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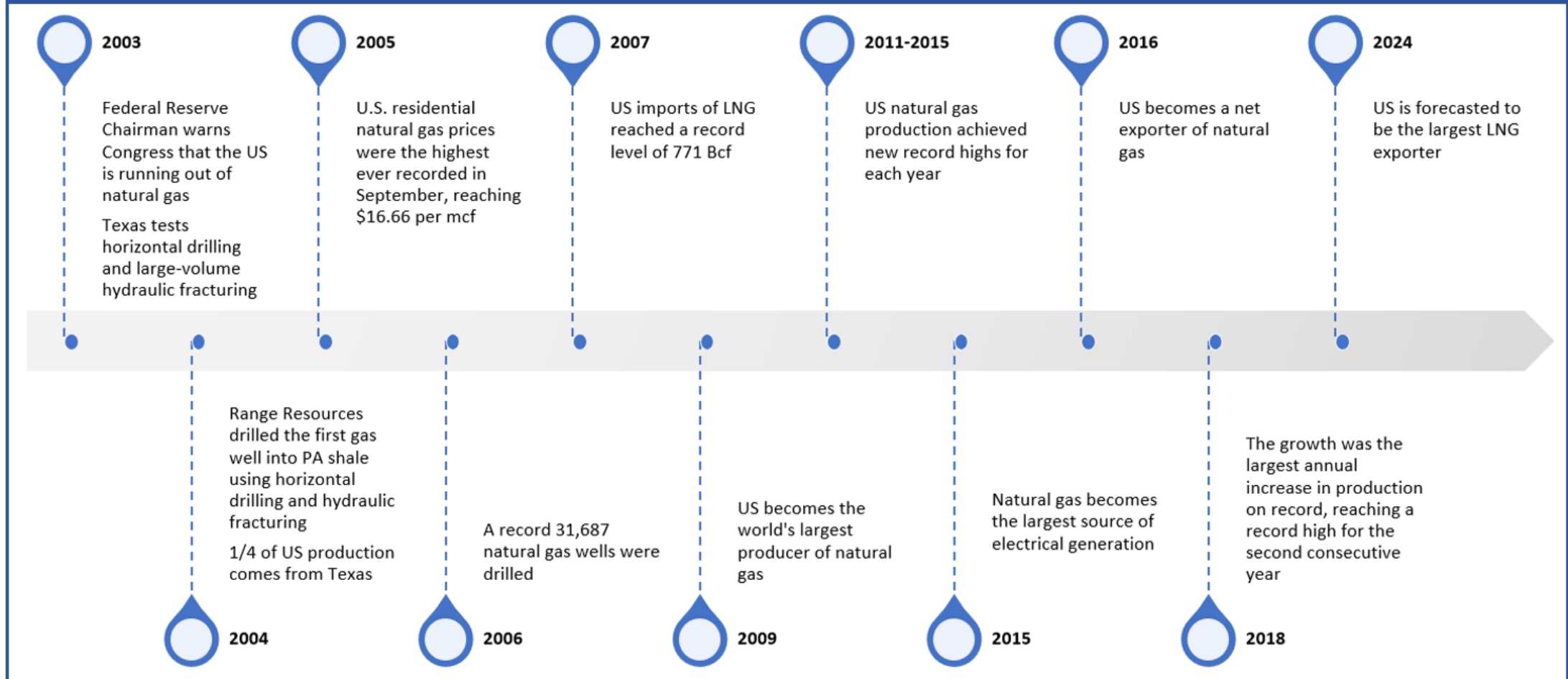
# Natural Gas Industry Outlook

# Agenda

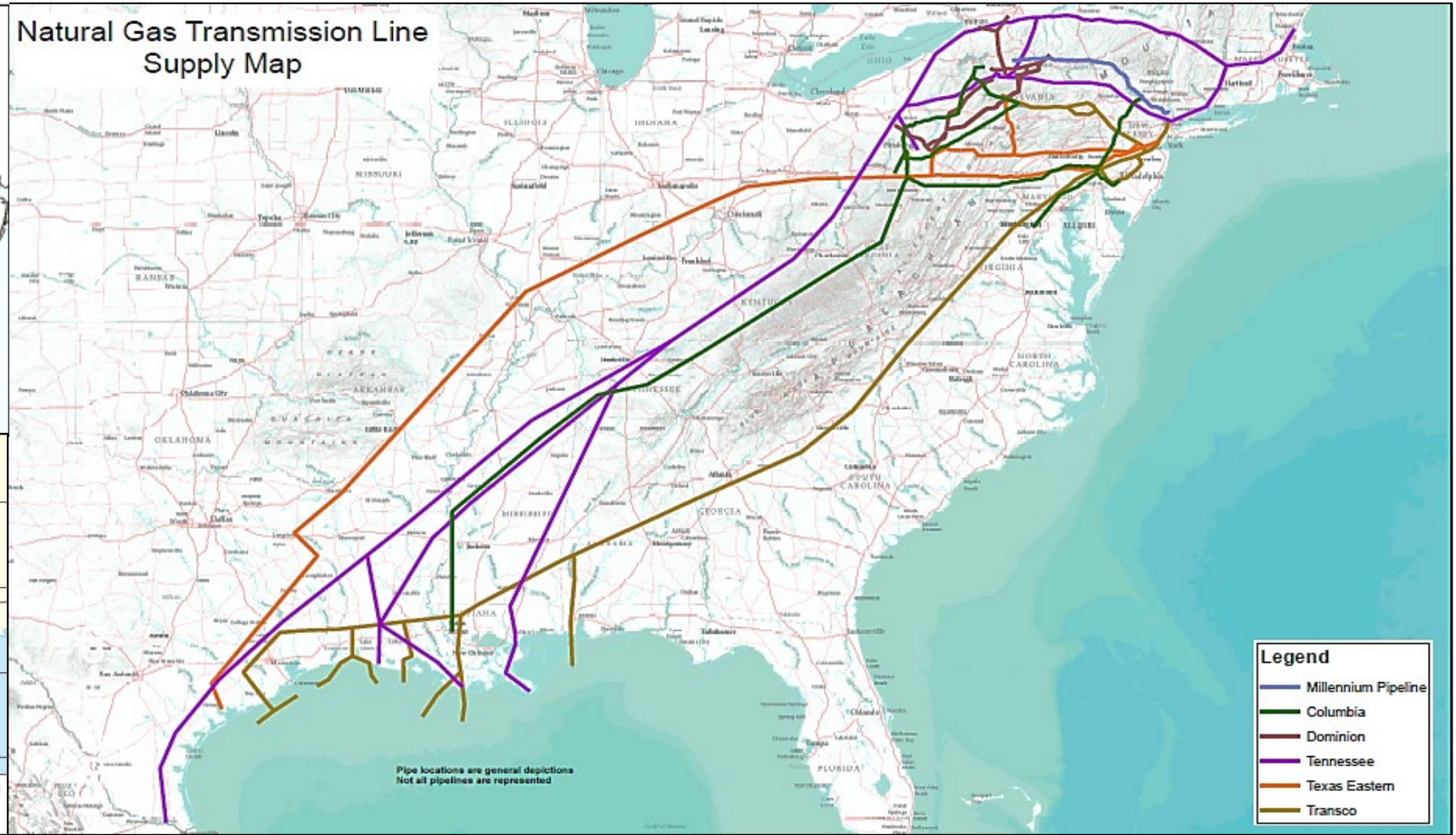
- Dynamic & Changing Industry
- History of Purchasing & Transporting Gas
- Horizontal Drilling & Hydraulic Fracturing
- The Rise of Power Generation
- Constrained Market & Pipeline Expansion Projects
- Exporting Liquid Natural Gas (LNG) & Global Market Pricing
- Longer-Term Future of Oil & Gas including Environmental Concerns

# Dynamic & Changing Industry

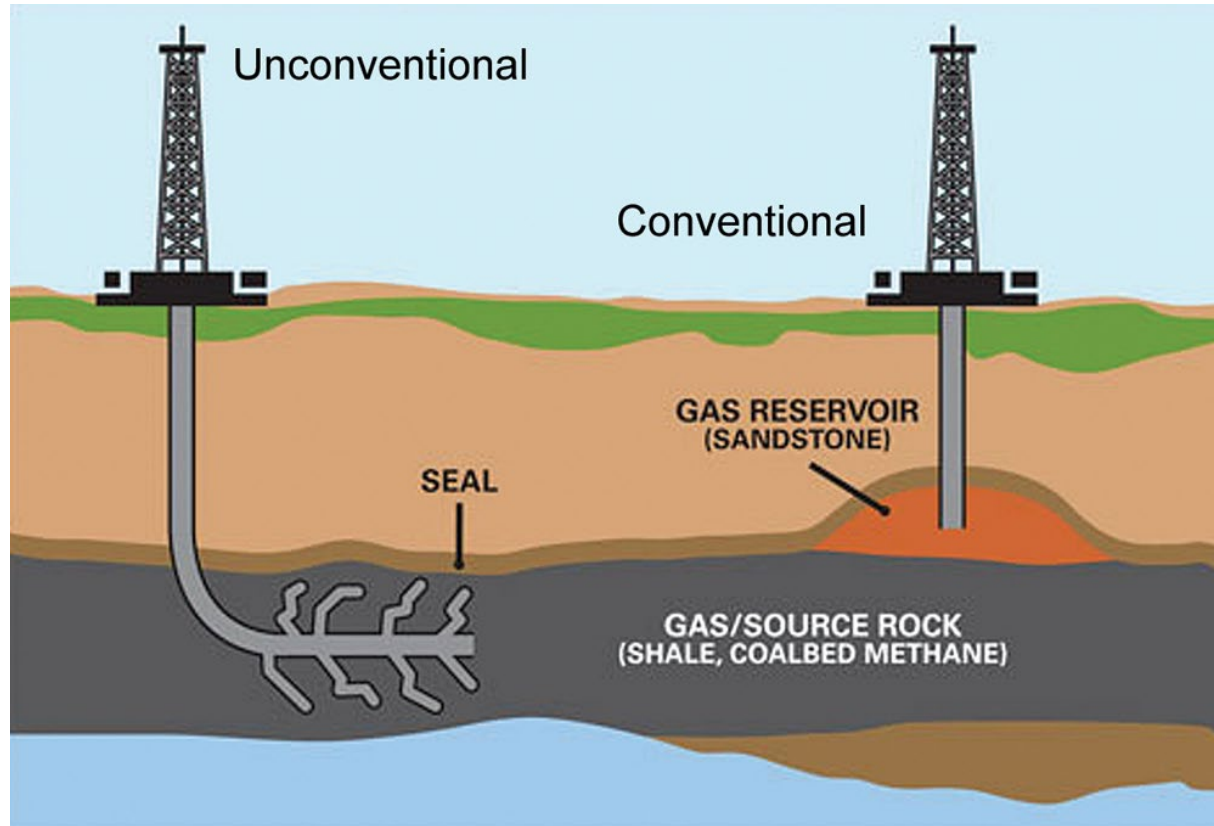
## Timeline of Natural Gas



# History of Purchasing & Transporting Gas



# Horizontal Drilling + Hydraulic Fracturing



SEPTEMBER 12, 2019

## U.S. natural gas production reaches a new record despite low prices

U.S. daily natural gas production estimates (Jan 2018-Sep 2019)

billion cubic feet



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, IHS Markit



Advancements in Technology

Power Generation

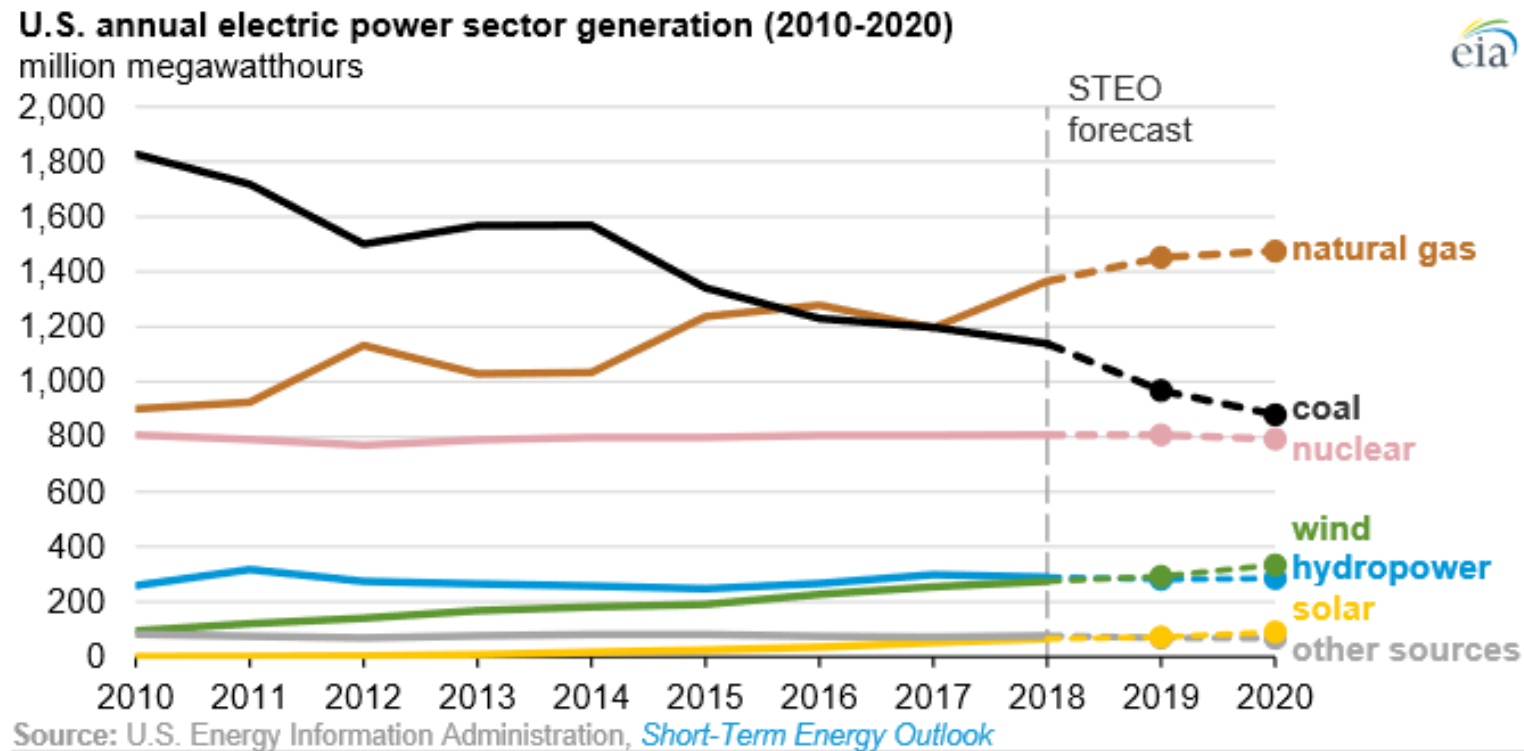
Constrained Market

Pipeline Expansions

LNG Exports

Global Market

# The Rise of Power Generation



- Inexpensive natural gas supply
- Natural gas-fired power plants emit less air pollution than generators using coal or oil
- EPA clean power plan



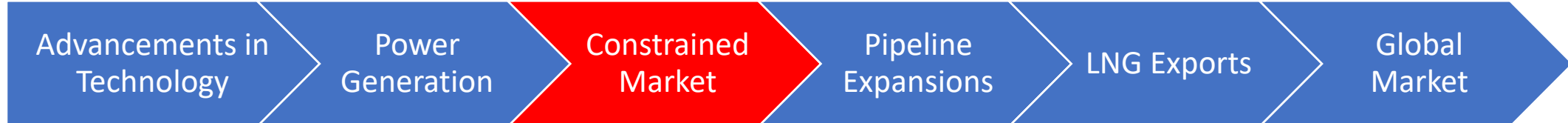
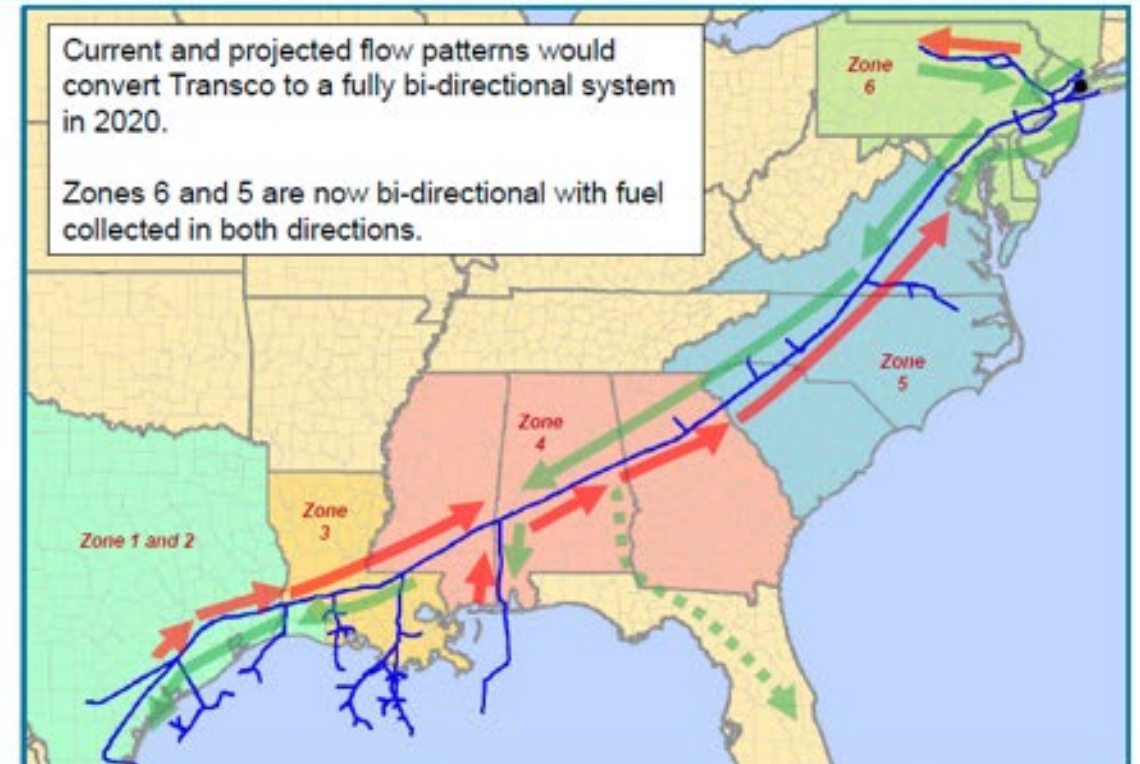
# Constrained Market



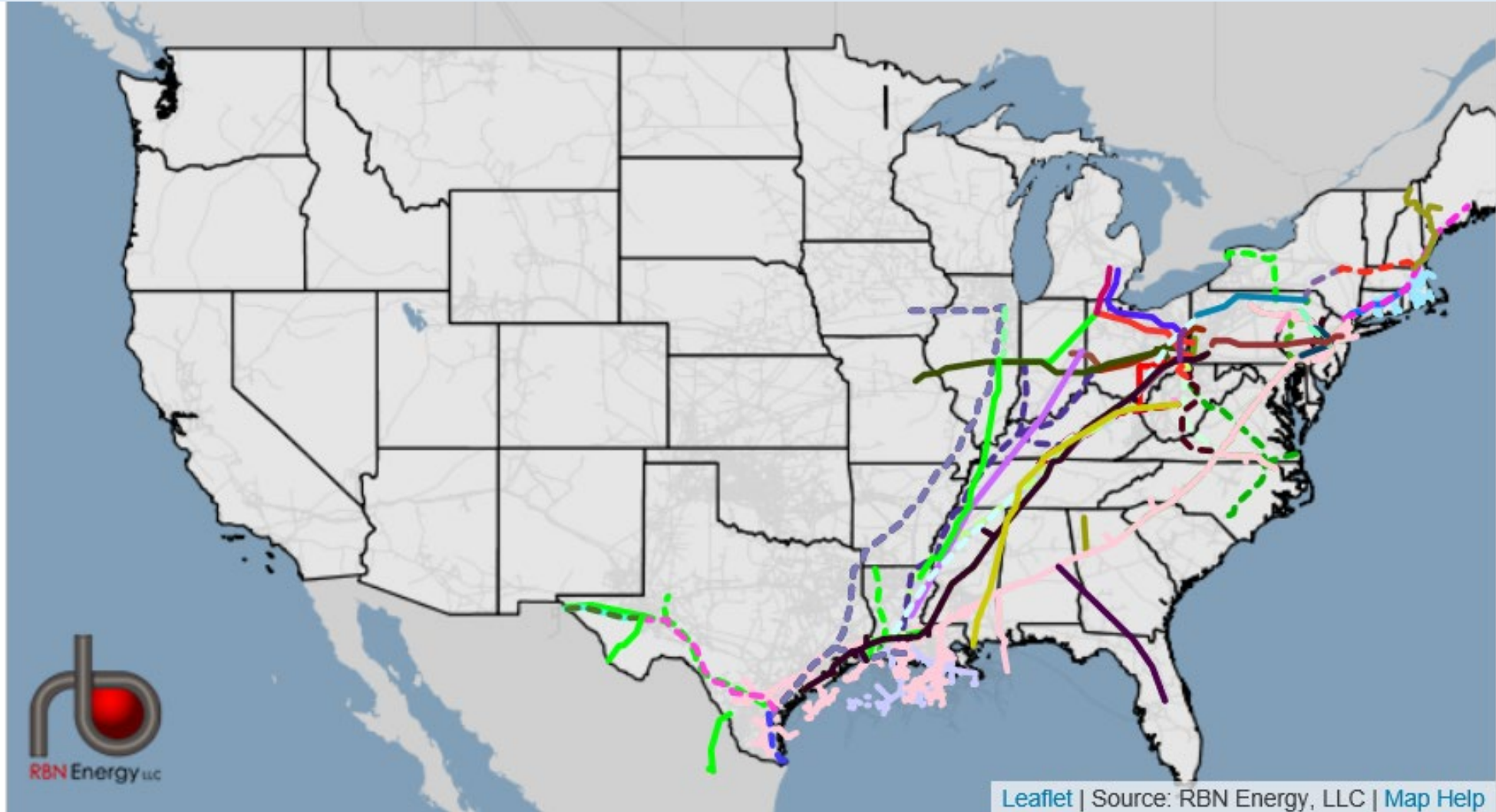
## Transco Historical Flow Pattern ~2014



## Transco Flow Patterns ~2015 - 2020



# Pipeline Expansion Projects



Advancements in  
Technology

Power  
Generation

Constrained  
Market

Pipeline  
Expansions

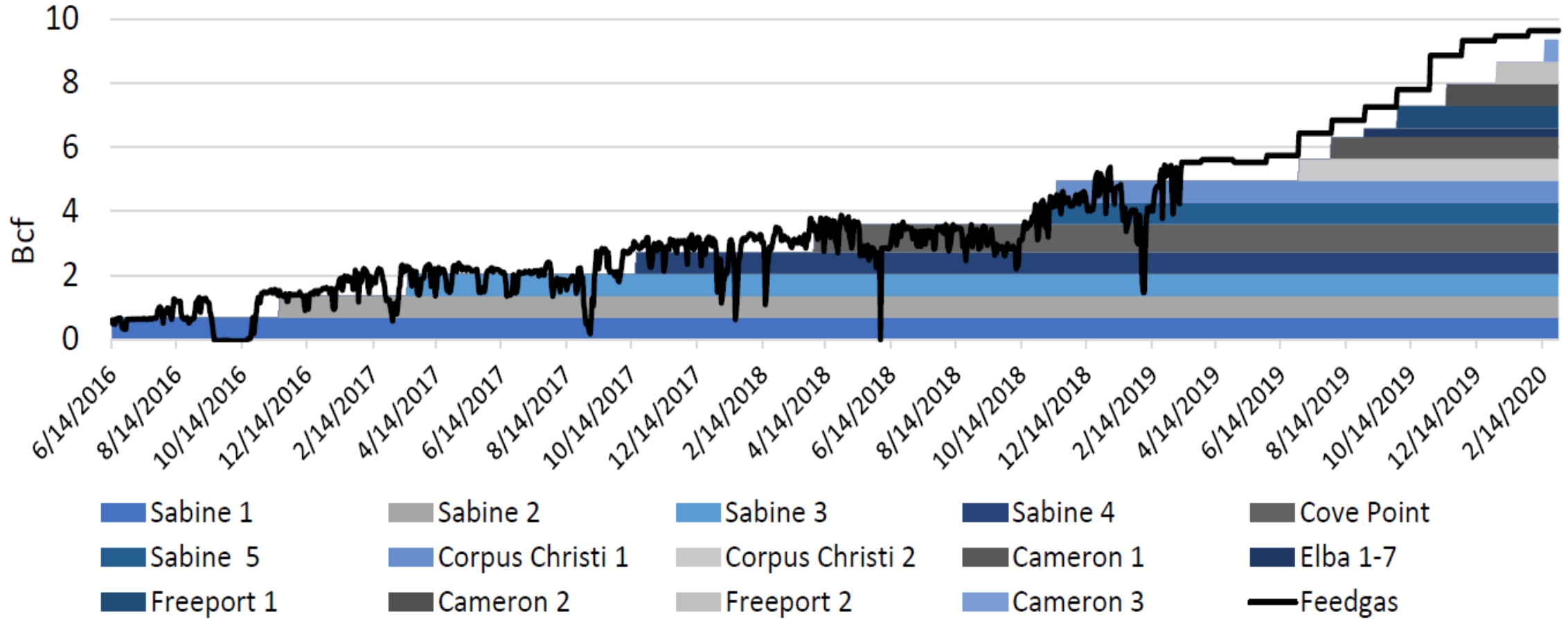
LNG Exports

Global  
Market



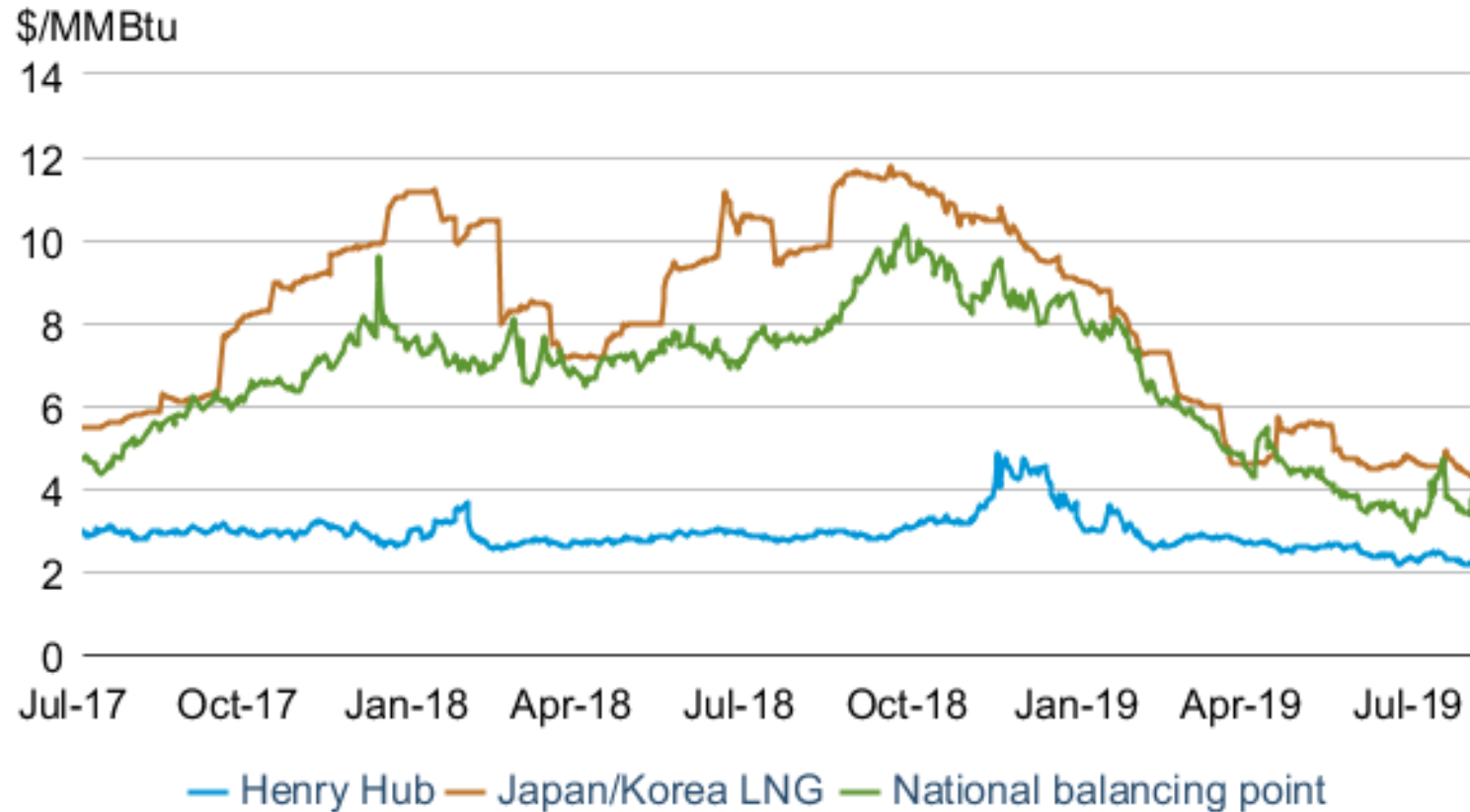
# Exporting Liquid Natural Gas

## North American LNG Takeaway Capacity



# Global Market

## International Natural Gas Prices



eia CME Group, Bloomberg L.P.

Advancements in  
Technology

Power  
Generation

Constrained  
Market

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Expansions

LNG Exports

Global  
Market

# Longer Term Future of Oil & Gas

- Oil and Gas are crucial and the life blood of economies and the foundation of so much of our economic prosperity and quality of life.
- However, it is recognized that climate change is happening and we need to address it as a priority.
- Reducing the use and emissions of fossil fuels is a given, but demand is not going away any time soon.
- Natural gas is abundant, reliable, affordable and the cleanest of the fossil fuels and has reduced our dependence on foreign oil.
- Public is looking for a different energy future, one that is high tech, decarbonized, and environmentally sustainable.

\* Some material was used from “Admantine Energy” presentation by Tisha Schuller.

# Longer Term Future of Oil & Gas

- Washington Gas and the industry at large are facing opposition, both public and regulatory, regarding fossil fuels and the environment.
  - Several major interstate pipeline projects have been delayed or stopped. The New York and upper North East are facing shortages up to and including not taking on new customers.
  - Washington Gas has made significant progress in reducing greenhouse emissions by having a robust pipe replacement program, building and utilizing sustainable solutions.
  - Public expects affordable and always-on energy, so we have to work collaboratively in order to meet the growing demand. More importantly, we need to consider the entire life cycle of products and services we use each and every day.
- \* Some material was used from “Admantine Energy” presentation by Tisha Schuller.

# Final Comments

- Technology, energy supply, and energy demand will continue to evolve
- Understand that *Public* expects leadership from the oil & gas, the dominant industry, in reducing the environmental footprint of energy services, particularly carbon.
- Decide to lead the way to that energy future
- Anticipate the ways innovation within and outside the industry are part of the energy future



# Questions

