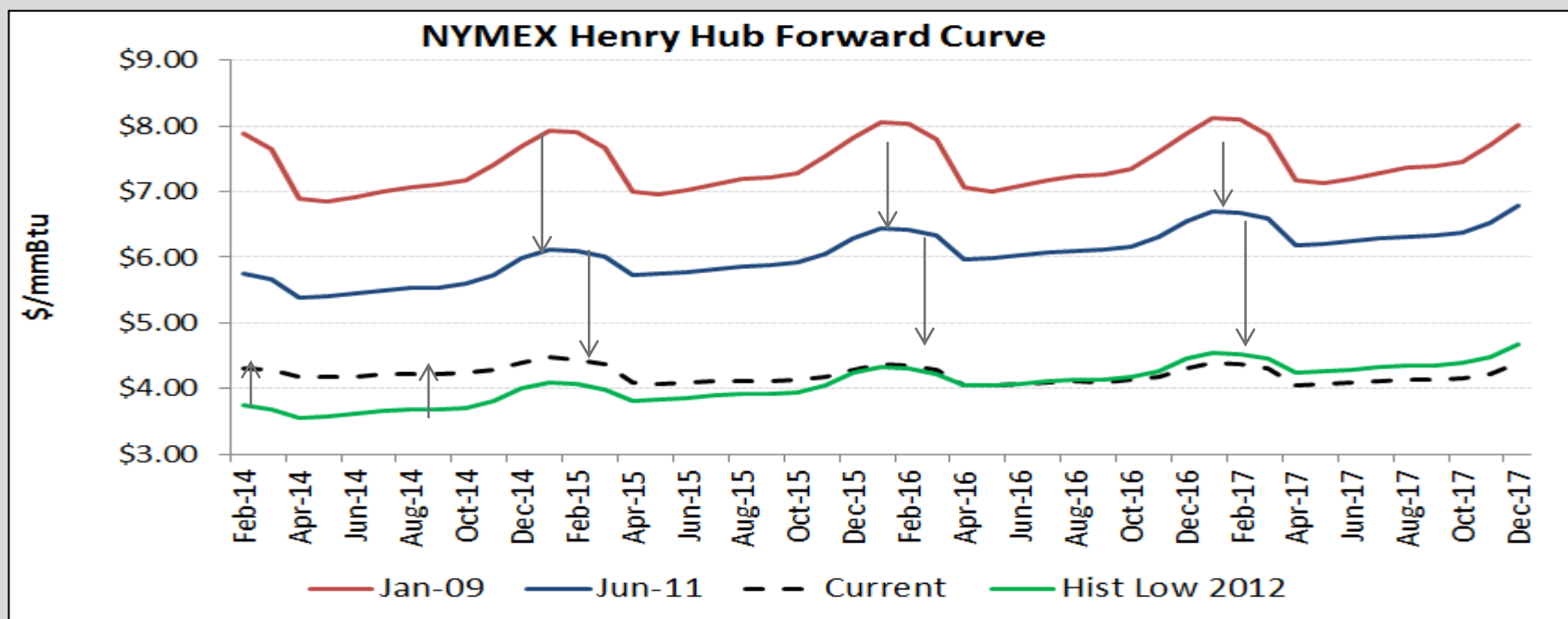


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Source: NYMEX, EIA

Long-term price outlook shifts



1. In early 2009 the price range of long-term NYMEX contracts was \$7-8
2. By mid 2011 the market fell to around \$5-6, as production continued to surge
3. Winter 2011/12 demand erosion + excess supply lead to historical lows in 2012
4. Market is more balanced today; however long-term prices are at all-time lows

Customer Takeaway: Low gas prices from shale have spurred capital expense projects that will dramatically increase demand in the next few years

Pricing the impact of future natural gas demand

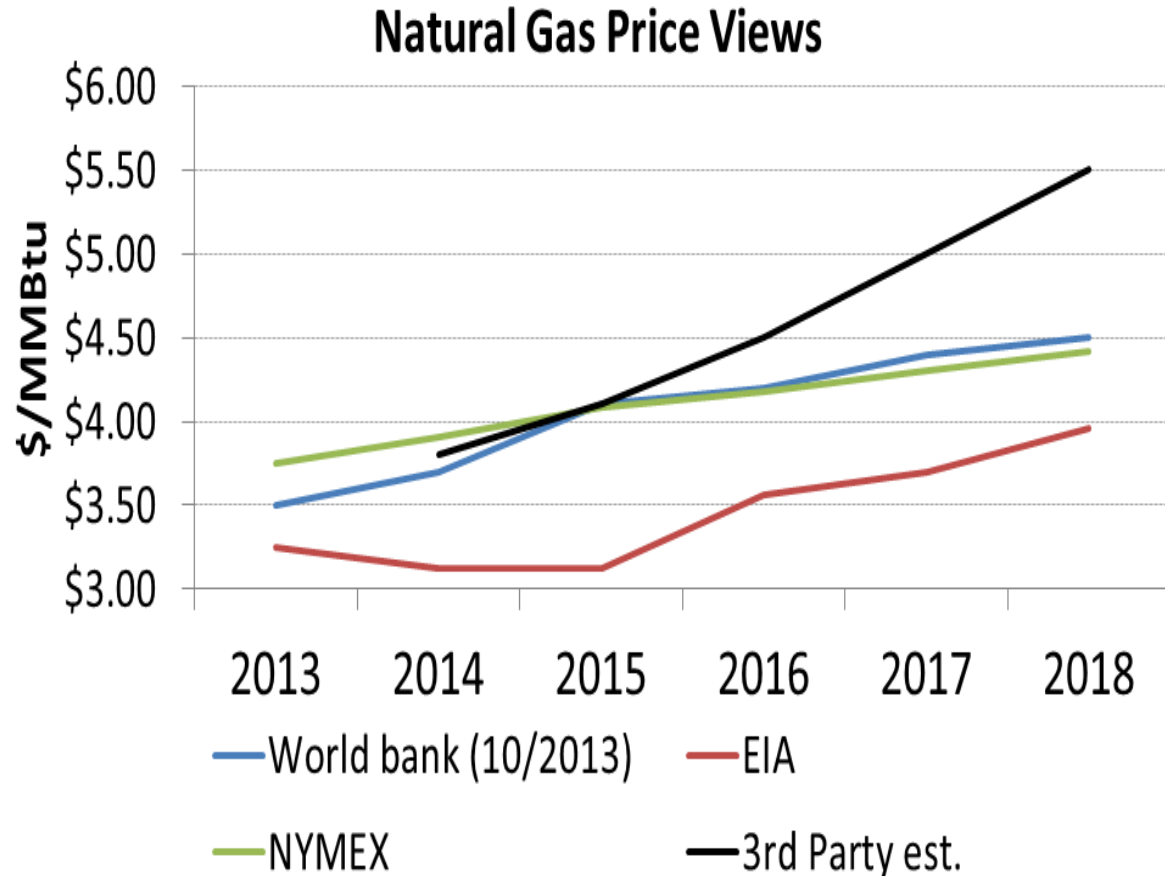
Based on differing views of the future marketplace, analyst forecasts vary as to the impact that heightened demand and new supply will have on prices

Bulls:

1. Cont. retirement of base load units
2. Further LNG export approvals
3. Growing industrial & transportation demand

Bears:

1. Rapid growth of Marcellus & other major shale plays
2. Sub-par world economic growth
3. EPA legal challenges
4. Oversupplies world gas market

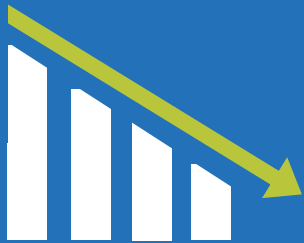


Source: EIA, NYMEX, World Bank

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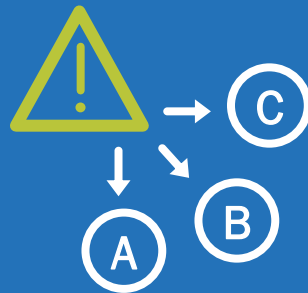
Summary

1



Forward markets are still near all-time lows

2



Understand evolving market risks and options to manage that risk

3



Define goals/objectives and manage cost ($P*Q$) over time

4



Establish price targets to capitalize on pullbacks and protect against upside risk

Contact Info

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