Natural Gas Fundamentals
MMAAA – June 14, 2017

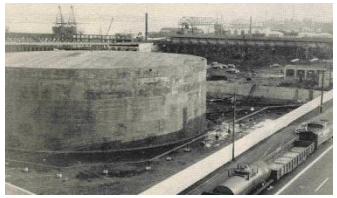
Mark Roberts – Managing Director

Sprague Overview

Company History

Fueling America's Growth *1870 to 1950*

- Founded in Boston in 1870 by Charles Sprague
- Supplied whale oil and coal, helping to fuel America's industrialization
- Owned fleet of 27 vessels transporting coal – Thomas Lawson *(above)*
- Ran Allied coal support efforts in WWI and WWII



Terminals and Fuels Expansion 1950-1960; Energy Crisis *1970 to 1985*

- Transitioned to residual fuel oils
- Acquired and built new terminals
- Focused on industrial customers
- Sprague family sold to Royal Dutch Shell…
- …only to sell to Axel Johnson Inc. two years later
- Expanded into distillate fuels and reseller class of trade
- Built two small refineries

Expanding the Asset Base *1986 to 2000*

- Expanded product offerings:
  - Gasoline
  - Natural Gas
- Leveraged terminals for bulk materials handling
  - Coal
  - Gypsum
  - Road Salt
- Initiated bulk liquid storage
  - Asphalt
  - Clay Slurry
  - Vegetable Oil

Expanding Capabilities *2000-2010*

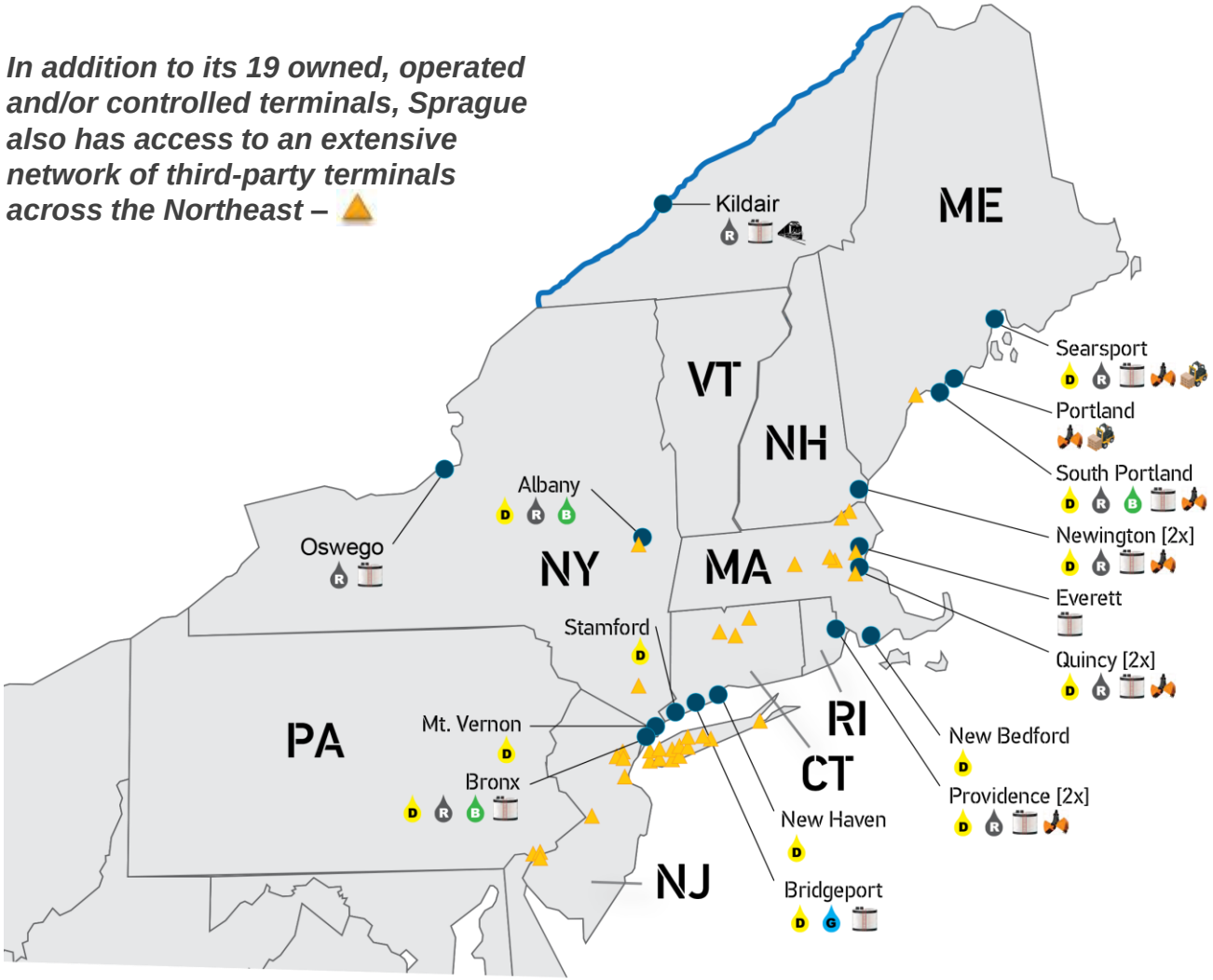
- Invested substantially in system/process improvement
- Acquired RAD Energy and expanded delivered business
- Expanded into break bulk handling of paper/forest products
- Introduced Biofuel
- Acquired Hesco; propelled down-market Natural Gas expansion
- Acquired 50% equity investment in Kildair
  - Asphalt and residual fuel marketing and storage (3.2 MM bbl tankage)

Increasing the footprint *2010 – Present*

- SpraguePORT® RealTime® programs expanded
- Geographical footprint in Northeast expanded
  - Increased to 19 controlled terminals with Bridgeport, CT, and East Providence, RI.
  - 60 additional marketing locations
  - Natural gas behind 46 utilities in 12 states and Washington, D.C.
- Initial Public Offering as a master limited partnership
  - NYSE "SRLP"

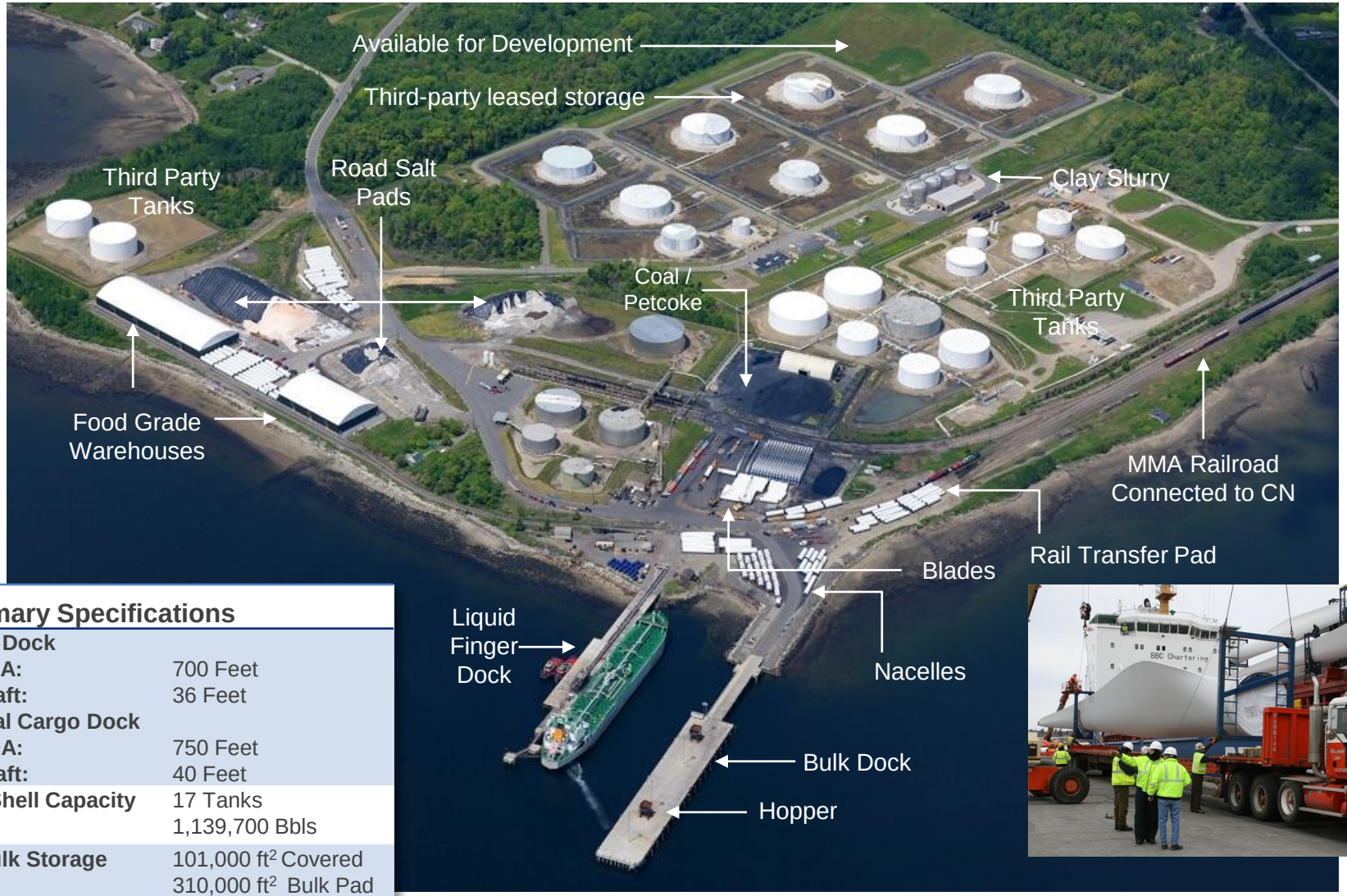
Our Owned and/or Operated Terminals

In addition to its 19 owned, operated and/or controlled terminals, Sprague also has access to an extensive network of third-party terminals across the Northeast –



- Residual
- Gasoline
- Distillate
- Biofuel
- Liquid Bulk
- Break Bulk
- Dry Bulk
- Crude Oil Handling

Sample Terminal: Searsport, Maine



Summary Specifications	
Liquid Dock	
LOA:	700 Feet
Draft:	36 Feet
General Cargo Dock	
LOA:	750 Feet
Draft:	40 Feet
Tank Shell Capacity	17 Tanks 1,139,700 Bbls
Dry Bulk Storage	101,000 ft^2 Covered 310,000 ft^2 Bulk Pad
Total Acreage	157 Acres

Unloading Blades

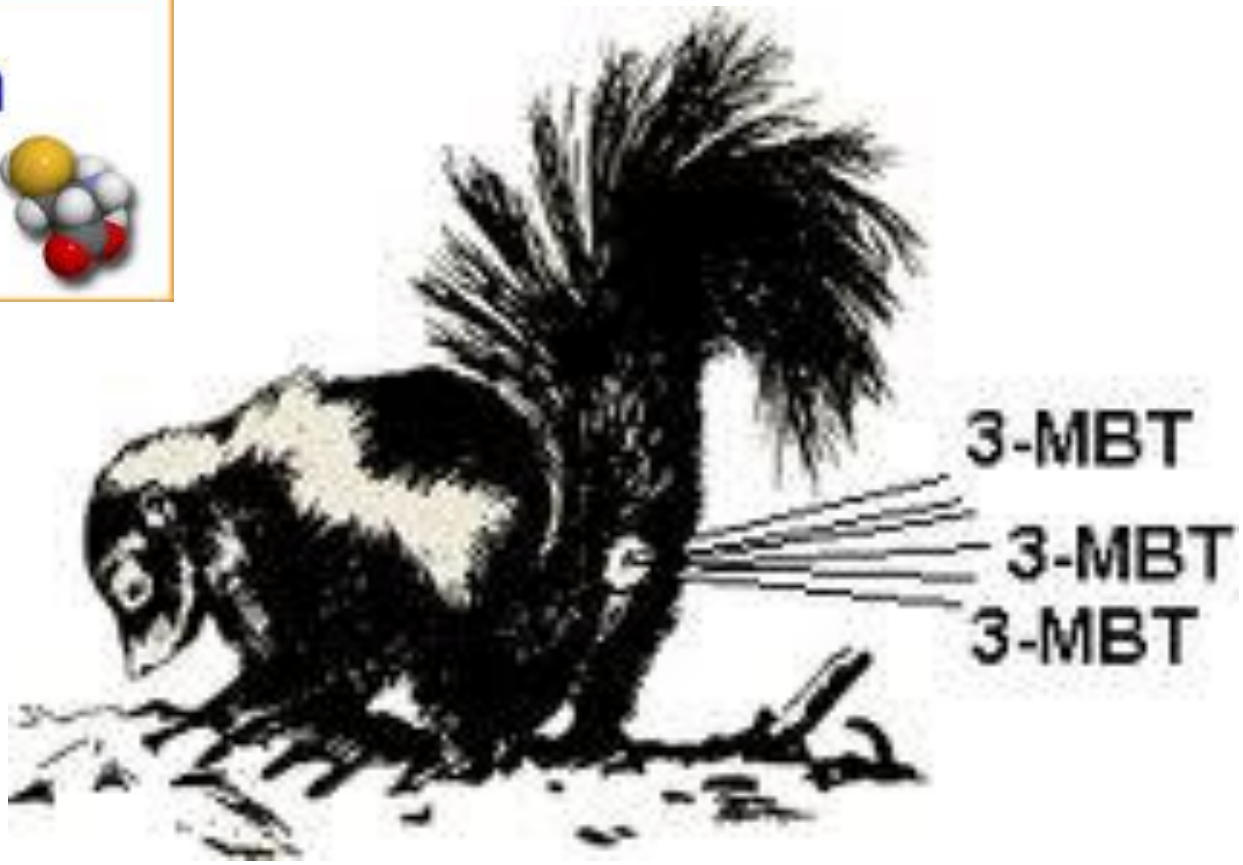
So – what is Natural Gas?

- Hydrocarbon
- Natural gas is 95 percent Methane (CH4)
- Plus four other hydrocarbons: Ethane (C2H6) - 2.5%, Propane (C3H8) - 0.2%, Butane (C4H10) - 0.06%, Pentanes Plus (C5H12 + C10H22) - 0.02%
- It also contains small amounts of: Nitrogen (N2) - 1.6%, Carbon Dioxide (CO2) - 0.7%, Hydrogen Sulphide (H2S) - trace, Water (H2O) - trace

What's it look like?

What's it smell like?

Mercaptan Sulphur



Basics – When and Where was Oil and Gas Discovered?

- Titusville PA 1859 – The Drake Well

Production

Natural Gas Supply Areas– OLD DAYS

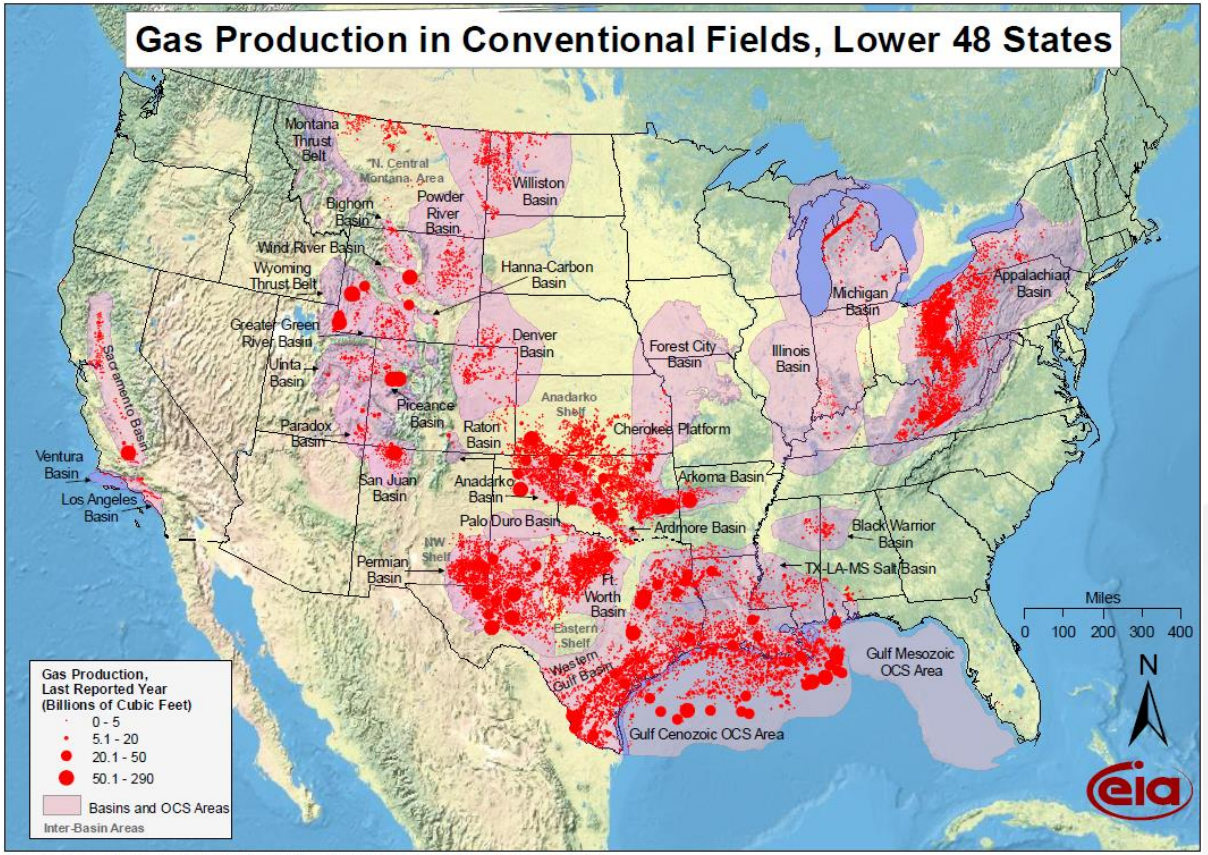
Major North American Production Areas

U.S. Production Areas

- Gulf Coast production basin
- Mid-Continent production basin
- Permian basin
- Appalachian basin
- Rocky Mountain basin

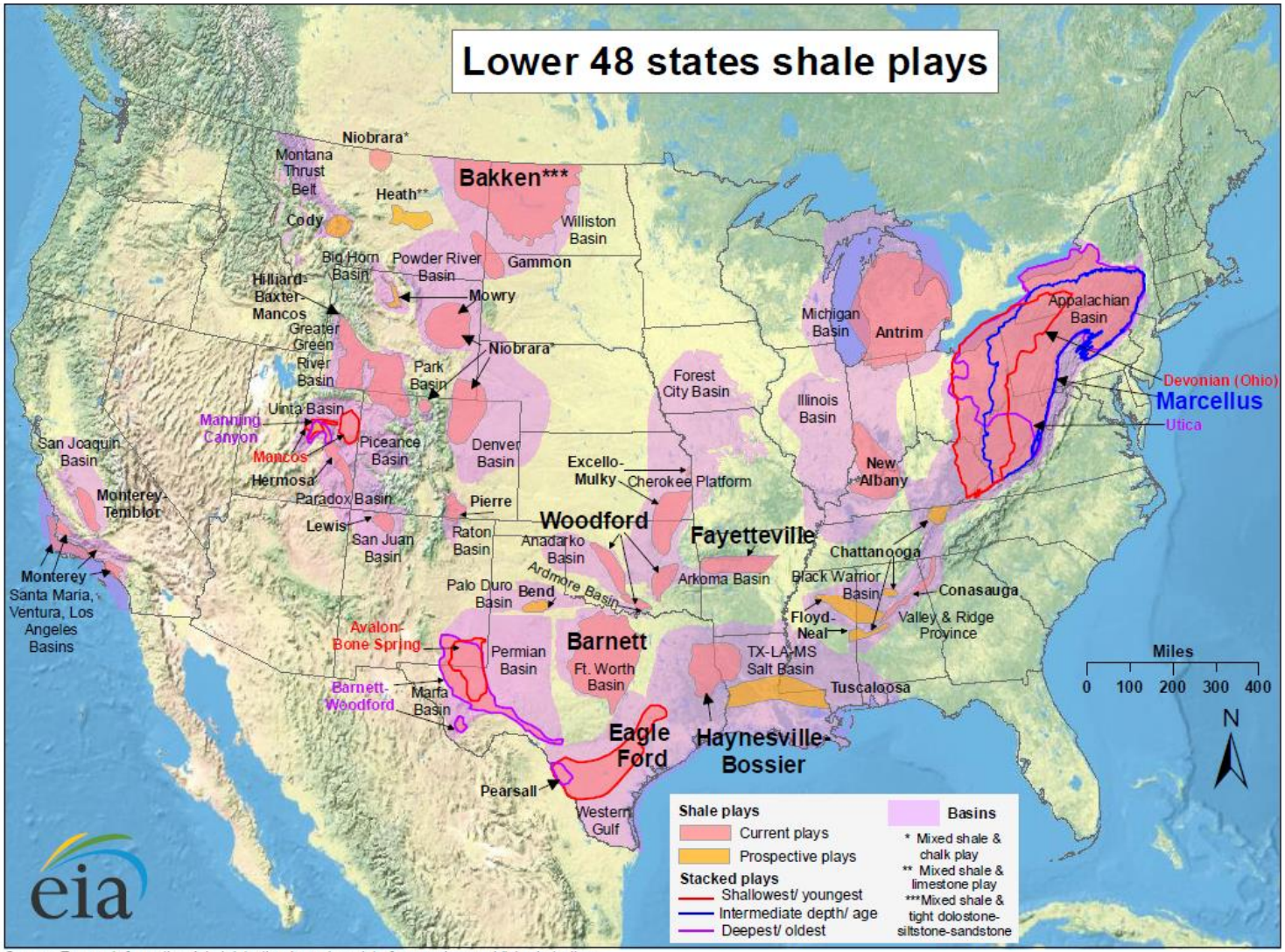
Canadian Production

- Western Canadian basin



Source: Energy Information Administration based on data from HPDI, IN Geological Survey, USGS
Updated: April 8, 2009

U.S. Shale Natural Gas Areas – NEW WORLD

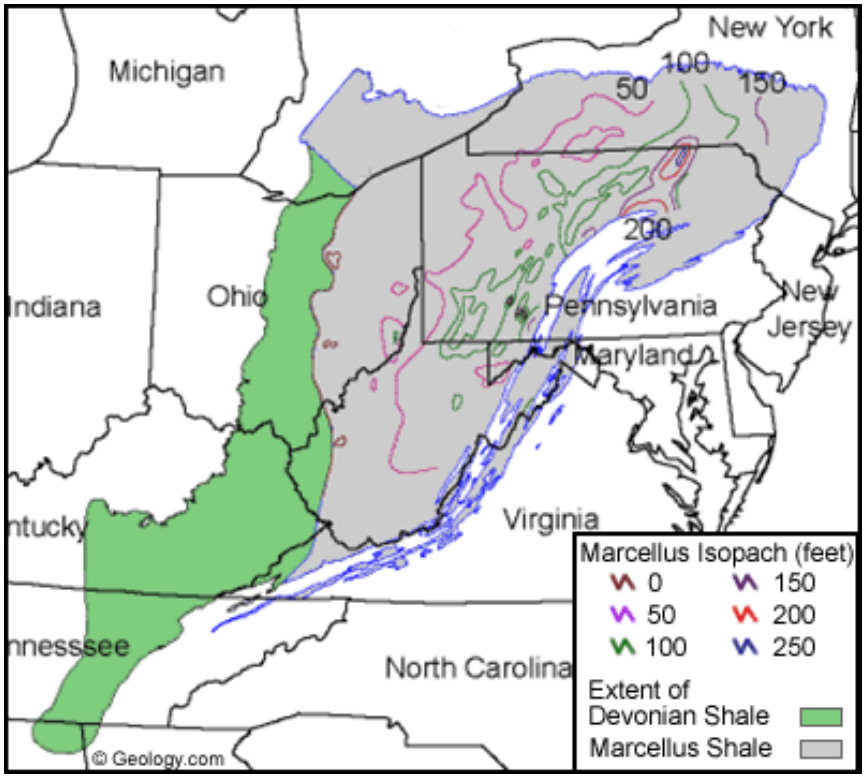


Source: Energy Information Administration based on data from various published studies.
Updated: May 9, 2011

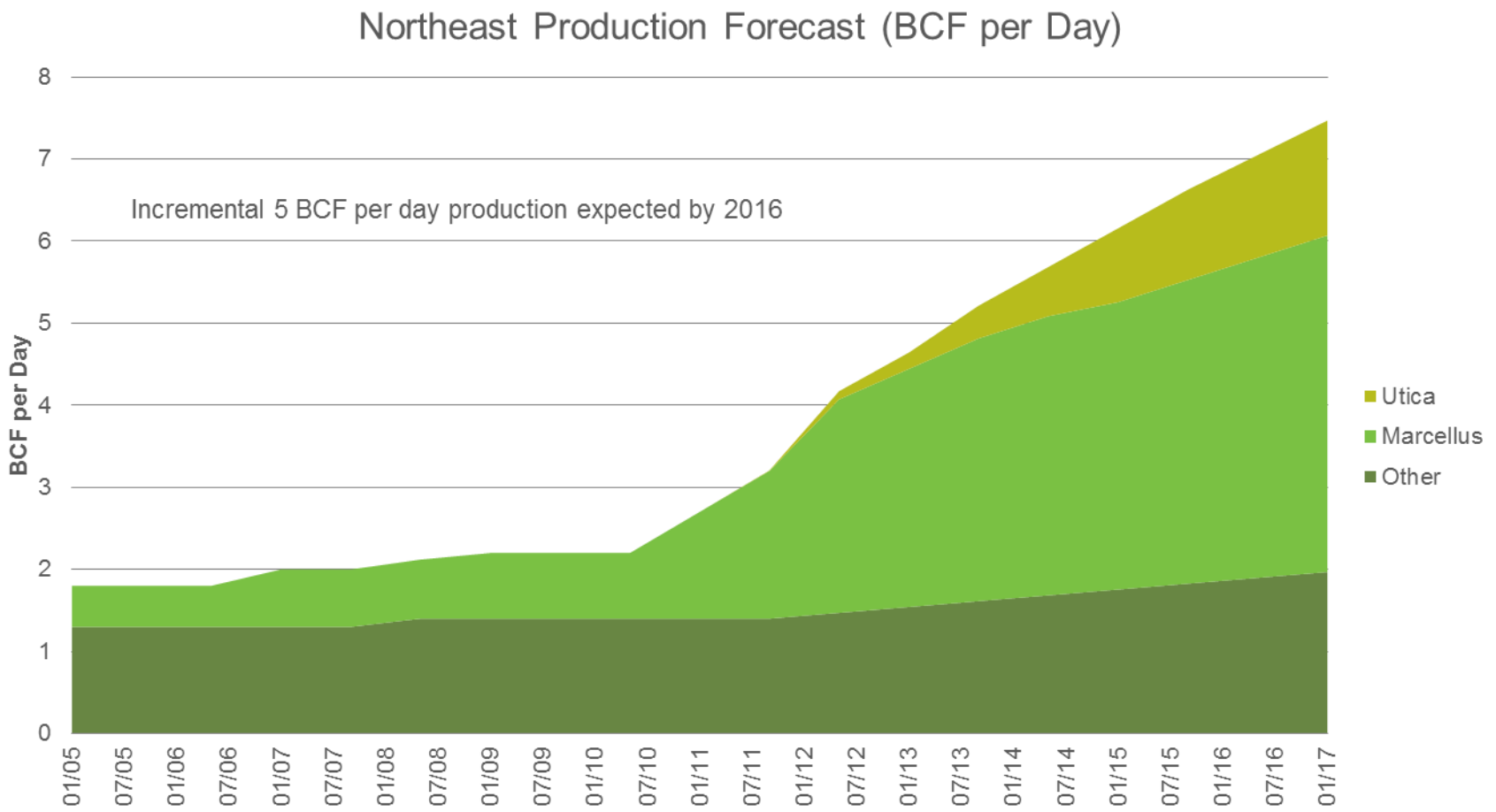
Marcellus Shale Production Basin

An important natural gas production play in our backyard

- The Marcellus basin appears to be the largest of all the U.S. shale basins plays
- The Marcellus is strategically located in the northeast U.S. near the premium natural gas markets
- By 2016 northeast U.S. production is expected to produce 4.7 TCF per year = U.S. northeast usage

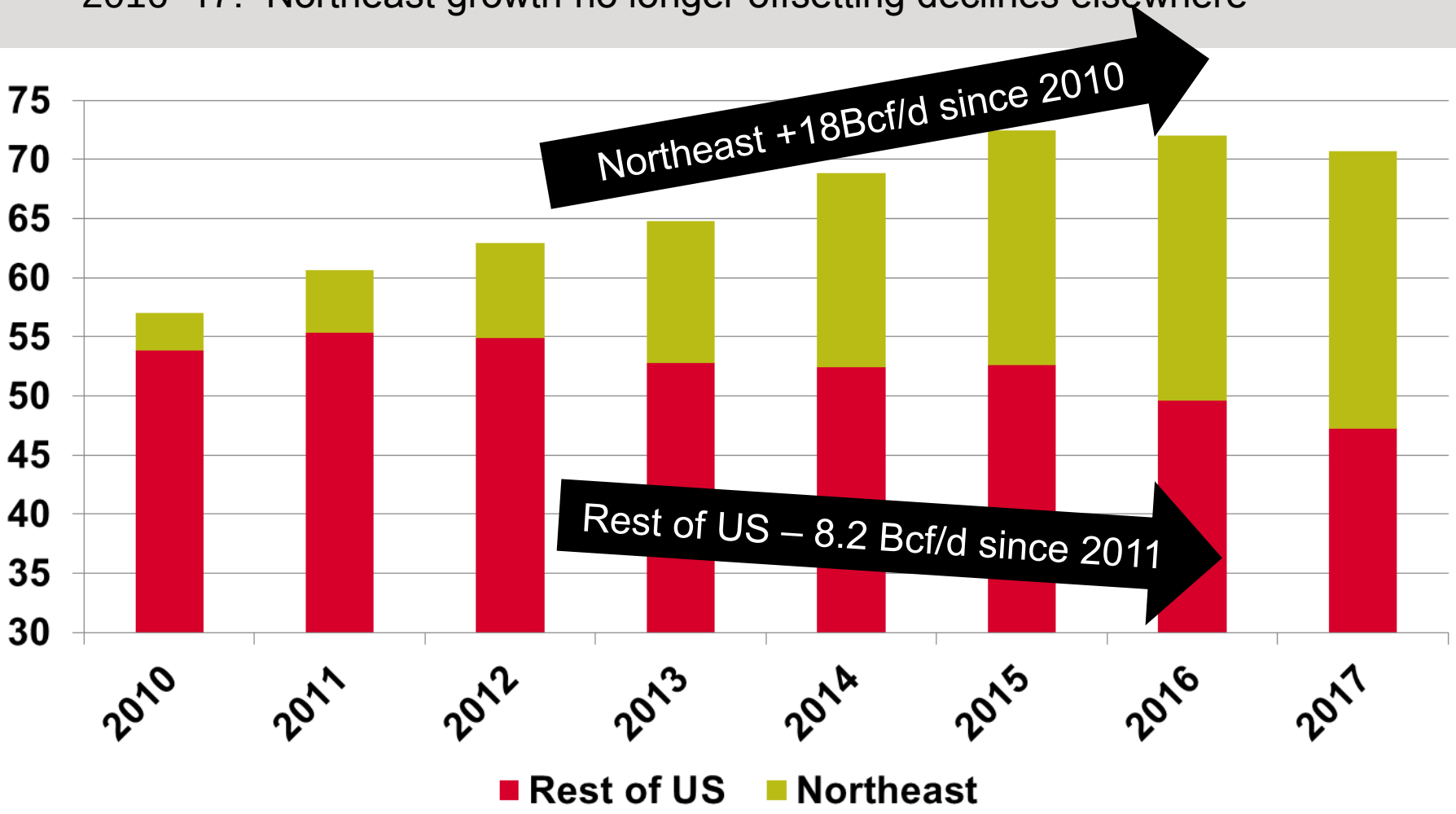


North East Production Takes OFF

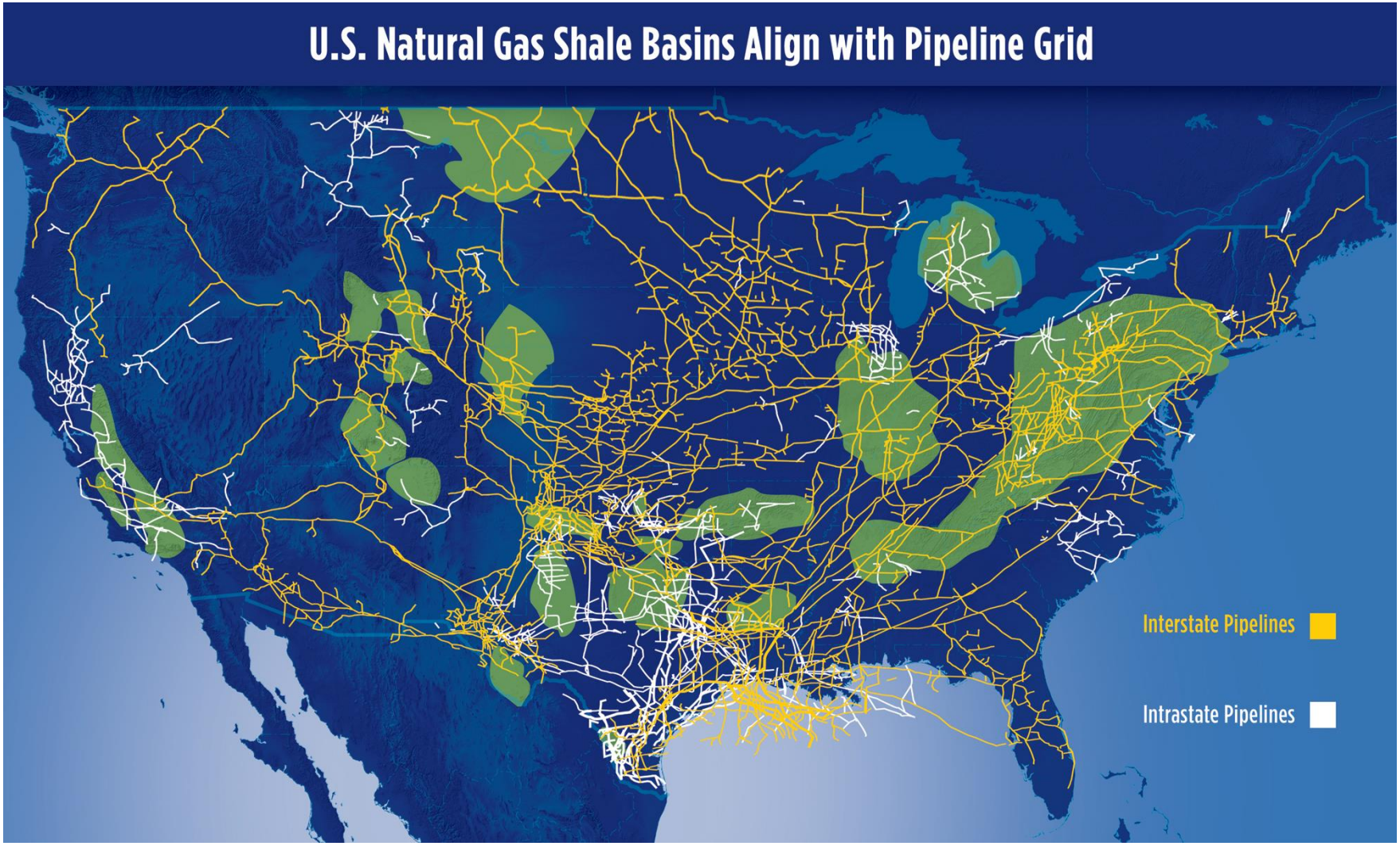


Northeast Growth vs. Rest of US Declines (Bcf/d)

2016-'17: Northeast growth no longer offsetting declines elsewhere



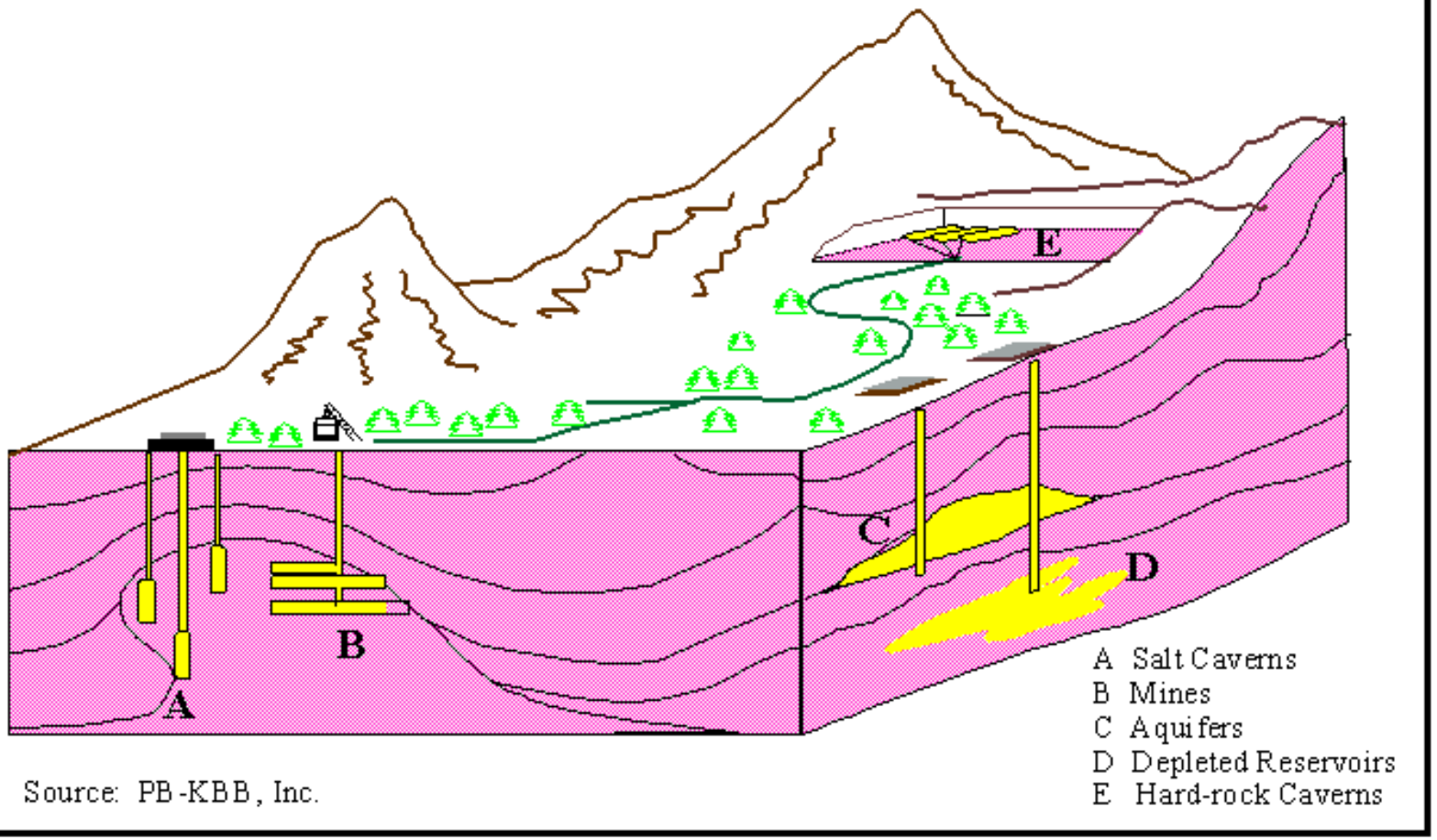
Natural Gas Supply and Transportation



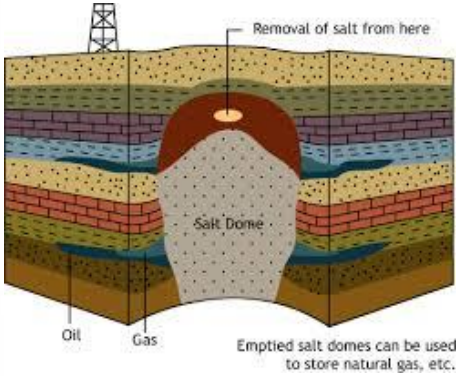
Pretty Pipelines

Underground Storage

Figure 1. Types of Underground Natural Gas Storage Facilities



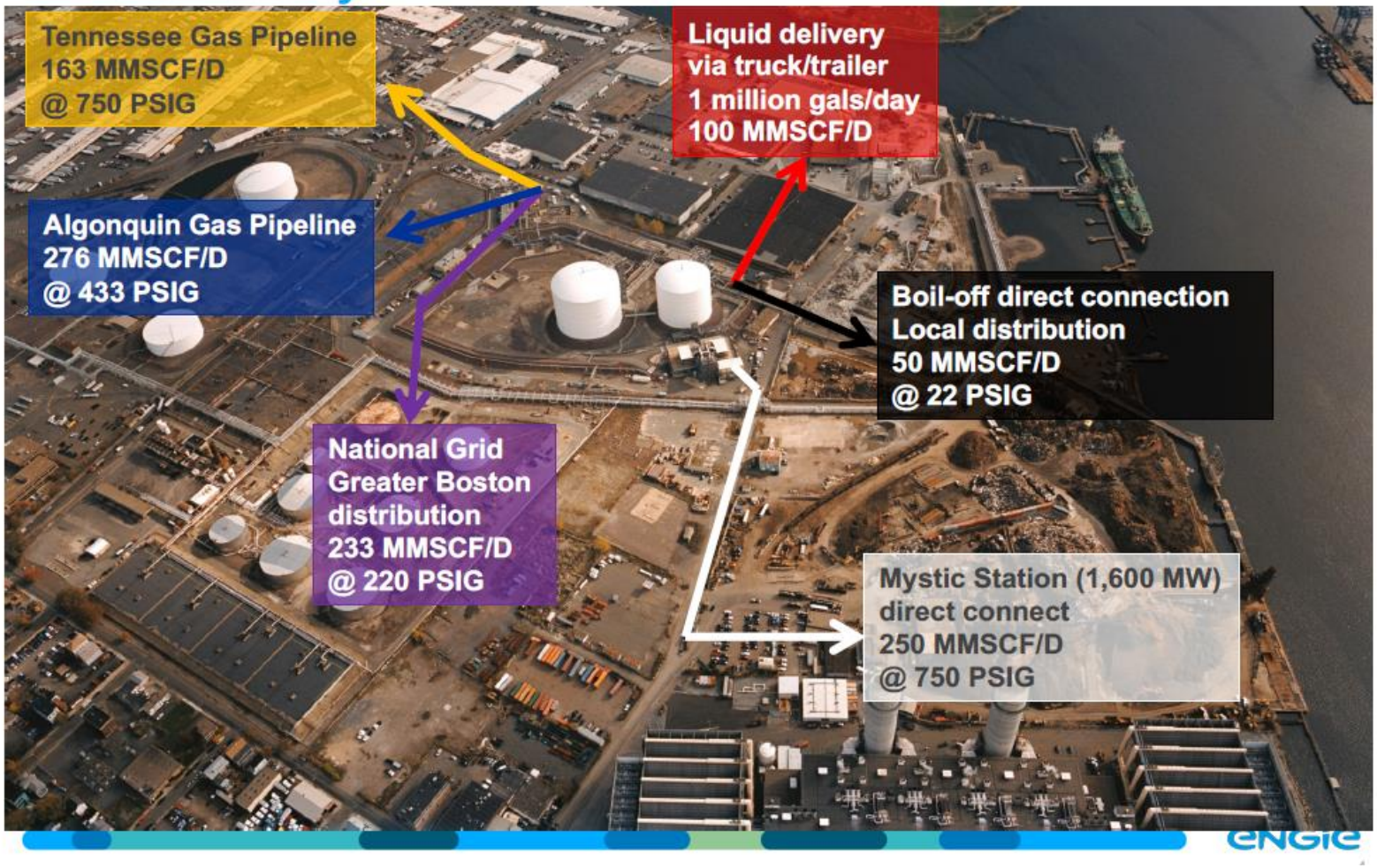
Salt Dome Storage



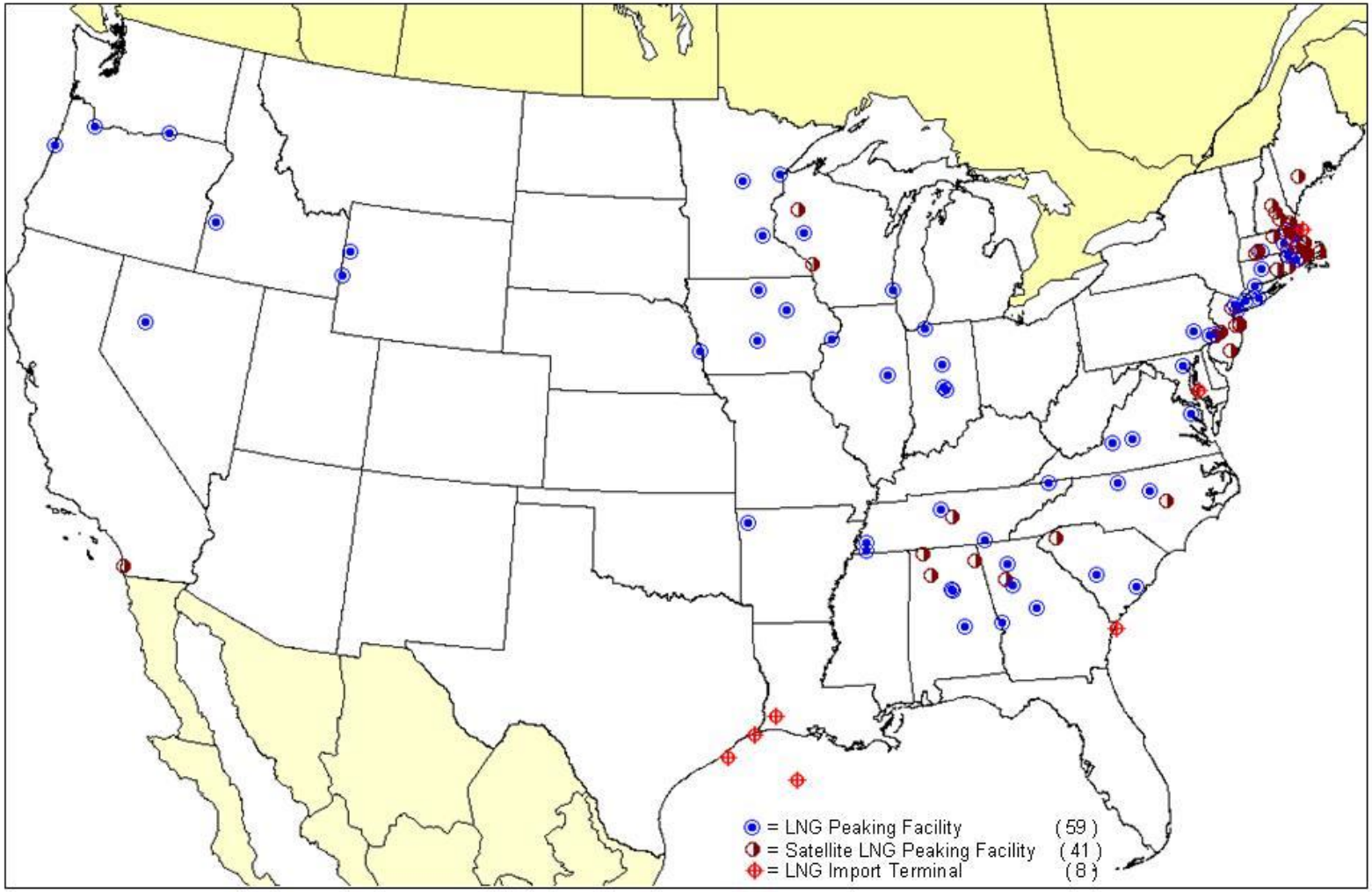
LNG Tankers and Tanks

Engie Everett

Everett Marine Terminal: capability to serve key systems simultaneously



Liquefied Natural Gas Facilities

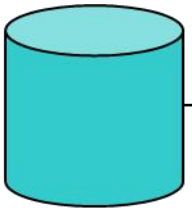


Note: Satellite LNG facilities have no liquefaction facilities. All supplies are transported to the site via tanker truck.
Source: Energy Information Administration, Office of Oil & Gas, Natural Gas Division Gas, Gas Transportation Information System, December 2008.

LNG – Major Markets Around the World

Supply Chain

Offshore Platform



LNG and Propane-Air

Residential

Commercial

Transmission Pipeline

Local Distribution Company

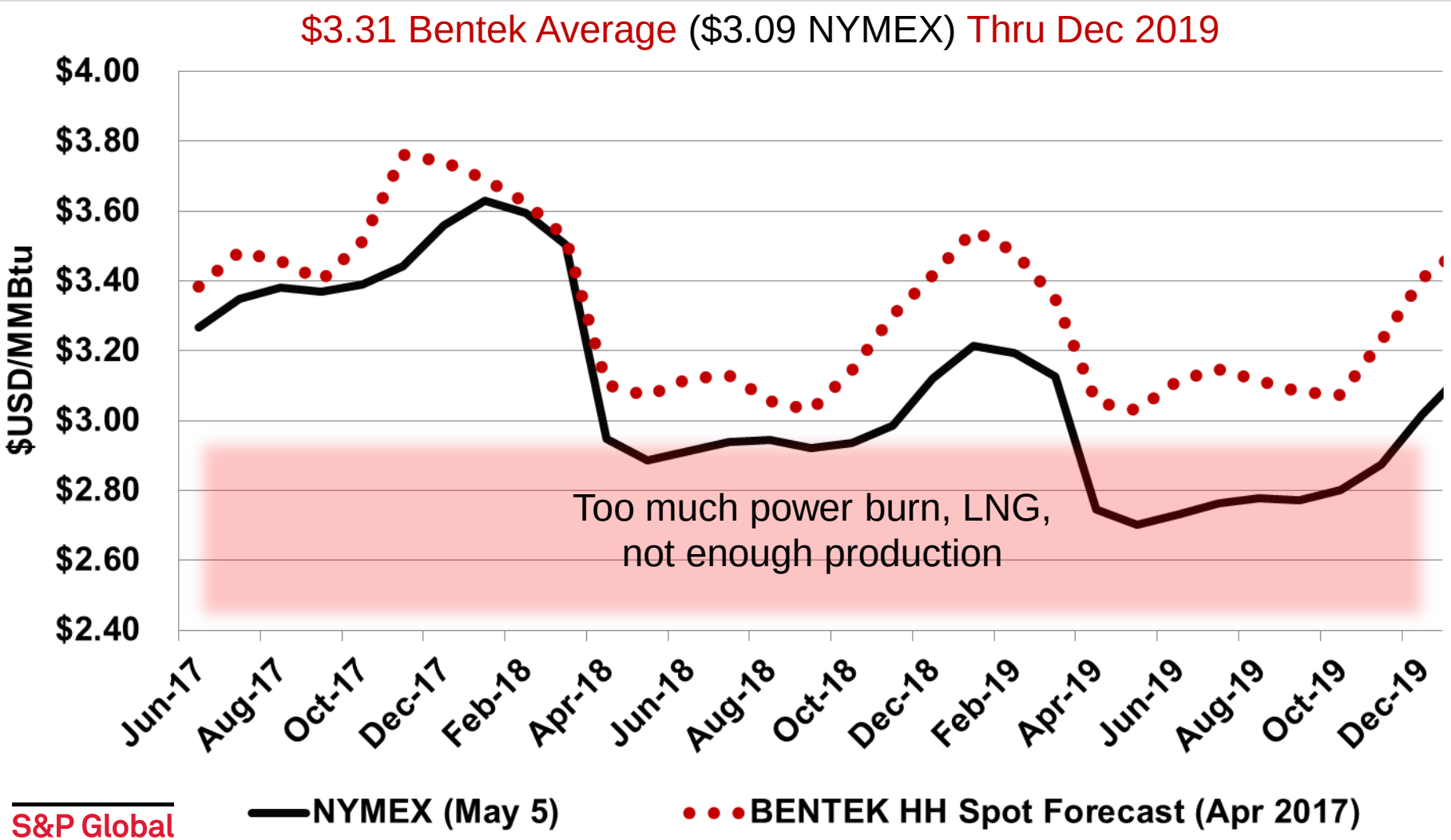
Industrial

Onshore Well

Underground Storage

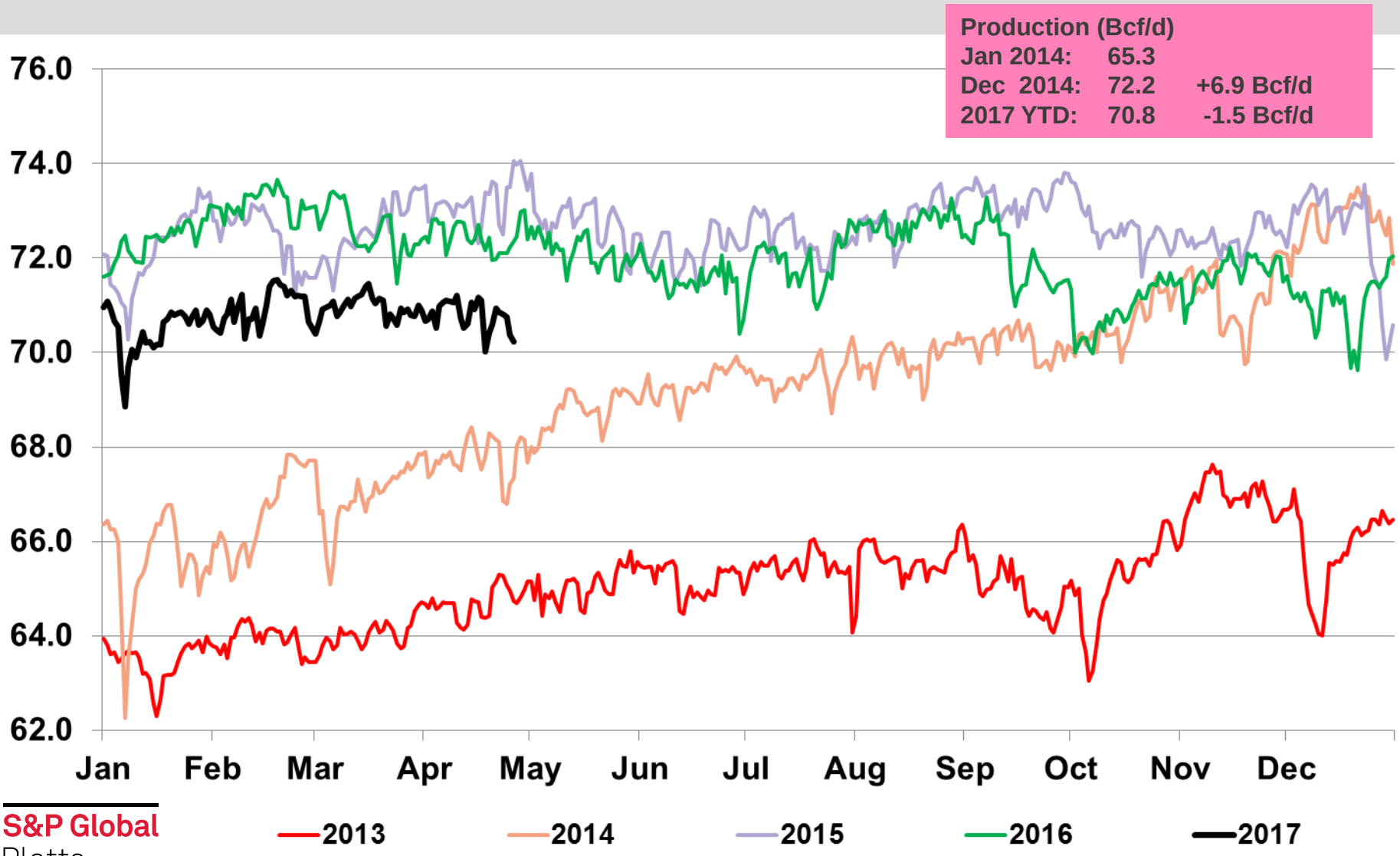
Power Generation

Henry Hub Price Outlook



S&P Global
Platts

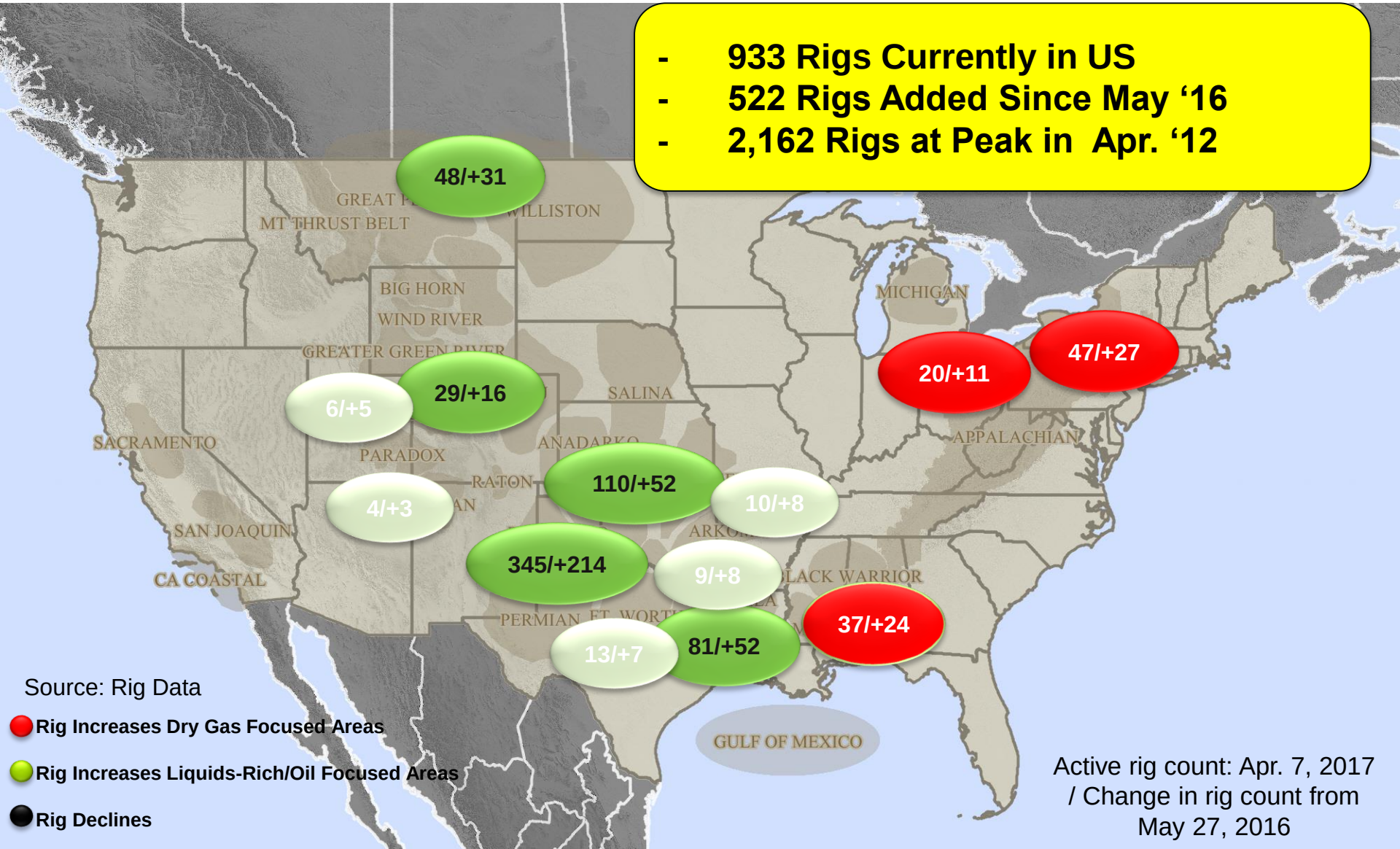
US Production Flat Since Late 2014 (Bcf/d)



S&P Global Platts

Rigs Returning

- 933 Rigs Currently in US
- 522 Rigs Added Since May ‘16
- 2,162 Rigs at Peak in Apr. ‘12

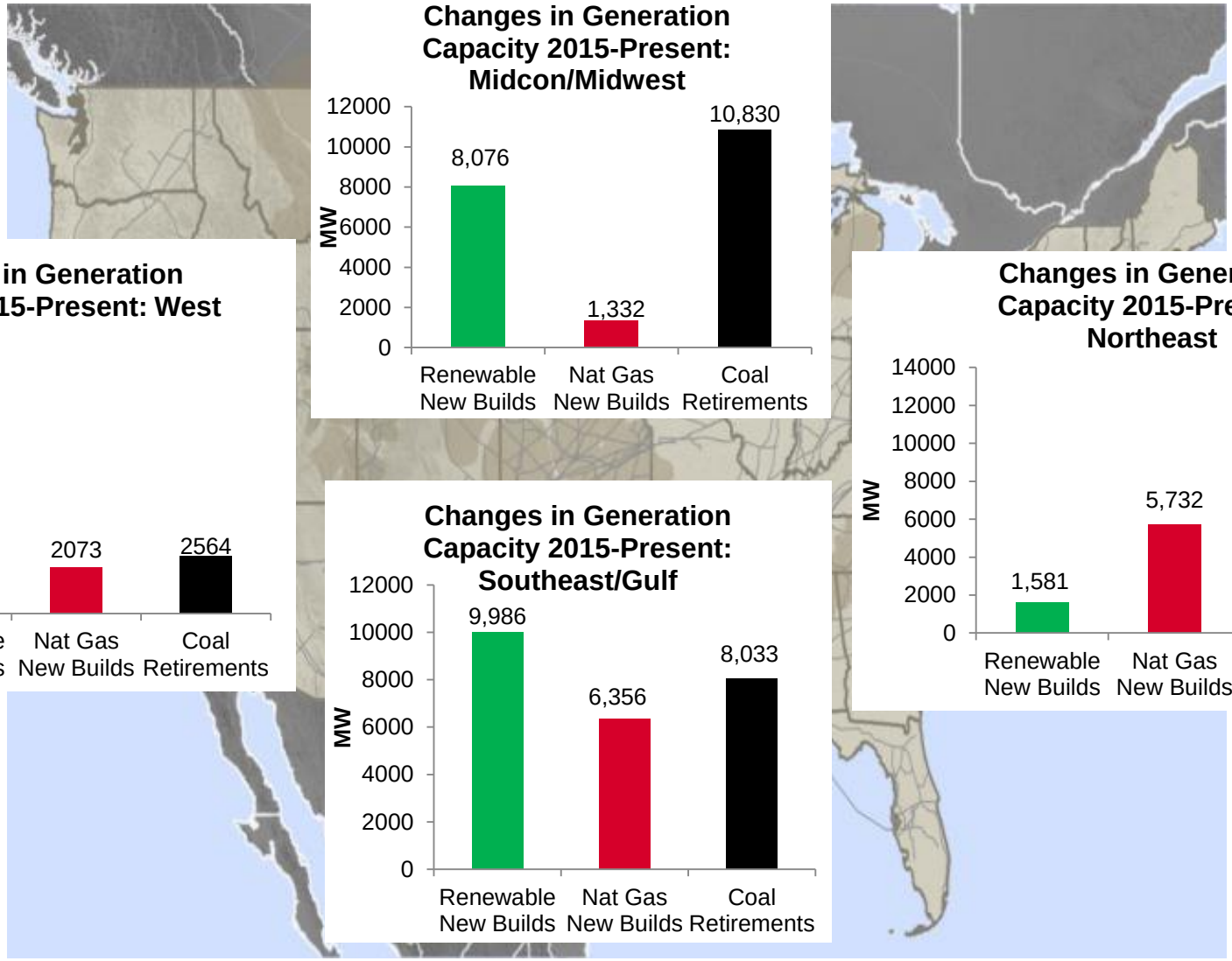


Source: Rig Data

- Rig Increases Dry Gas Focused Areas
- Rig Increases Liquids-Rich/Oil Focused Areas
- Rig Declines

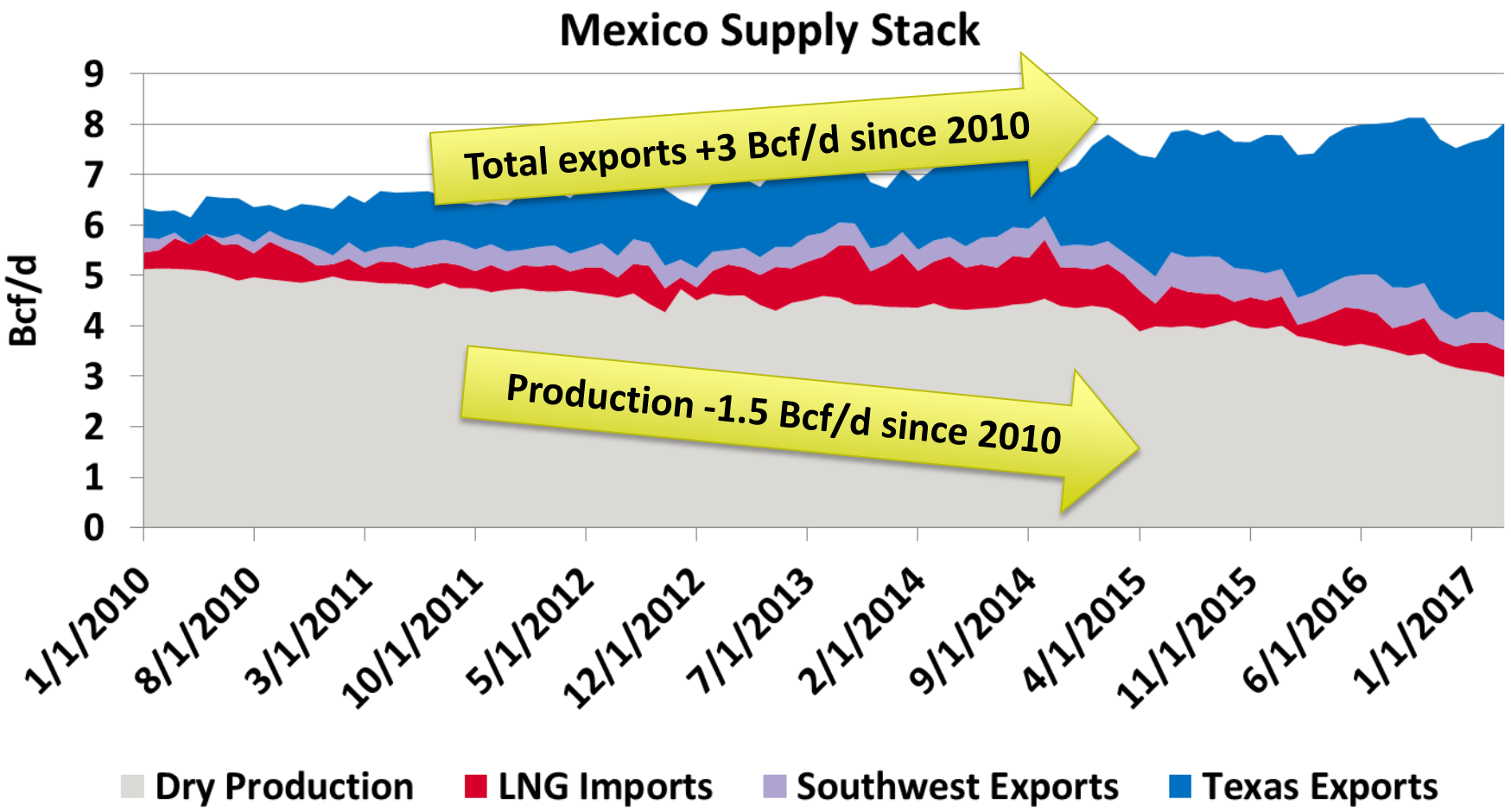
Active rig count: Apr. 7, 2017 / Change in rig count from May 27, 2016

Coal Retirements, New Generation Imbalanced Regionally

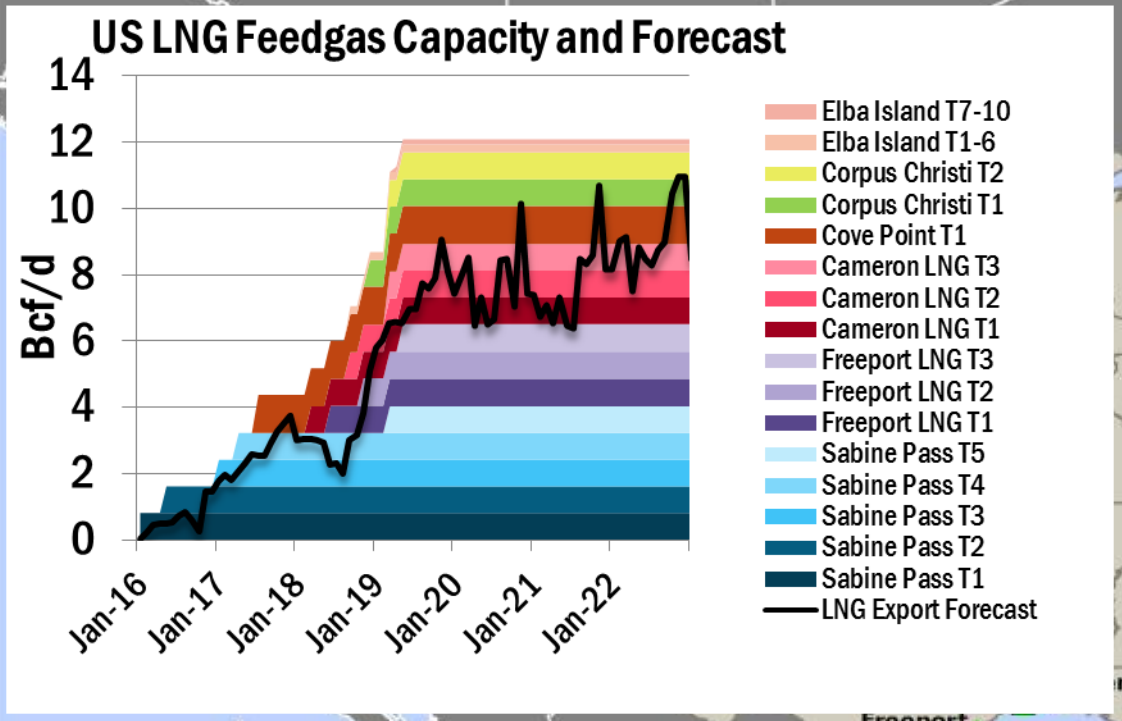


S&P Global Platts

Exports to Mexico Rising Due to Declining Domestic Production, Growing Demand



US LNG Exports Ramping Up to Meet Capacity



- BENTEK expects 10.5 Bcf/d of LNG Liquefaction Capacity to get built
- LNG Feedgas could reach nearly 9.1 Bcf/d annually in 2022

East Coast Export Terminals:

Cove Point – 1 Bcf/d

Gulf Coast Liquefaction Capacity:

Sabine Pass T1-5	3.5 Bcf/d
Freeport LNG T1-3	2.1 Bcf/d
Cameron T1-3	2.1 Bcf/d
Corpus Christi T1-2	1.4 Bcf/d
Elba Island T1-10	0.35 Bcf/d

Cove Point

Freeport

Corpus Christi

Note, capacities shown reflect feedgas capacities, which include boil-off volumes and capacity to run the facility

LNG Terminals

- Greenfield Export
- Import Conversion to Export

Source: Platts Bentek CellCAST

Thank You!!!!!