

Fueling Our Future

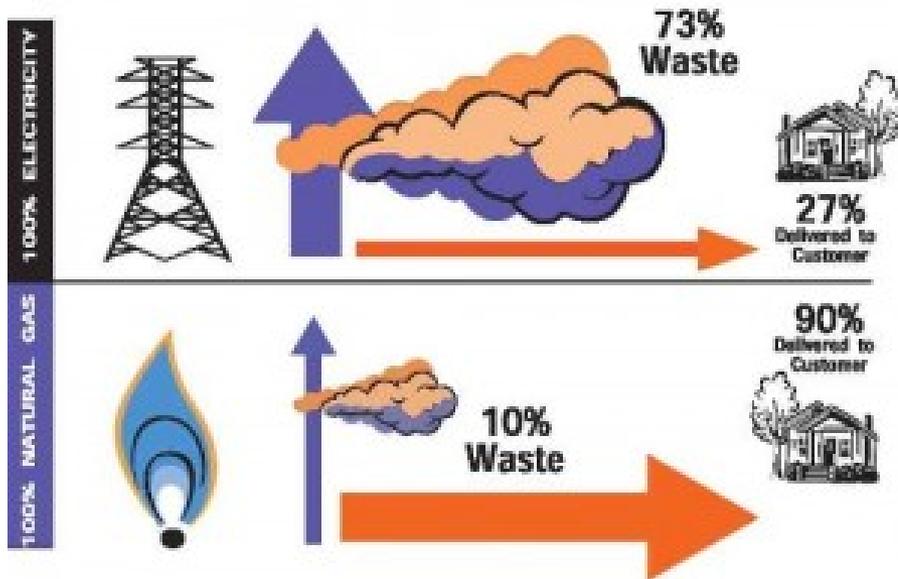
The Natural Gas Industry
Moderator: Robert Cook



Natural Gas – A Fuel of Choice



Natural Gas is Cleaner, More Efficient Than Coal-Fired Electric Power



Natural gas power generation has risen from 15% to 25% of the US power gen mix over the past decade.

Electric generation now comprises 25% of total US natural gas demand.

Natural Gas is Cleaner



Natural Gas vs. Coal*

Power plants that use natural gas instead of coal produce:

90x less sulfur dioxide

5x less nitrogen oxide

50% less carbon dioxide as those that run on natural gas

*Government Accountability Office (GAO)

Natural gas emits virtually no particulates (soot, ash, metals, airborne pollutants) into the environment. It emits only 10% as much as burning oil and 1% as much as coal.



The Clean Power Plan

STATED GOAL –

By year 2030, cut 30% of carbon emissions from the power sector.

An Energy Revolution



- The US has more natural gas than any nation on earth.
- Natural gas has started an energy revolution in the US and around the world.
- While Atmos is not involved in the production of natural gas, we welcome questions and discussion about our industry.
- We believe that natural gas can be produced and delivered in an environmentally responsible and sustainable manner.



Demand



Residential

90% of total customers

22% of total consumption

Weather sensitive

Conservation impact

Commercial

9% of total customers

15% of total consumption

Somewhat weather sensitive

Conservation impact

Market opportunities

Power Generation

<1% of total customers

31% of total consumption

Demand growing!

Difficult delivery requirements

Primarily transportation customer

Industrial

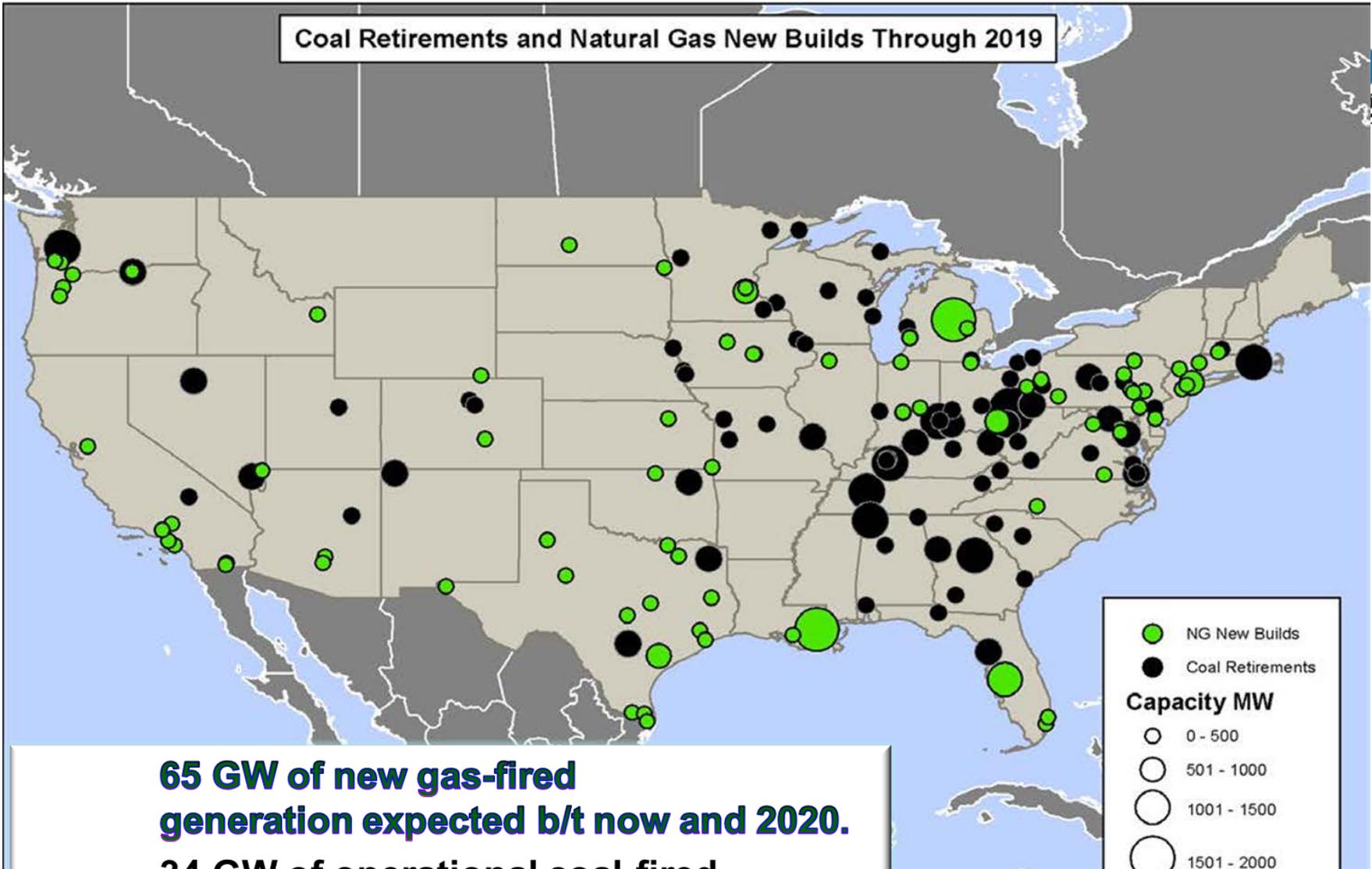
<1% of total customers

33% of total consumption

Primarily transportation customer



Coal Retirements and Natural Gas New Builds Through 2019

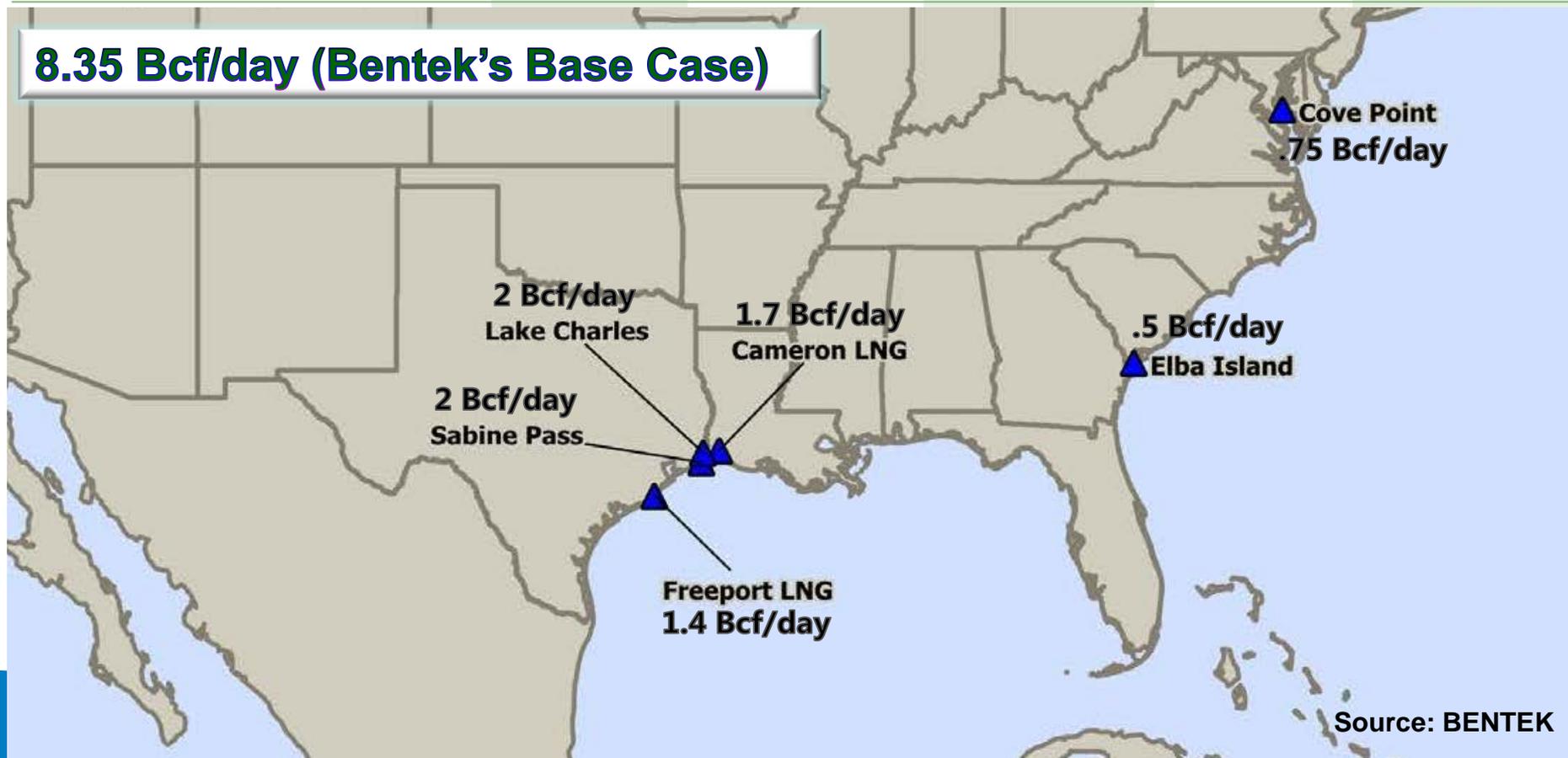


65 GW of new gas-fired generation expected b/t now and 2020.
34 GW of operational coal-fired capacity to be retired by 2020.

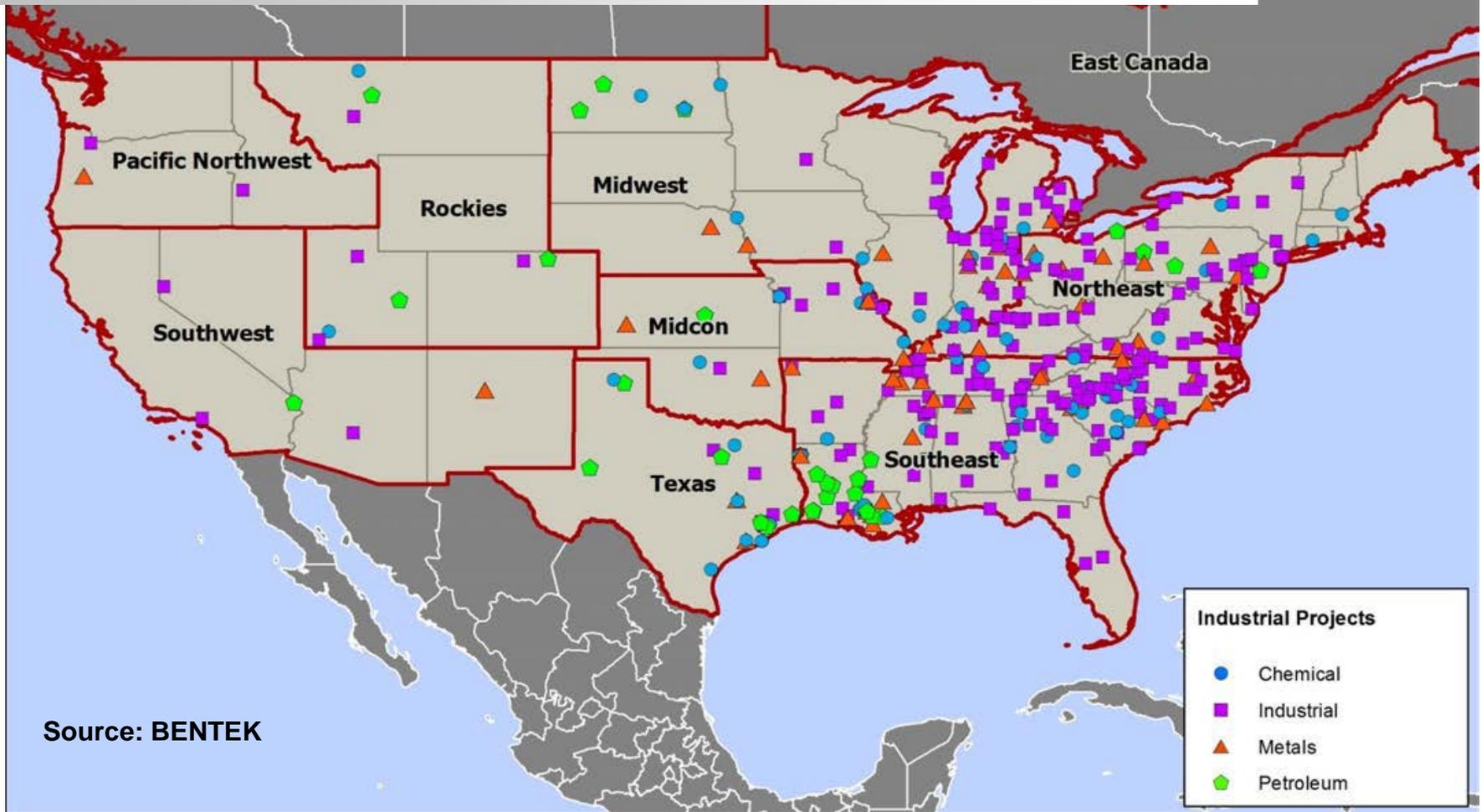
Table 13. US LNG Export Forecast Criteria

	Terminal	Pre-existing Infrastructure	MOUs (% of cap.)	FERC Prefiling	DOE Precedence	Regional Necessity
Base Case	Sabine Pass	Yes	91%	Approved	Approved	No
	Freeport	Yes	100%	12/23/2010	Approved	No
	Lake Charles	Yes	100%	3/30/2012	Approved	No
	Cove Point	Yes	92%	6/1/2012	Approved	Yes
	Cameron	Yes	97%	Passed Env.	Approved	No
	Elba Island	Yes	100%	12/6/2012	6th	No

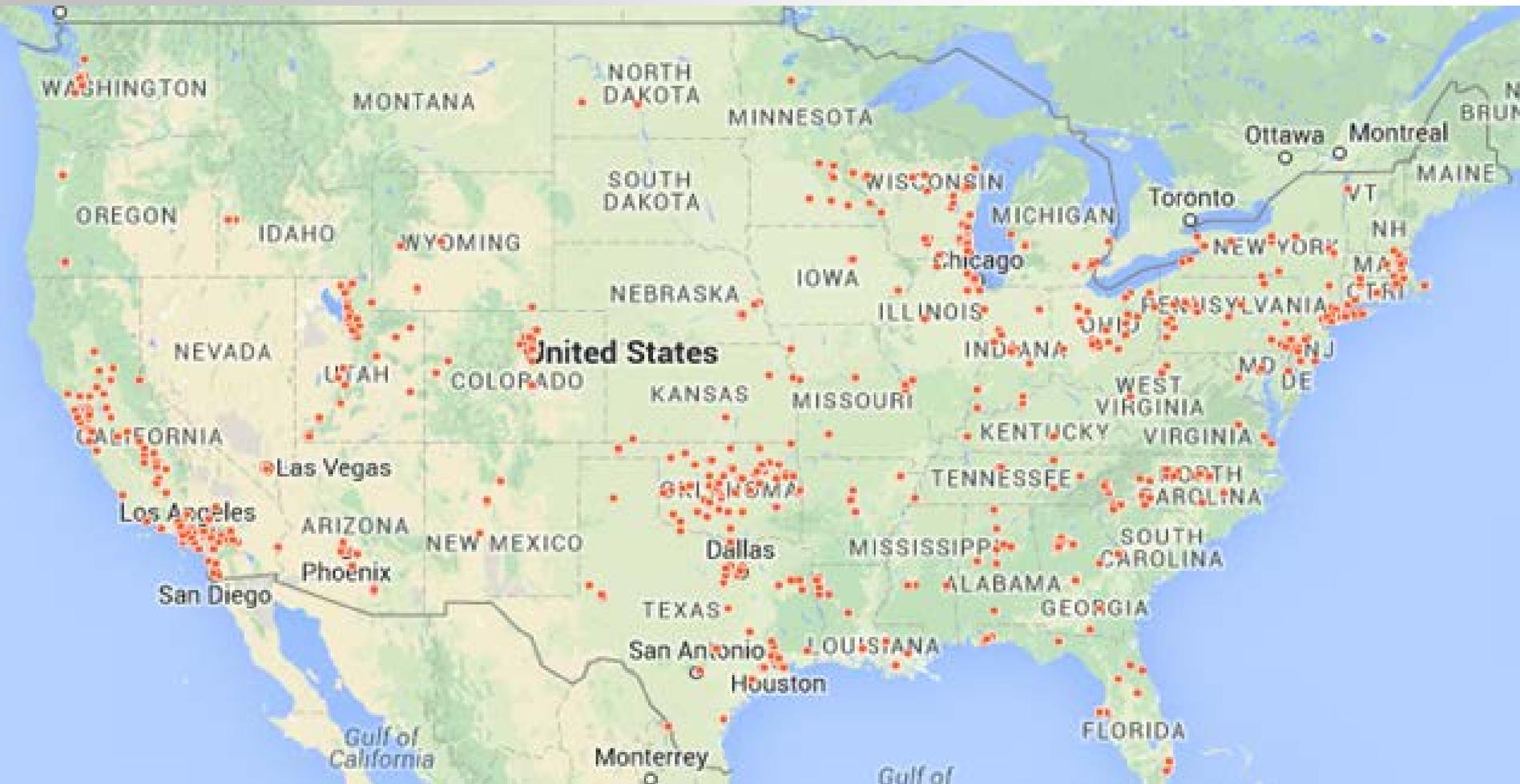
8.35 Bcf/day (Bentek's Base Case)



U.S. Industrial Plant Projects



CNG Stations...



Summary...20/20 on 2020



A new era of low and relatively stable gas prices have enabled our nation to experience an energy demand revolution...

- **Power demand (due to coal retirements and new gas-fired generation) is expected to be 5.5 Bcf/day.**
 - **Lets assume just over half of the demand develops at 3 Bcf/day.**
- **LNG exports are slated to come in at 8.5 Bcf/day.**
 - **But let's assume only 2 of the projects get built at 4 Bcf/day.**



Summary...20/20 on 2020



- **Industrial GTL's, methanol and fertilizer plants being built or proposed account for up to 2 Bcf/day of addl load by 2020.**
 - Methanol and fertilizer plants are more profitable than GTL plants and have a higher likelihood of actually being built out.
 - Assume half of methanol and fertilizer plants actually get built for 500k/day.
- **CNG/LNG sectors to add 500k/day of new demand.**
- **Total new demand Base Case: ~15 Bcf/day**
 - **Low case scenario is 8 Bcf/day**
 - (3 power, 4 LNG, .5 ind, .5 CNG)
 - **Wild Cards?**



An Energy Story...



World LNG Estimated Sept. 2014 Prices

Shale gas revolution has given U.S. manufacturers/end users a competitive advantage



Average LNG Prices

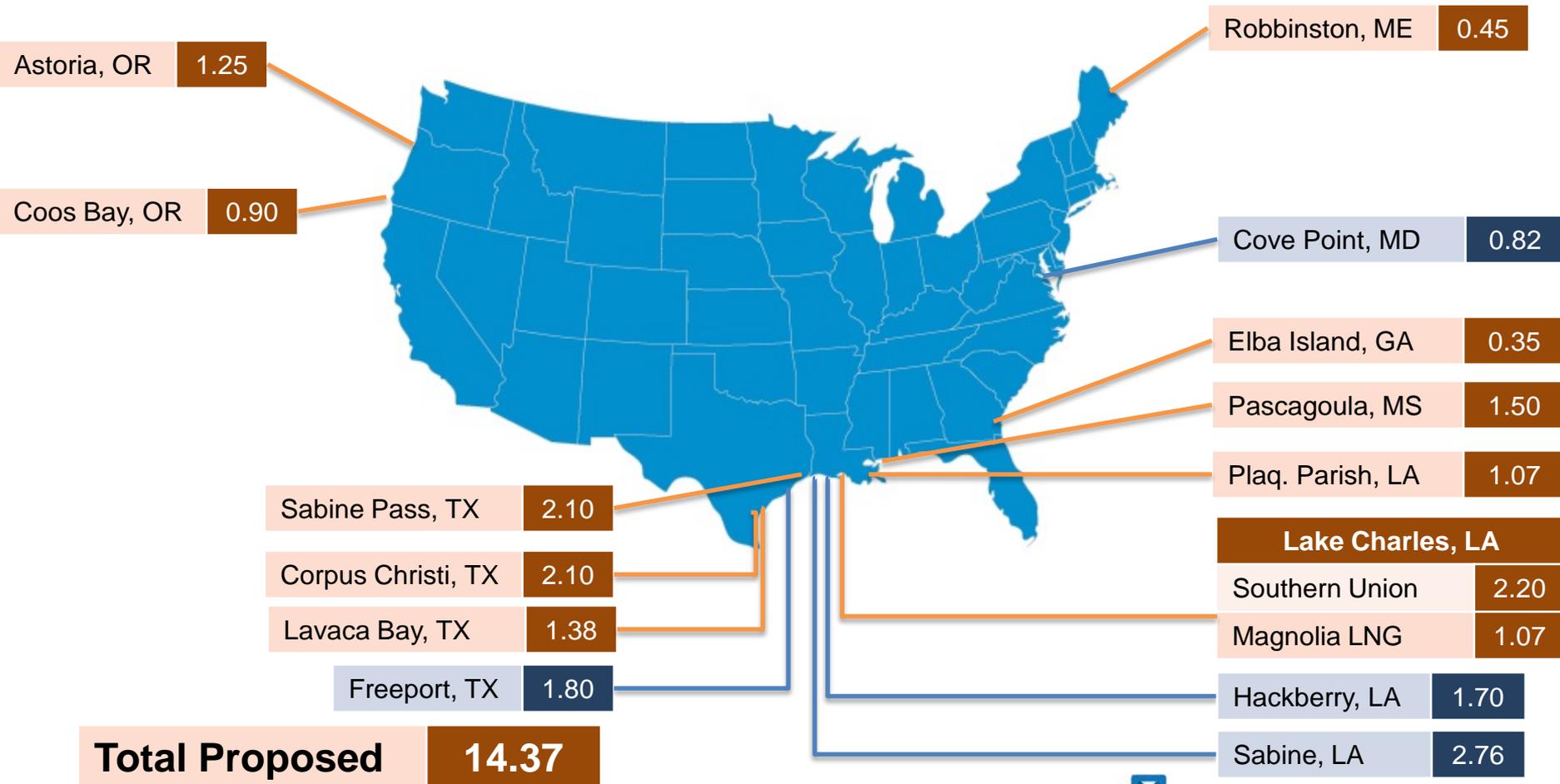
United States - \$2.92

Asia - \$10.31

Europe - \$7.51

South America - \$10.06

LNG Export Terminals and Capacity (Bcf/d)

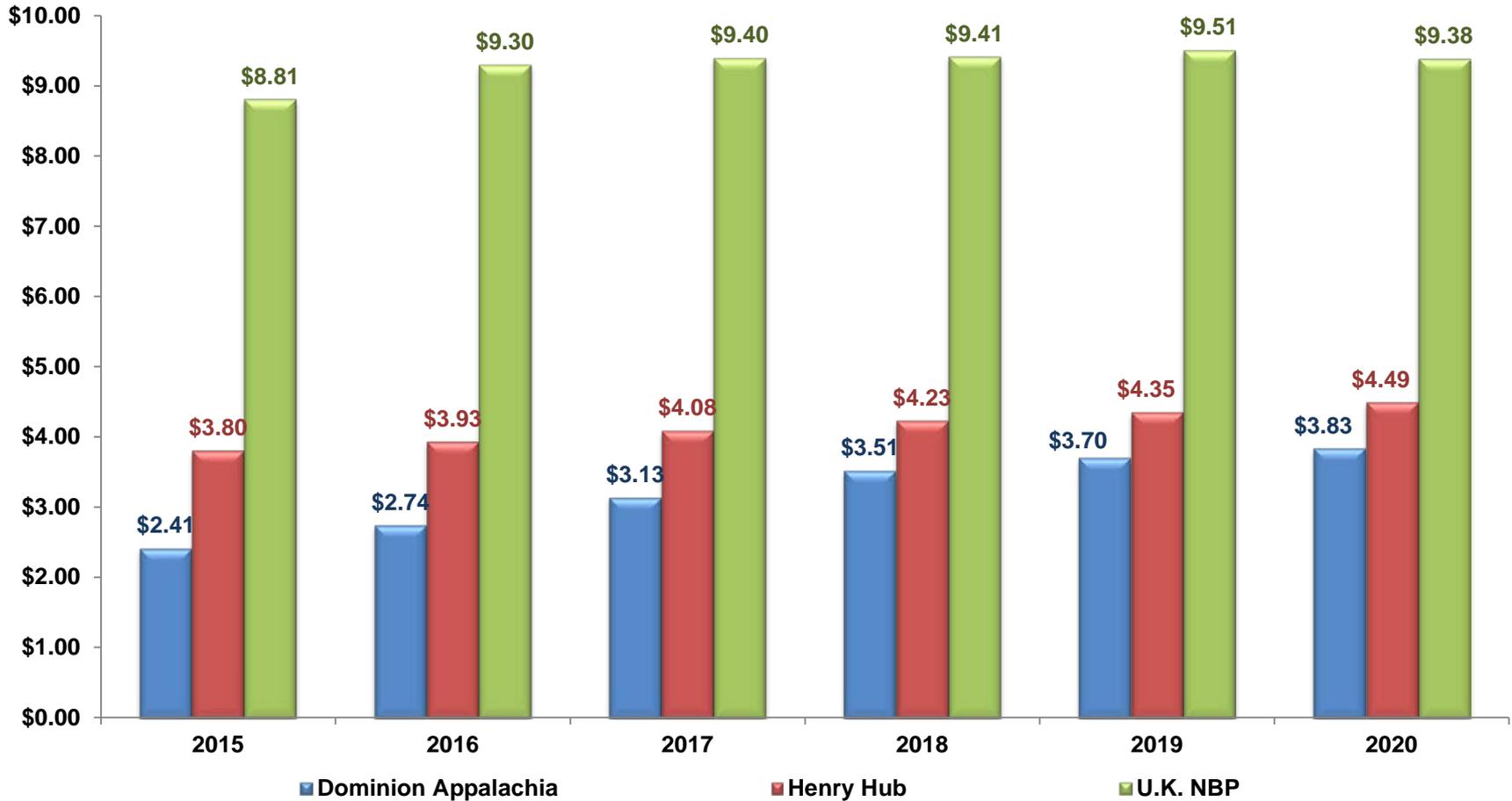


Total Proposed **14.37**

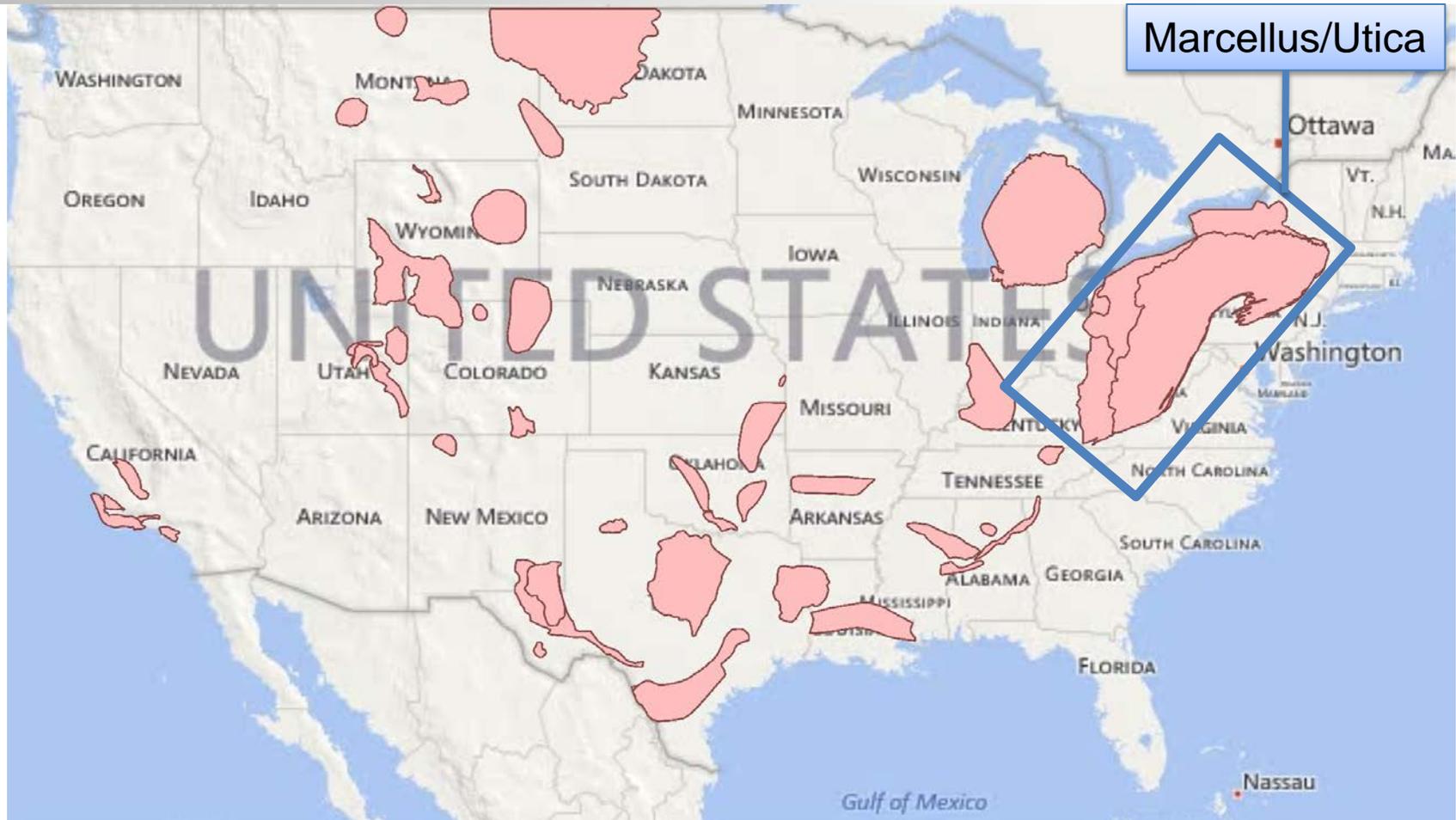
Total Approved **7.08**



Natural Gas Forward Curves



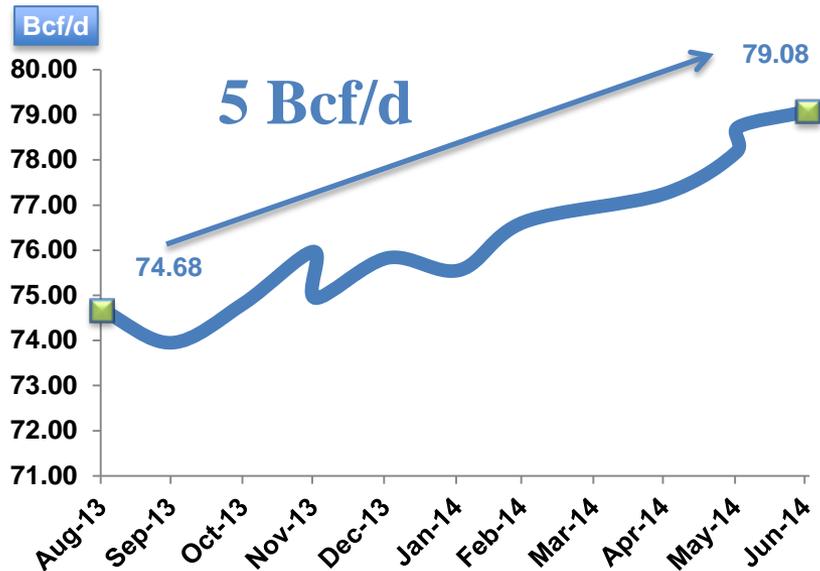
Marcellus & Utica



Marcellus & GOM Supply

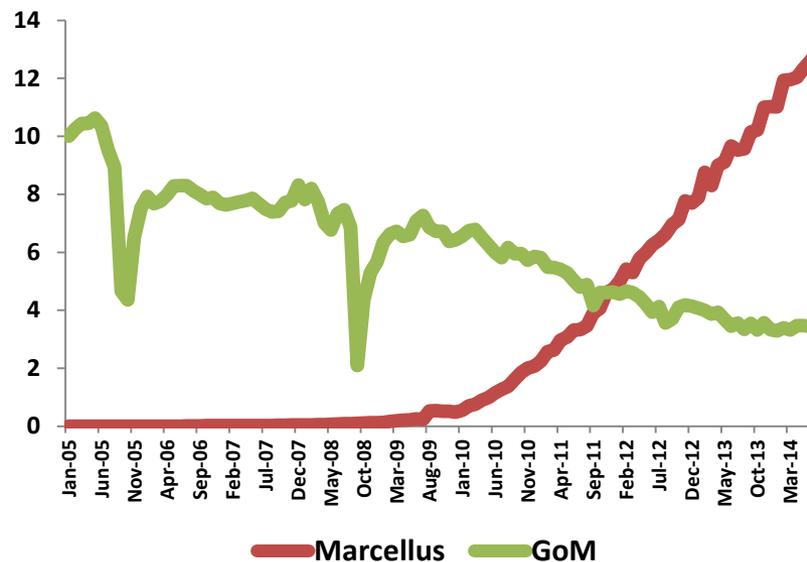


Total production over last year



Marcellus and Gulf of Mexico Production

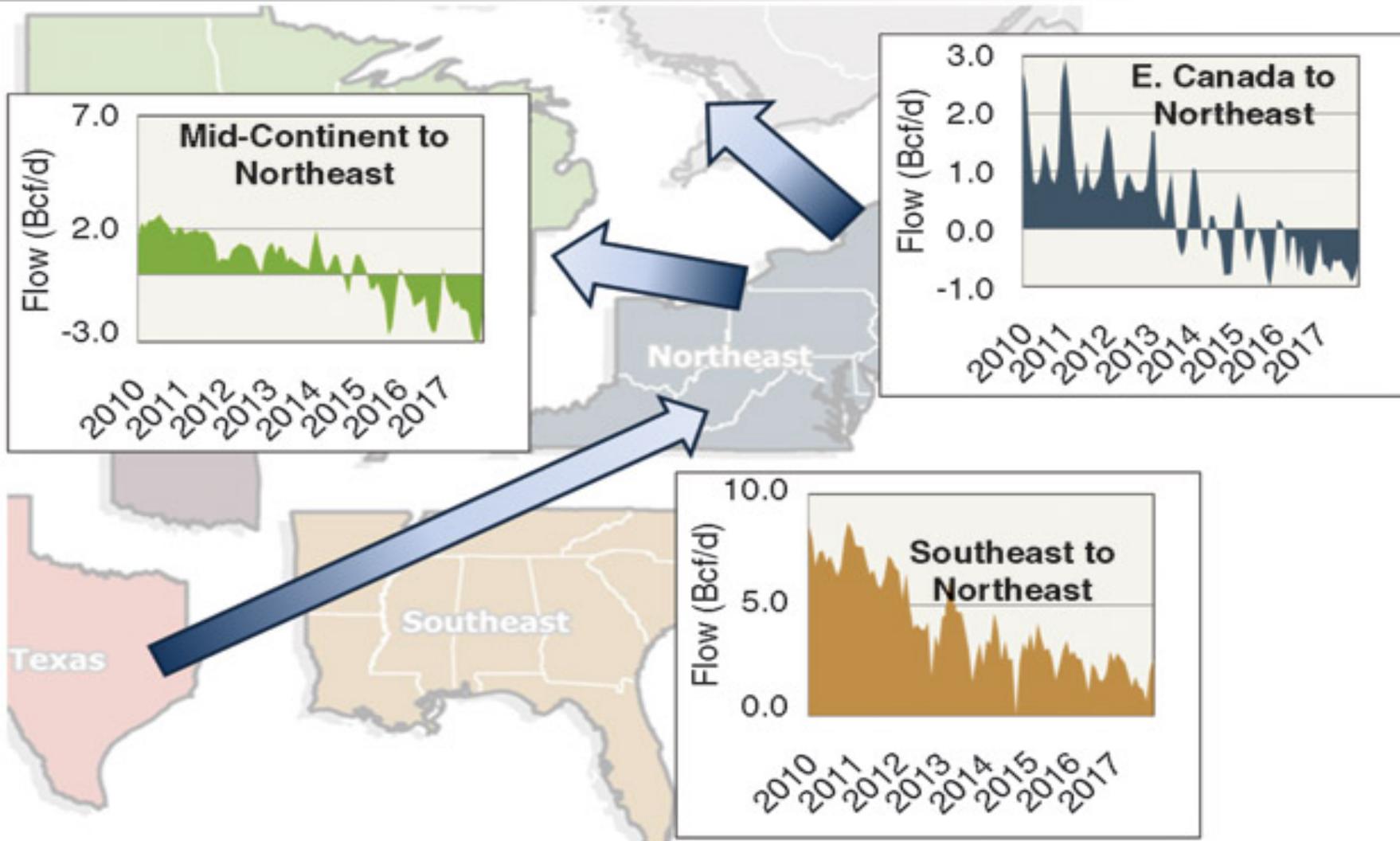
Jan 2005 to July 2014



Supply Source	July 2009	July 2014
Marcellus	0.4%	16%
Gulf of Mexico	11.8%	4.3%



Changing Pipeline Flows



Something to think about??



Should the U.S. restrict LNG exports?



PHOTO: STR/AFP/GETTY IMAGES

Something to think about??



Will natural gas vehicles capture significant US market share in the next 10 years?



Questions & Final thoughts...

