North American Gas:
A dynamic environment

Josh McCall
BP North American Gas and Power
November 16, 2011

Disclaimer

BP USA Official Partner

This presentation and its contents have been provided to you for informational purposes only. This information is not advice on or a recommendation of any of the matters described herein or any related commercial transactions.

BP is not responsible for any inaccuracies in the information contained herein. BP makes no

representations or warranties, express or implied, regarding the accuracy, adequacy, reasonableness or completeness of the information, assumptions or analysis contained herein or in any supplemental materials, and BP accepts no liability in connection therewith. BP deals and trades in energy related products and may have positions consistent with or different from those implied or suggested by this presentation.

This presentation also contains forward-looking statements. Any statements that are not historical facts, including statements about BP's beliefs or expectations, are forward-looking statements. These statements are based mostly on publicly available information, estimates and projections and you should not place undue reliance on them. These statements are not guarantees of future performance and involve certain risks and uncertainties, which are difficult to predict. Therefore, actual future results and trends may differ materially from what is forecast, suggested or implied in any forward-looking statements in this presentation due to a variety of factors. Factors which could cause actual results to differ from these forward-looking statements may include, without limitation, general economic conditions; conditions in the markets; behavior of customers, suppliers, and competitors; technological developments; the implementation and execution of new processes; and changes to legal, tax, and regulatory rules. The foregoing list of factors should not be construed as exhaustive. BP disclaims any intention or obligation to publicly or privately update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.

Participants should seek their own advice and guidance from appropriate legal, tax, financial and trading professionals when making decisions as to positions to take in the market.

What Does the Future Hold?
Key signposts

Demand:

- Economic indicators: stall, or growth?
- Global petchem trends
- New policies: EPA, EPA, EPA!
  - EPA Cross States Air Pollution Rule (CSAPR)
  - EPA Air Toxics Maximum Achievable Technology (MACT) rule
  - EPA Coal ash disposal, ground-level ozone, cooling systems mandates
- Nuclear generation operating license extensions (following Japanese event)

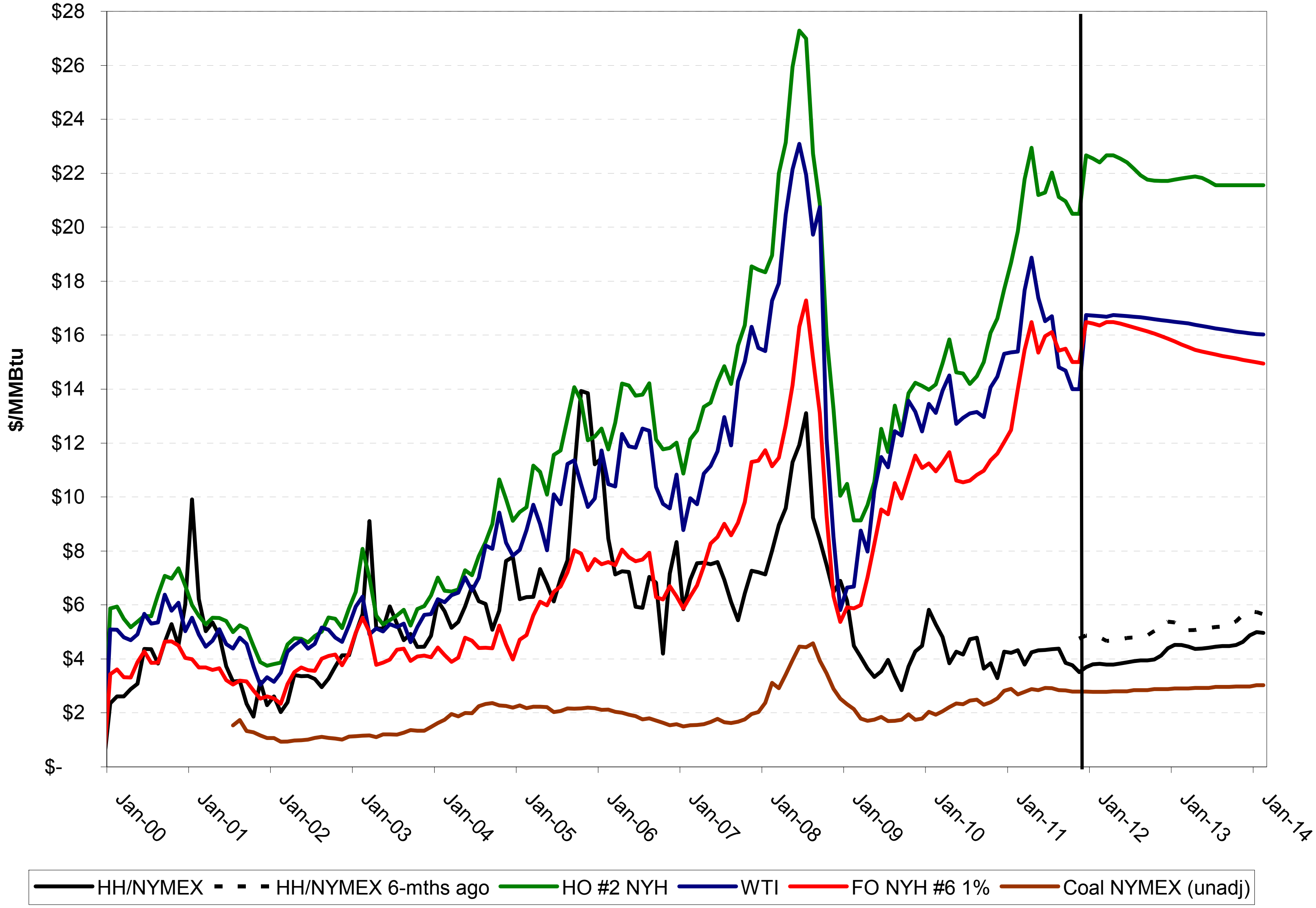
Supply:

- Producer behaviors, funding for drilling programs
- Continued shift to liquids-rich drilling, oil plays
- Supply cost inflation? Or efficiency gains?
- EPA hydraulic fracturing study (late 2012)
- Timing of LNG export approvals – NEB, DOE and FERC

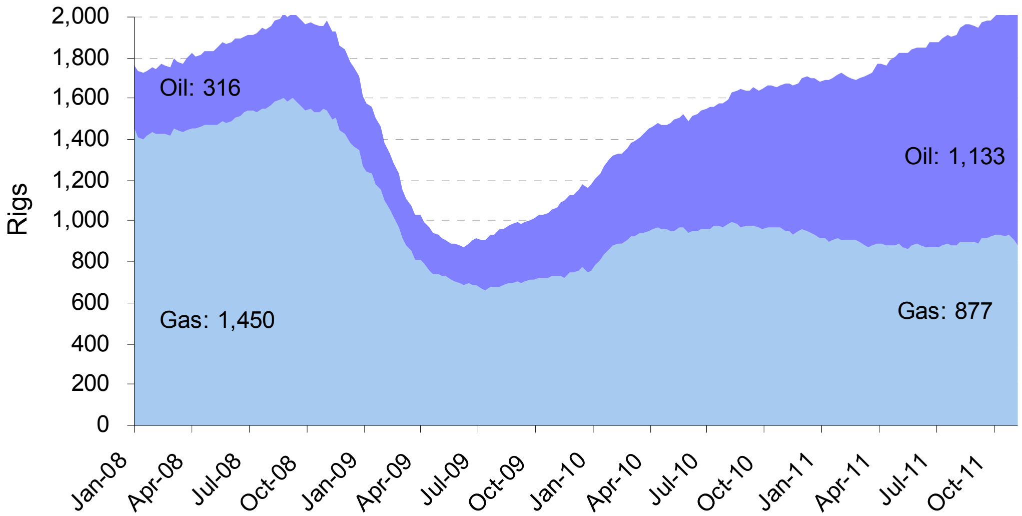
Natural Gas & Competing Fuels: Wide disconnect remains

bp USA Official Partner

Source: Various, November 10, 2011

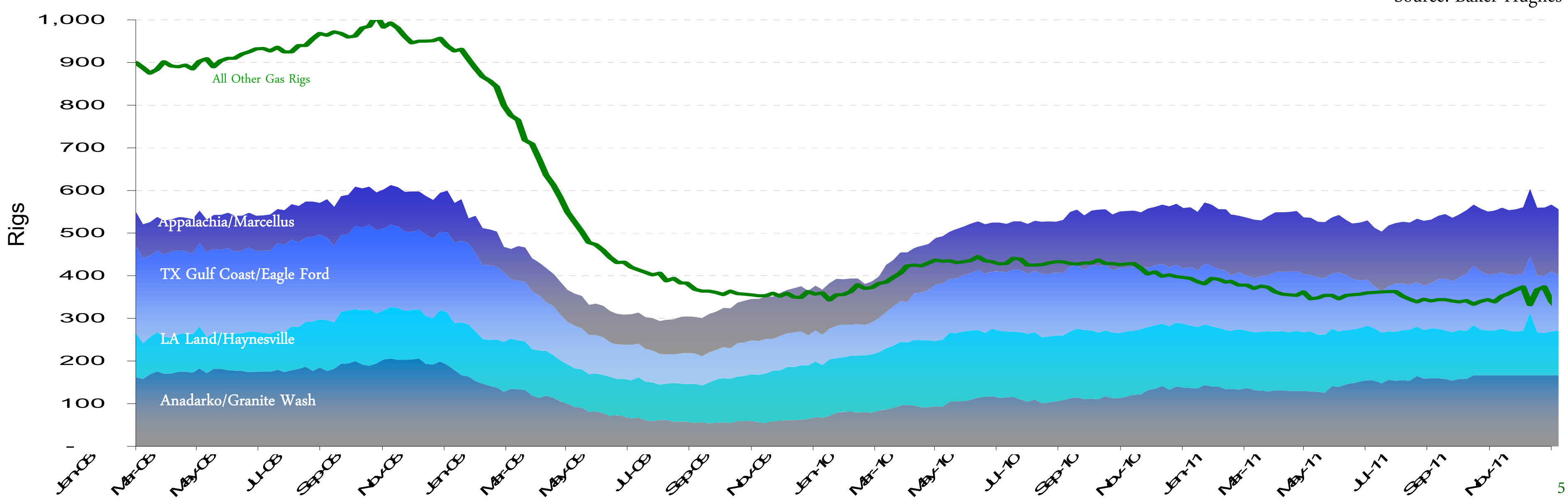


Steady growth in rig counts with liquids focus…

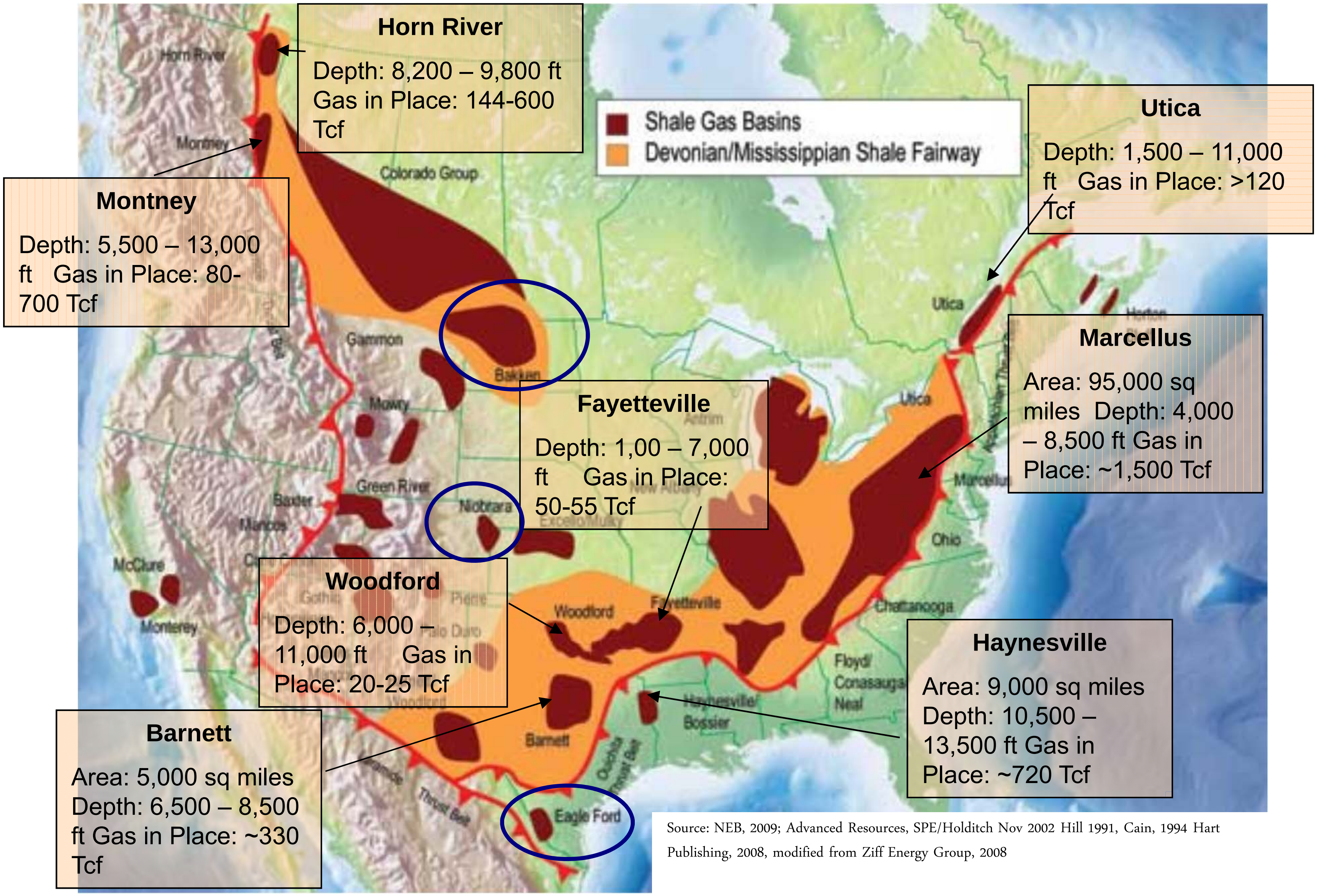


- *Since mid-April oil drilling activity has overtaken gas drilling*
- *Increasing utilization of rig fleet and oil/gas price disparity will influence future drilling dynamics*
- *Shale/Tight horizontal rigs are responsible for the majority of the turnaround in drilling*

Source: Baker Hughes



Unconventional development continues

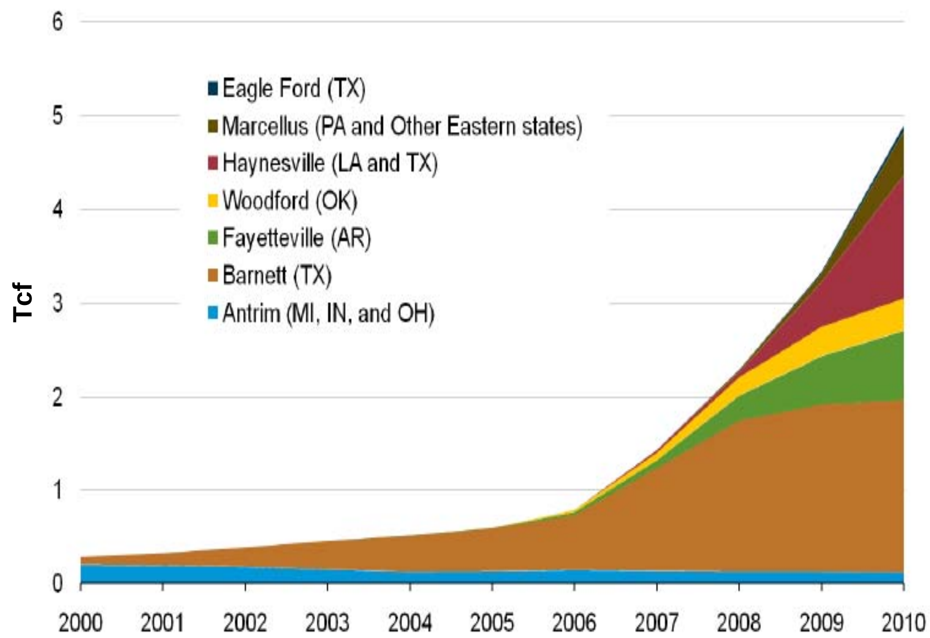


Source: NEB, 2009; Advanced Resources, SPE/Holditch Nov 2002 Hill 1991, Cain, 1994 Hart Publishing, 2008, modified from Ziff Energy Group, 2008

US shale gas production outlook: A view

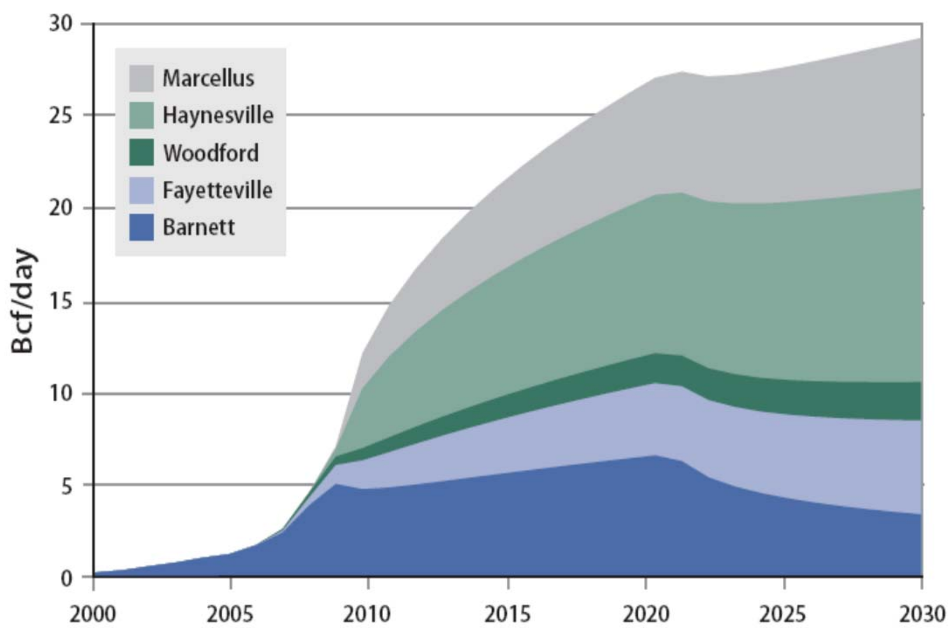
- *US shale gas production has doubled in last 2 years and surpassed 15 Bcfd*
- *Production from existing shales (excl Eagle Ford) expected to double in next 20 years*
- ***Key risks include: Environmental impact (footprint, water), operating challenges (costs, people)***

Historical Shale Gas Production



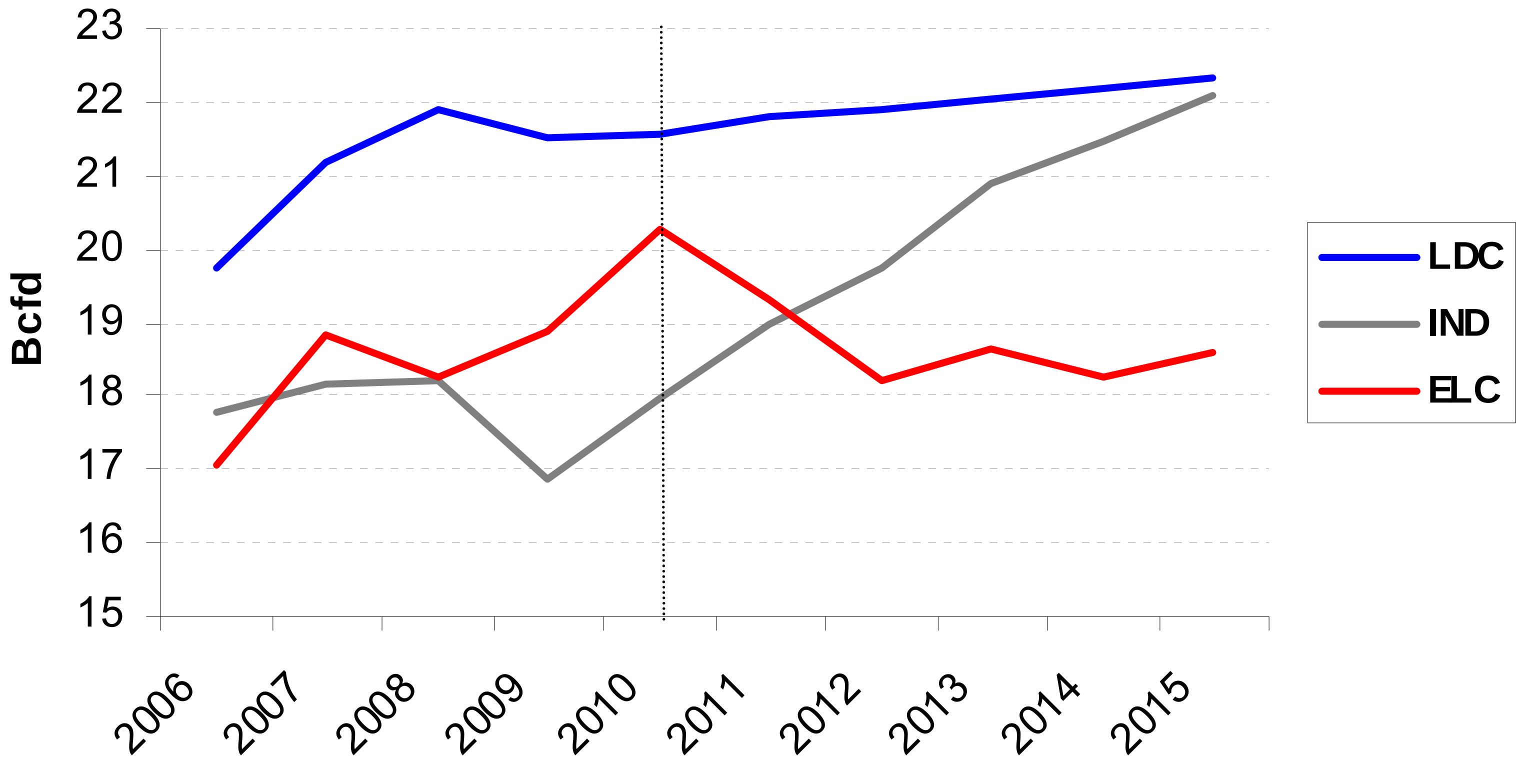
Source: EIA and Lippman Consulting

Shale Gas Production Outlook



Source: MIT Study

One View: US Demand for natural gas driven by industrial sector?



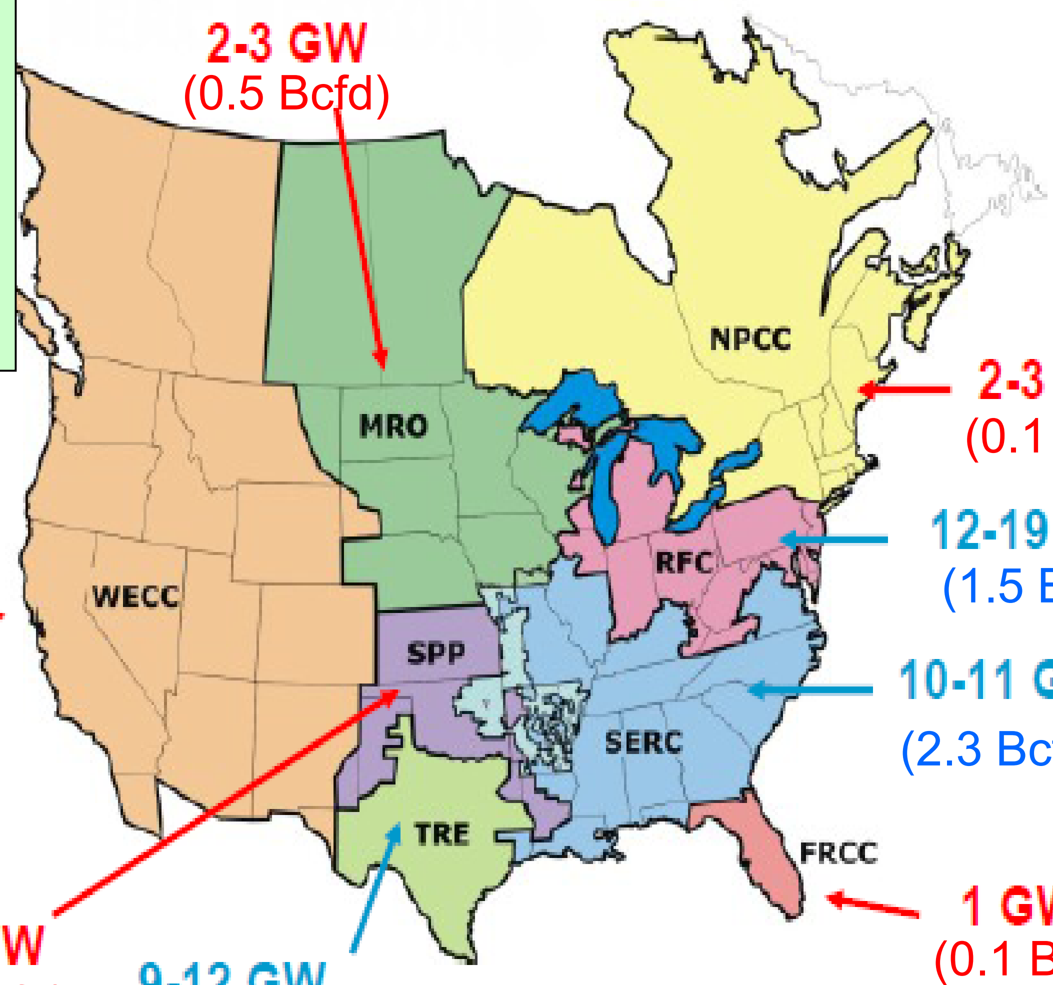
- *Historically, power sector led the growth of demand for natural gas; sector growth is projected to remain flat as per EIA*
- *Conversely, industrial sector is expected to lead the growth driven by growing demand for exports*

Source: EIA AEO 2011

Coal retirements could significantly impact the gas and power markets

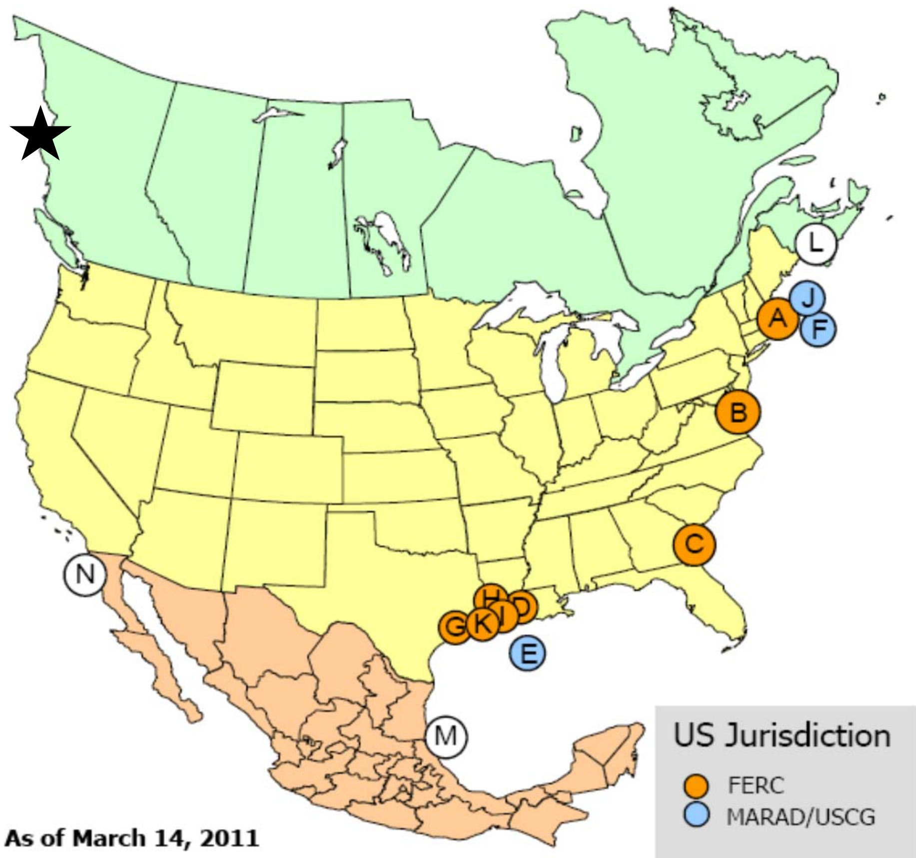
Brattle Group estimates 40 to 55 GW of retirements, and up to 5.8 Bcfd of incremental gas demand

GW: Brattle Group's projected retirements in Gigawatts



The Brattle Group

US LNG Imports: Re-thinking strategy?



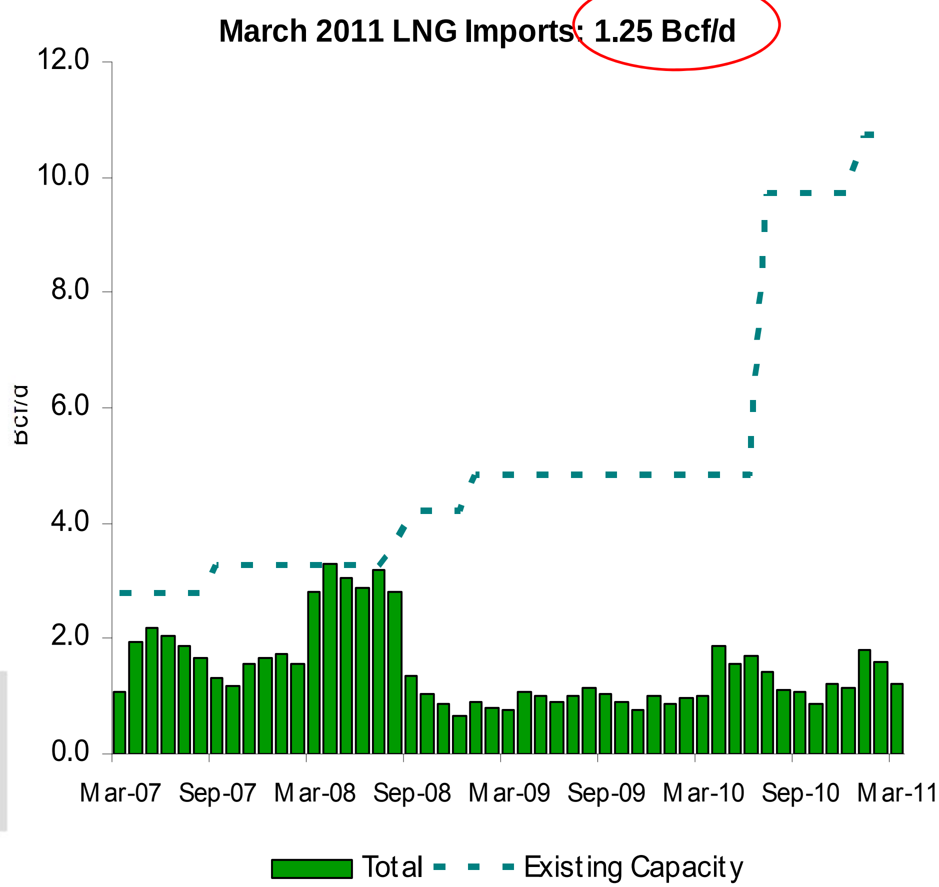
As of March 14, 2011

Legend:

A.	Everett, MA	H.	*Sabine, LA**
B.	Cove Point, MD	I.	Cameron LNG
C.	Elba Island, GA	J.	Neptune LNG
D.	Lakes Charles, LA	K.	Golden Pass
E.	Gulf Energy Bridge	L.	Canaport, CN
F.	Northeast Gateway	M.	Altamira, MX
G.	*Freeport, TX**	N.	Costa Azul, MX

Source: FERC

** Authorized to re-export delivered LNG*

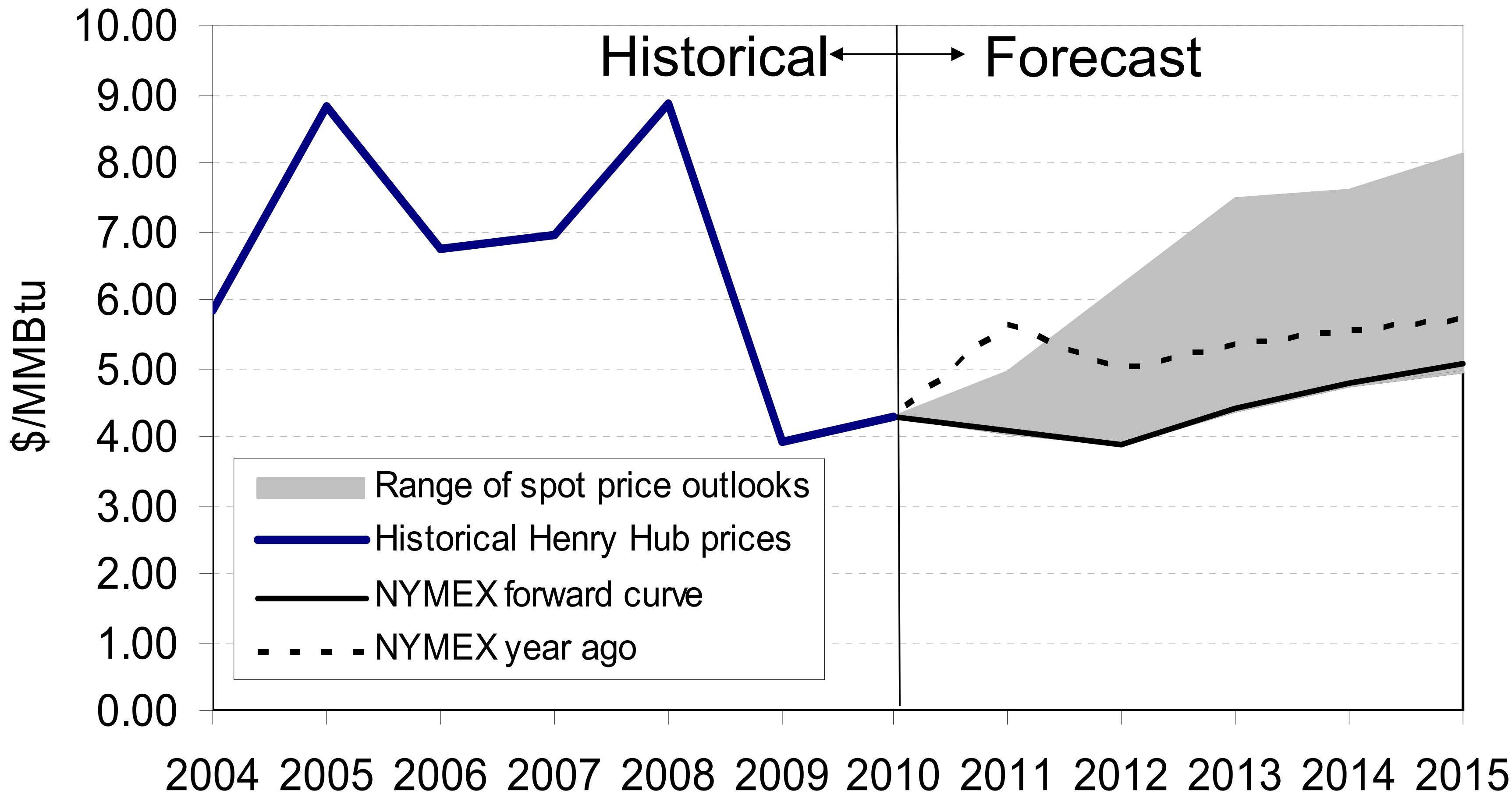


Source: DOE, EIA

- ***Cheniere/Sabine Pass and Freeport LNG have applied for full US export license; Kitimat LNG (star) applied for export license in Canada***

Long-Term Henry Hub spot price outlooks

Source: Various, November 10, 2011

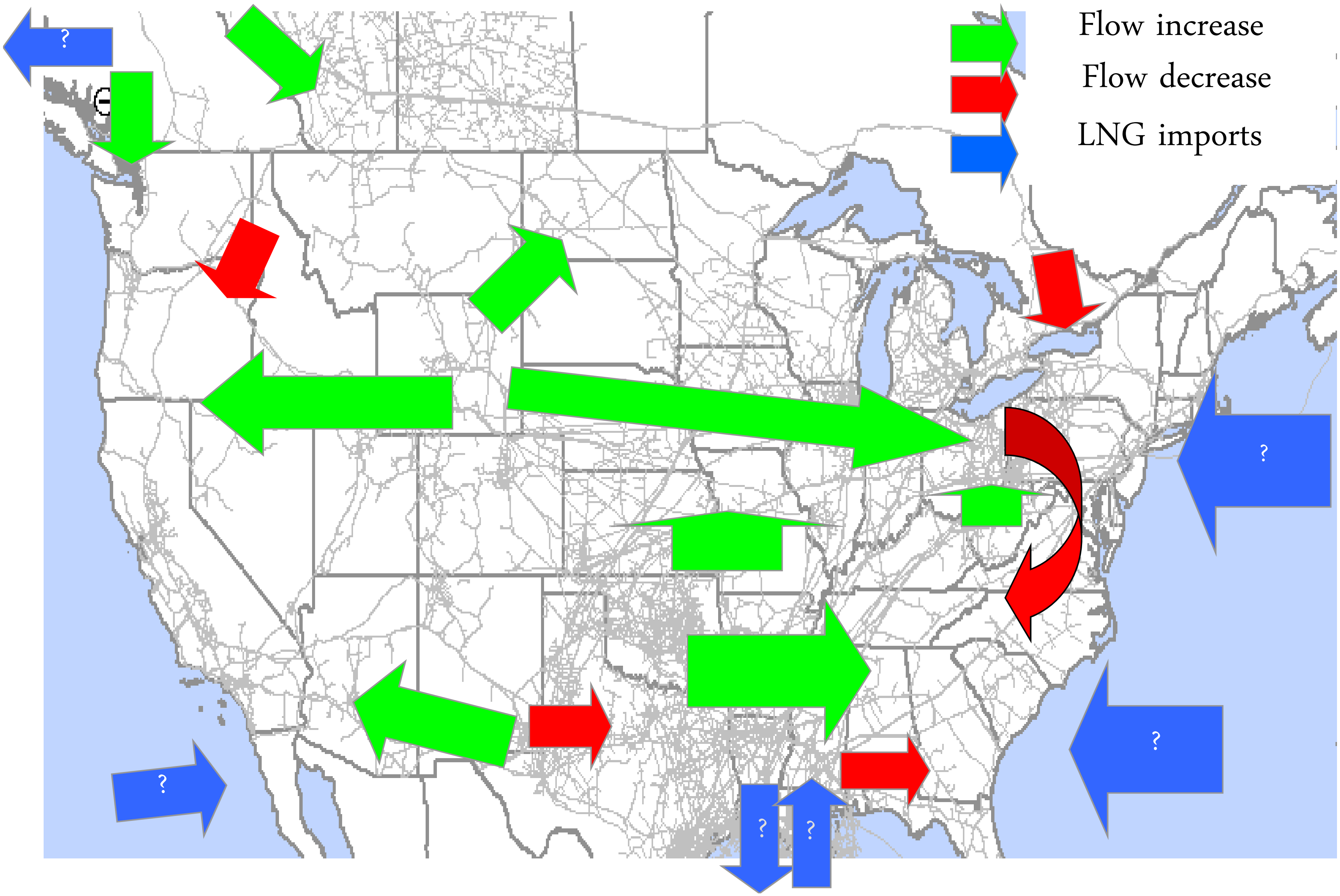


View of gas demand, competing fuels, indigenous gas supply costs, production, and LNG imports will influence long-term outlook of gas prices – many moving parts!

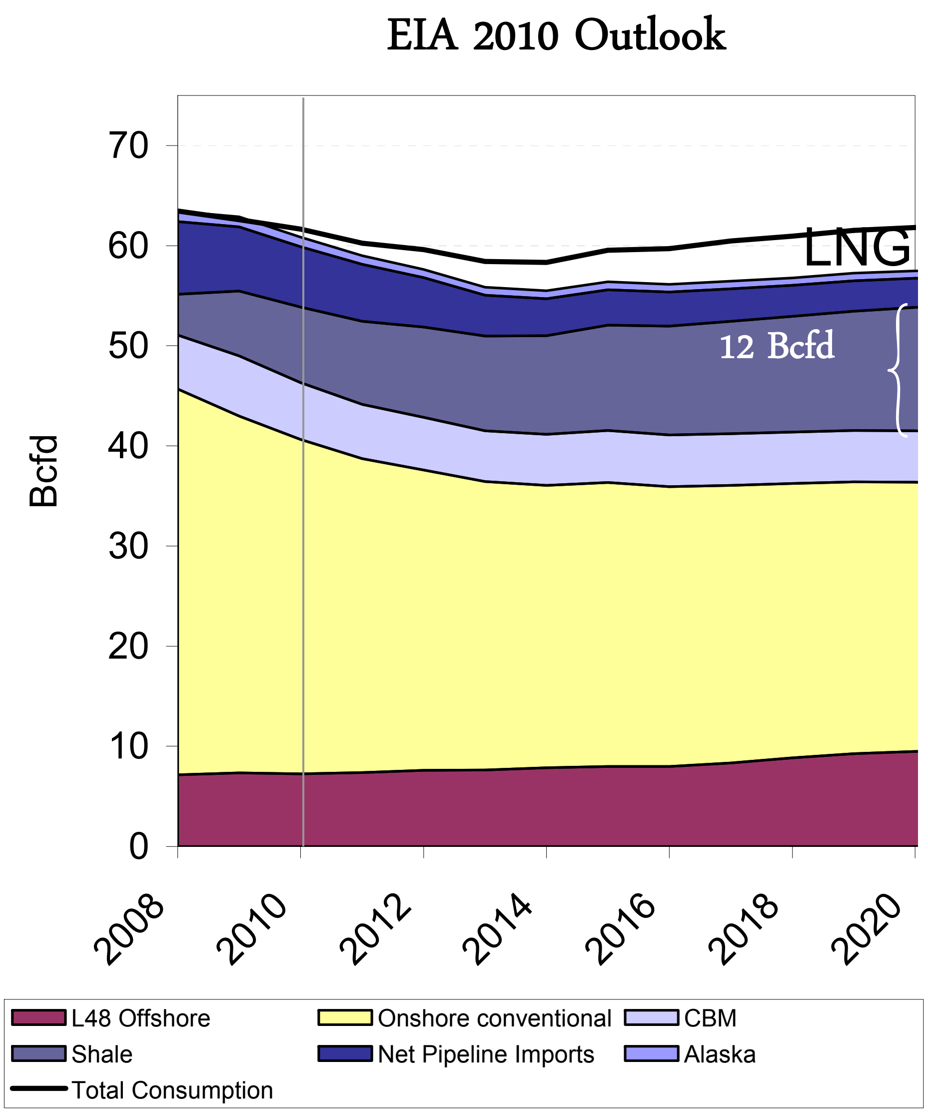
Questions?

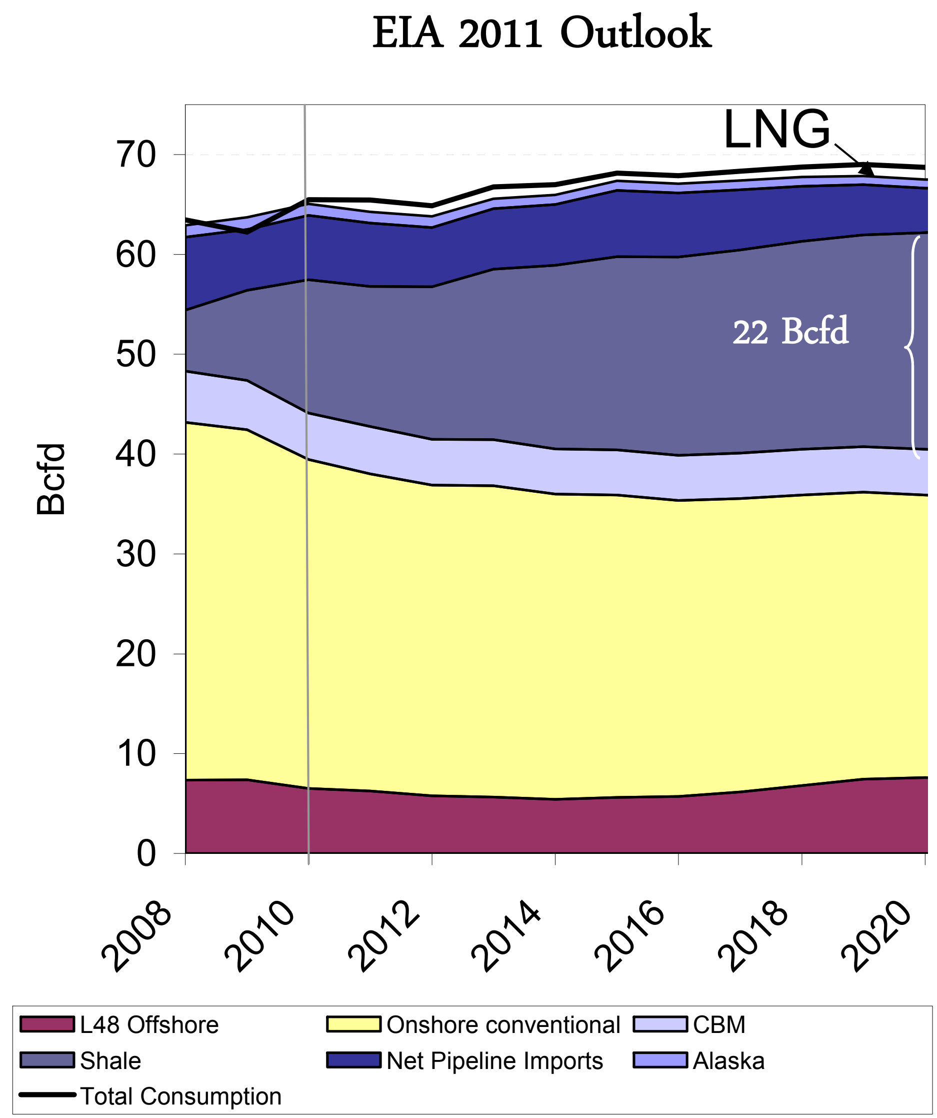
Official Partner

Regional flow dynamics are evolving



US natural gas balances: What a difference a year makes

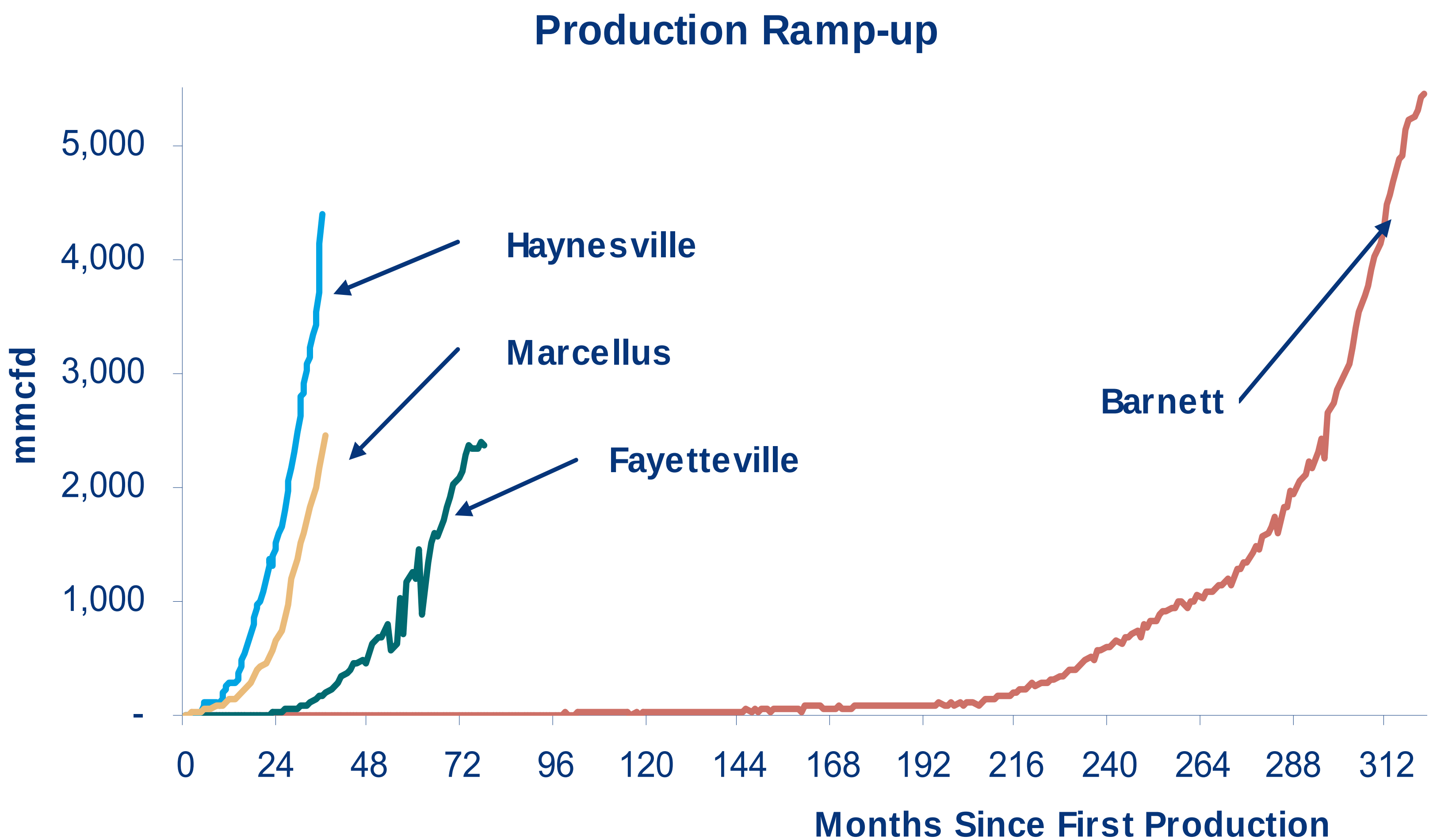




Source: EIA AEO 2010/2011

Technology breakthrough unlocked shale resource

Official Partner

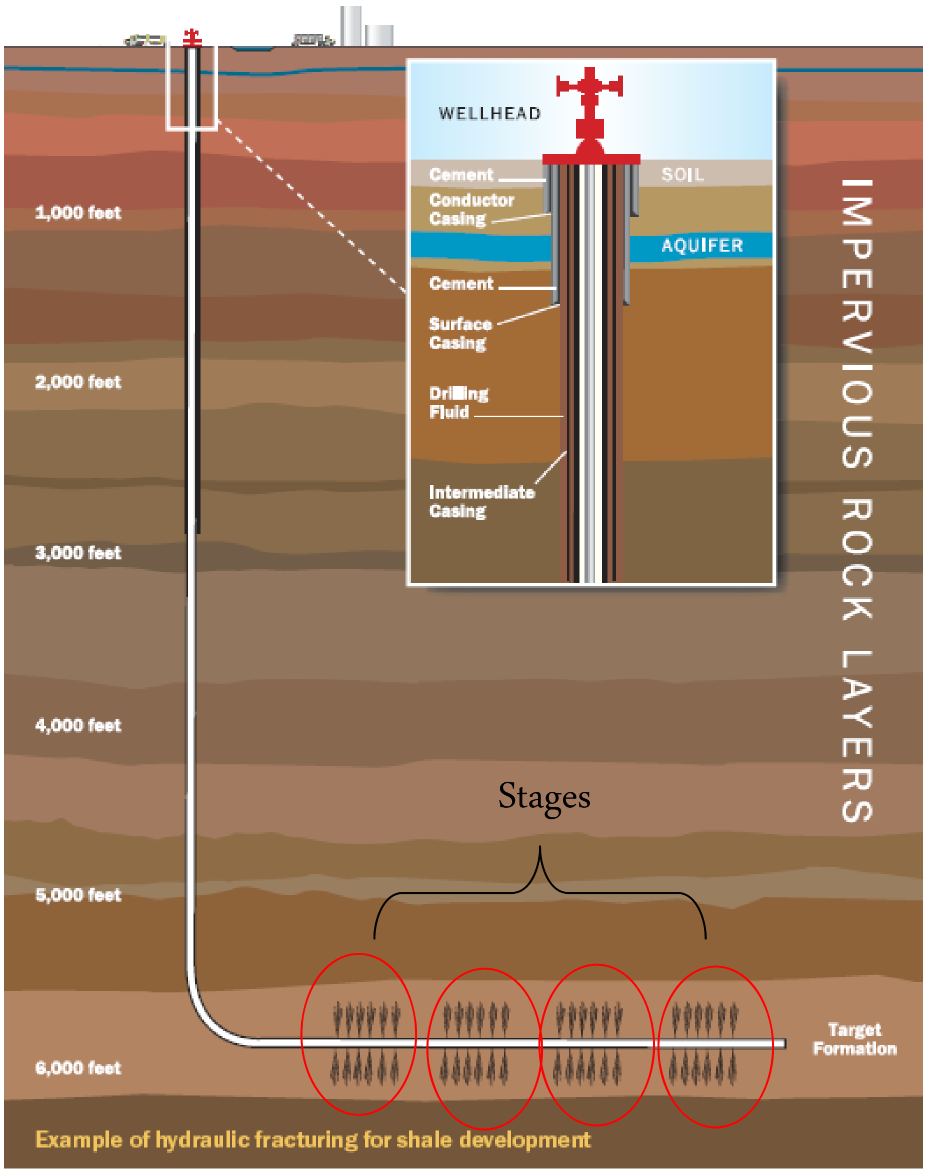


Source: Wood Mackenzie, State Production Data

Haynesville & Marcellus Time Zero is 1Q 2008; Fayetteville Time Zero is 2004; Barnett Time Zero is 1982

Source: WoodMackenzie

What is hydraulic fracturing?

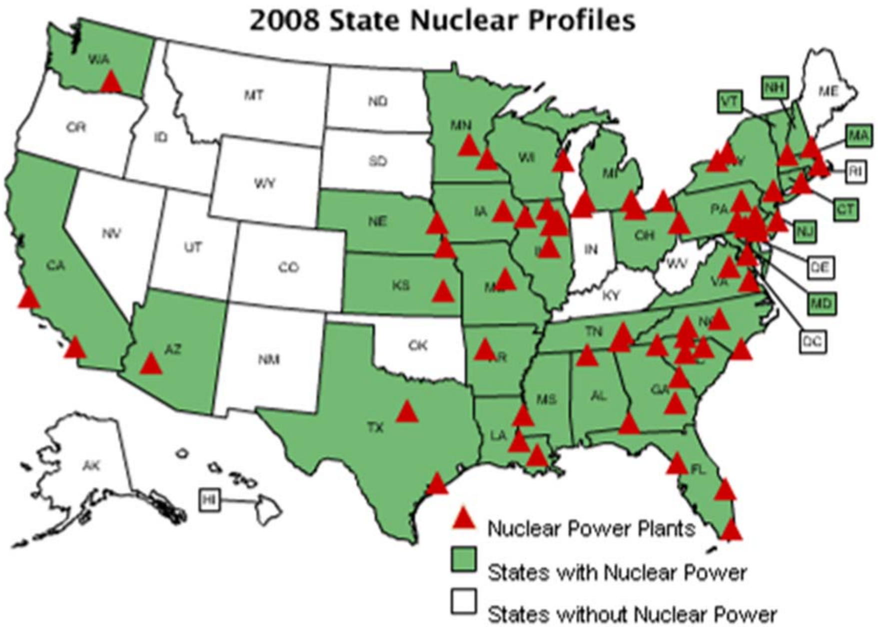


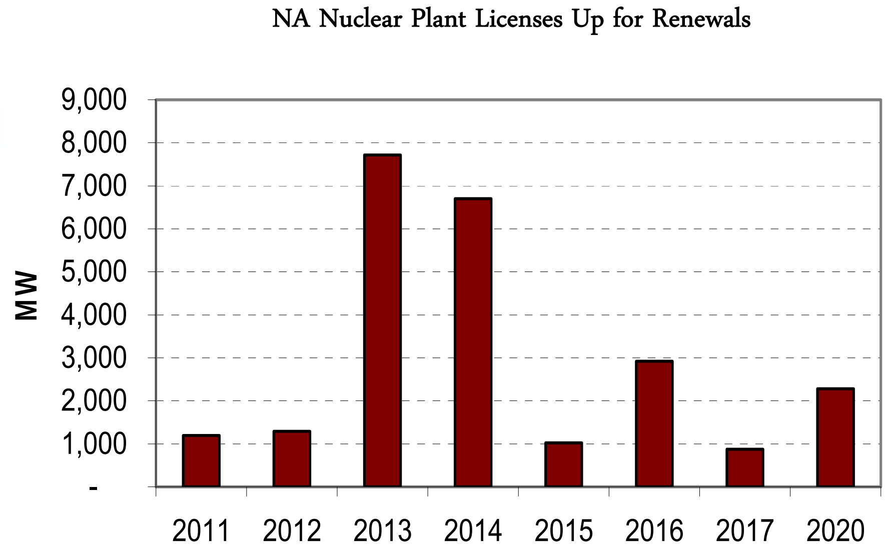
- Pump fracture fluid under high pressure to "prop" open the rock formation
- Proppants keep the fractures open for gas to flow to the well head
- Low permeability of rocks allows the combination of hydraulic fracturing and horizontal drilling to provide more exposure to the reservoir
- Fracture in stages to maintain pressure

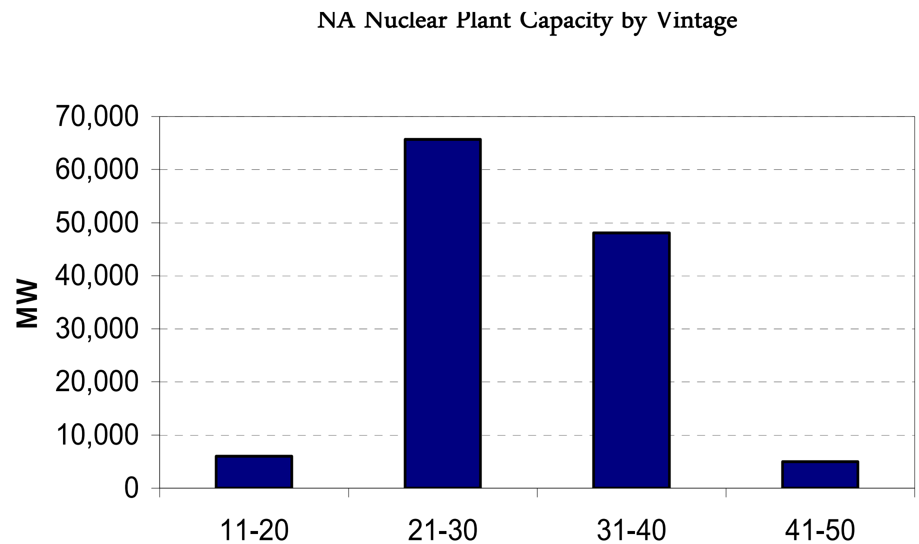
Issues

- Water availability and water management
- Chemical disclosure
- Flowback water or produced water
- Naturally Occurred Radioactive Material (NORM)

Highly utilized and aged nuclear fleet: Watch for license renewals







- *Approximately 20% of US electricity net generation is nuclear*
- *Beginning in 2009 the US Nuclear Regulatory Commission (NRC) granted 20-year license renewals to more than half of the nuclear operating reactors*
- *Operation length has increased from 40 to 60 years*

Source: EIA, NRC