



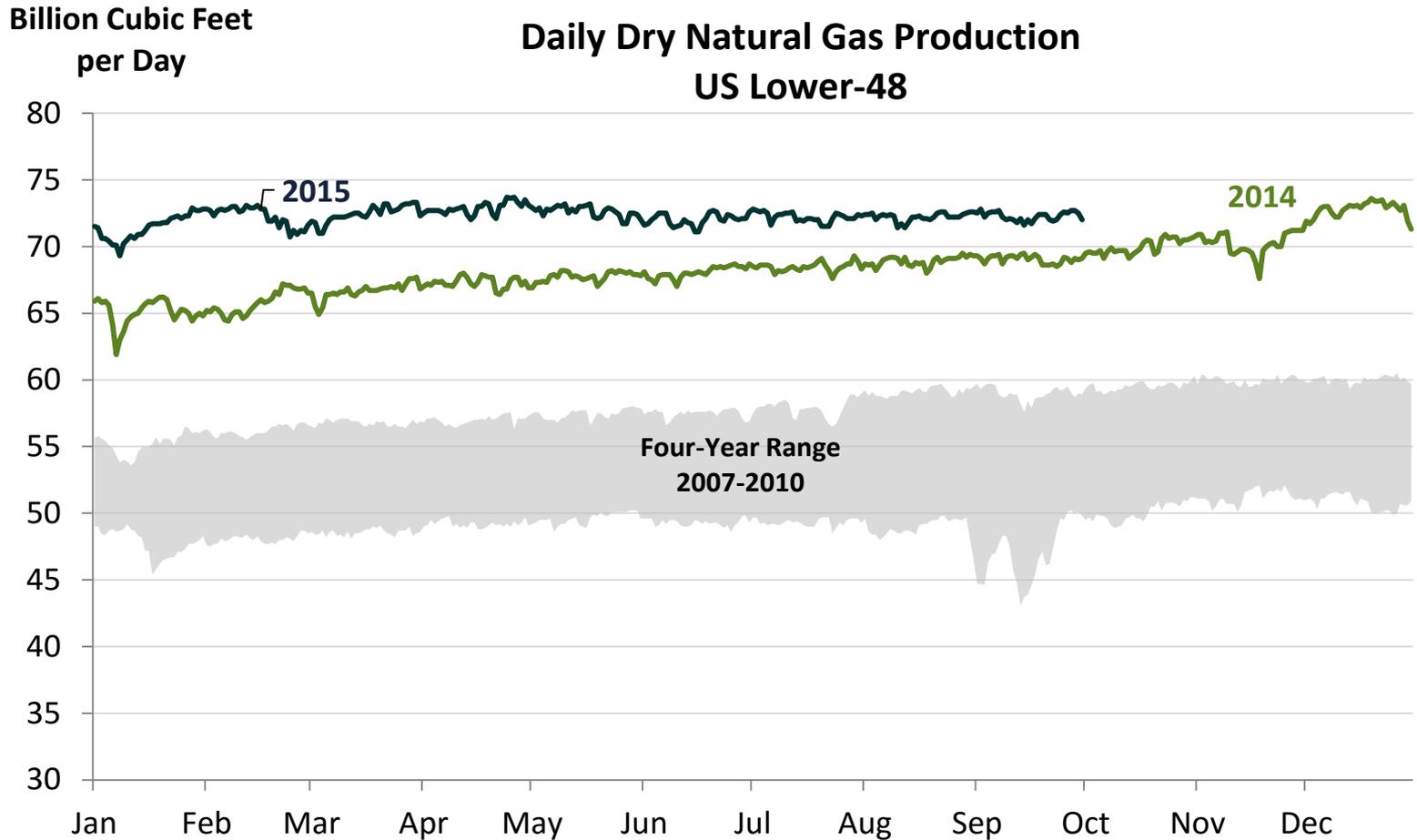
**AGA**  
American Gas  
Association

November 19, 2015

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Exploring Expectations for the 2015-16  
Winter Heating Season and More  
Illinois Commerce Commission

# Record Production Levels in 2015

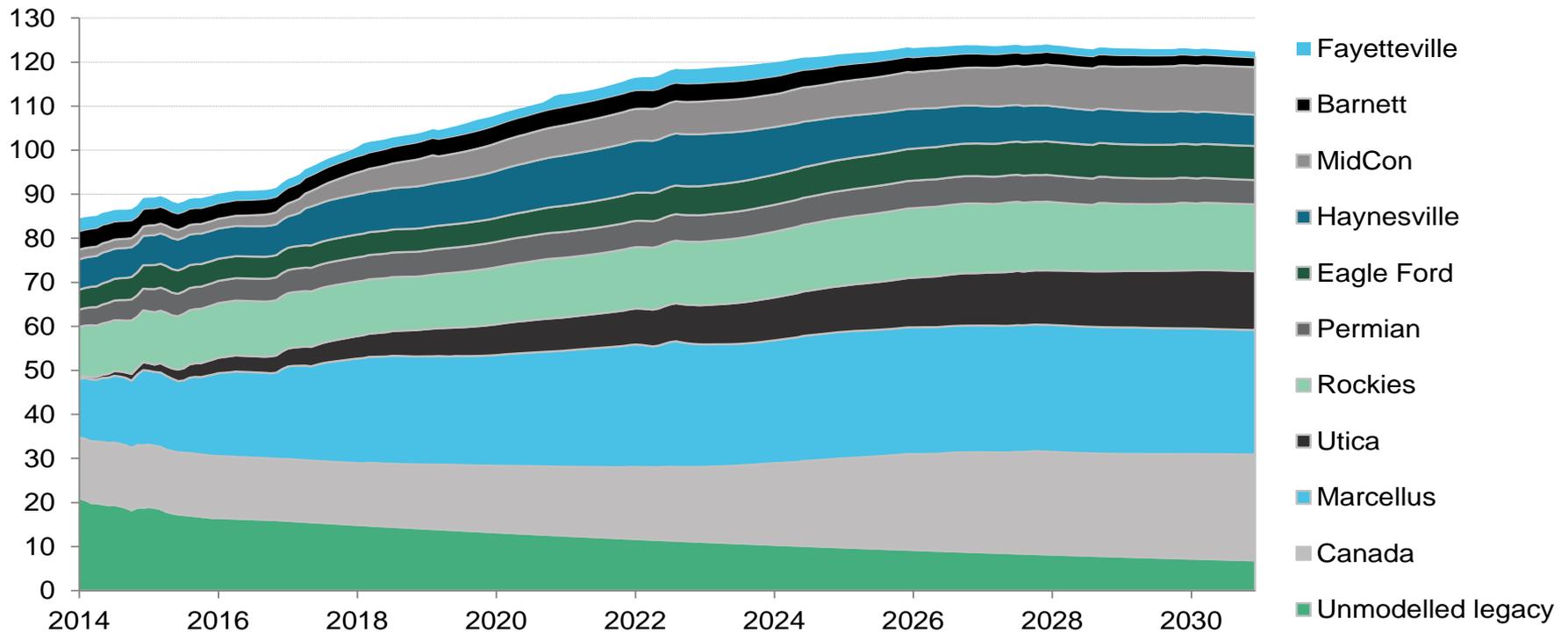


Source: Bentek Energy LLC

# US & Canadian Dry Gas Production

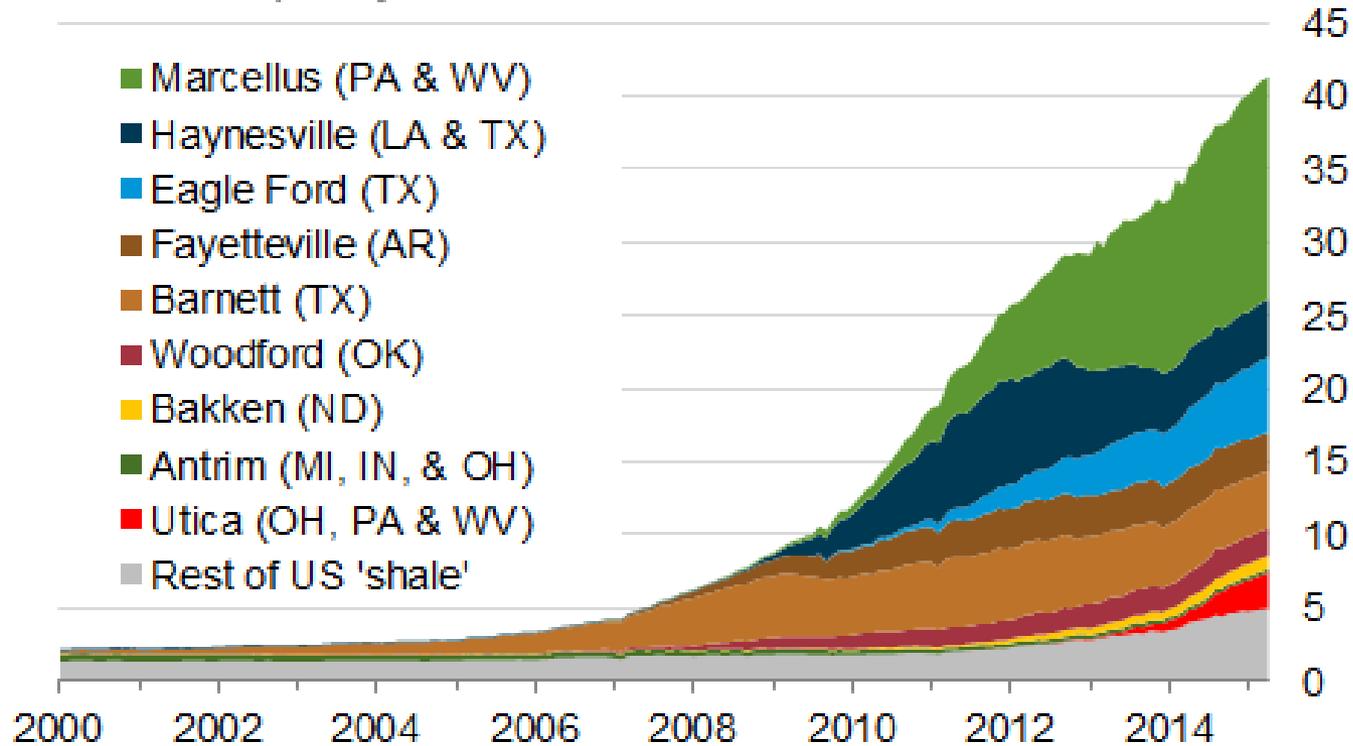
(Bcfd)

- Appalachia leads the way
- The Haynesville and MidCon plays pop back to life when US LNG exports begin
- Canada becomes key by the early/mid-2020s, with LNG exports ramp up



# US Shale Gas Production

Monthly dry shale gas production  
billion cubic feet per day

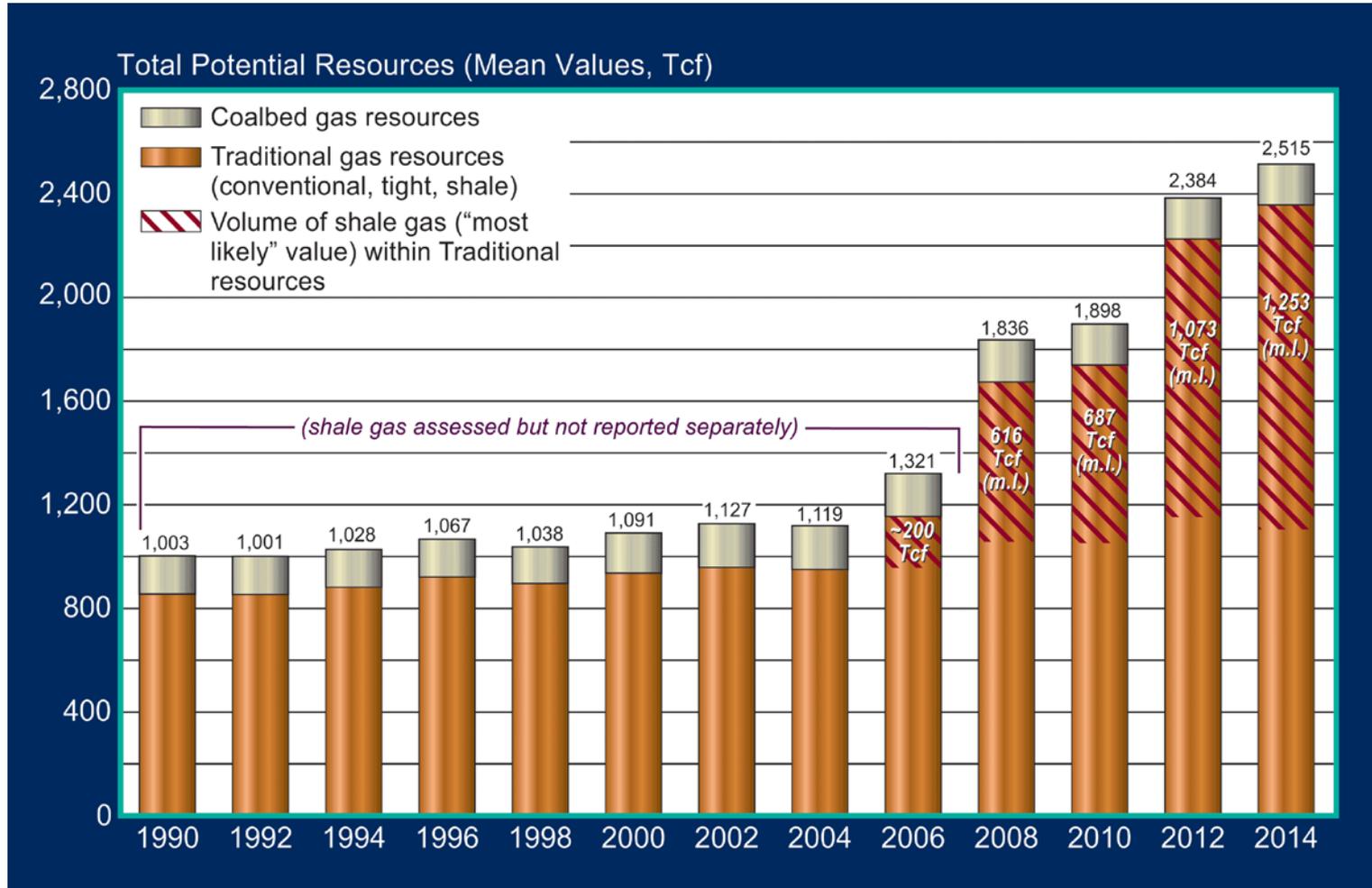


Sources: EIA derived from state administrative data collected by DrillingInfo Inc. Data are through April 2015 and represent EIA's official shale gas estimates, but are not survey data. State abbreviations indicate primary state(s).



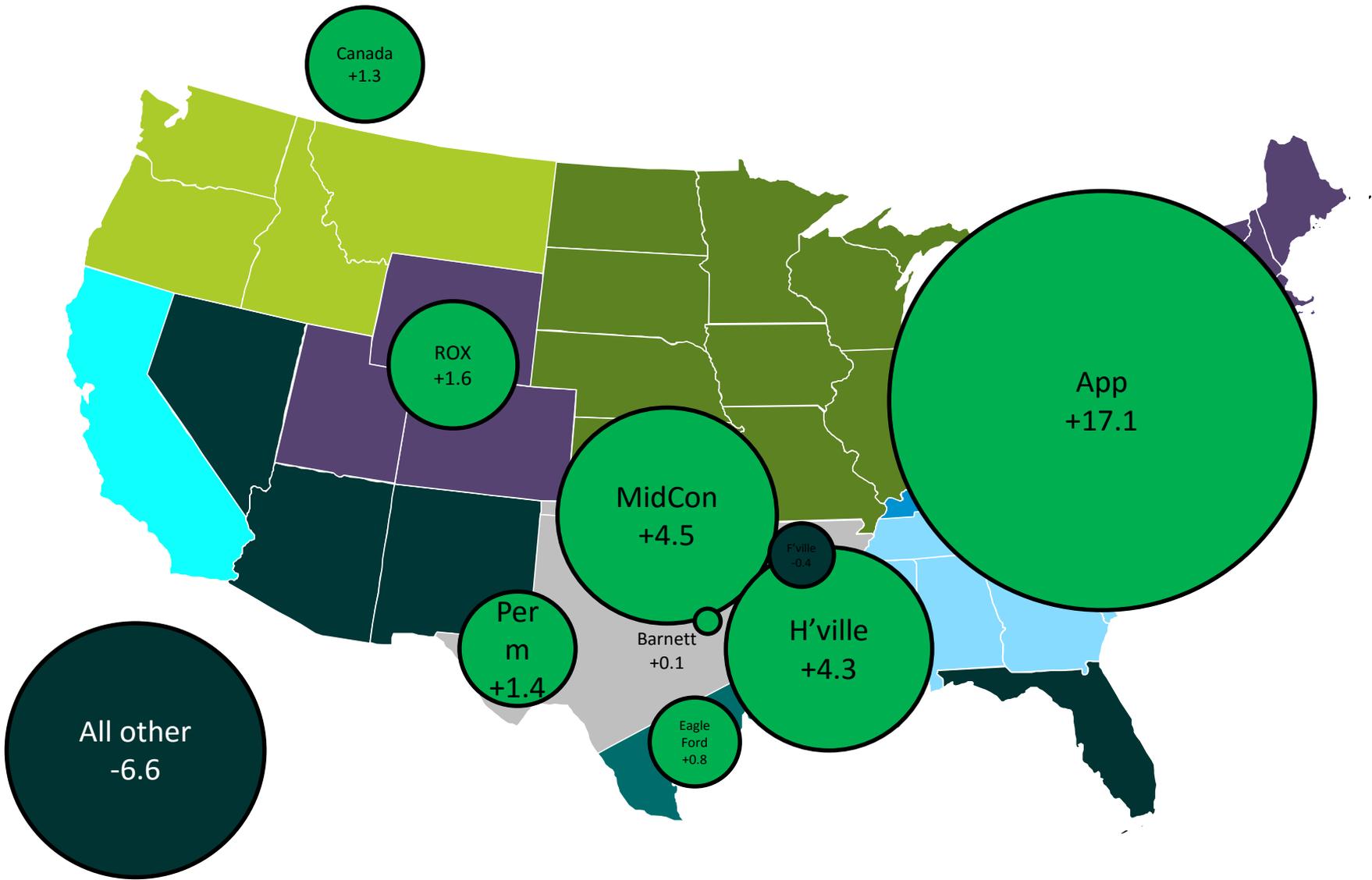
Source: US Department of Energy, Energy Information Administration.

# PGC Resource Assessments, 1990-2014

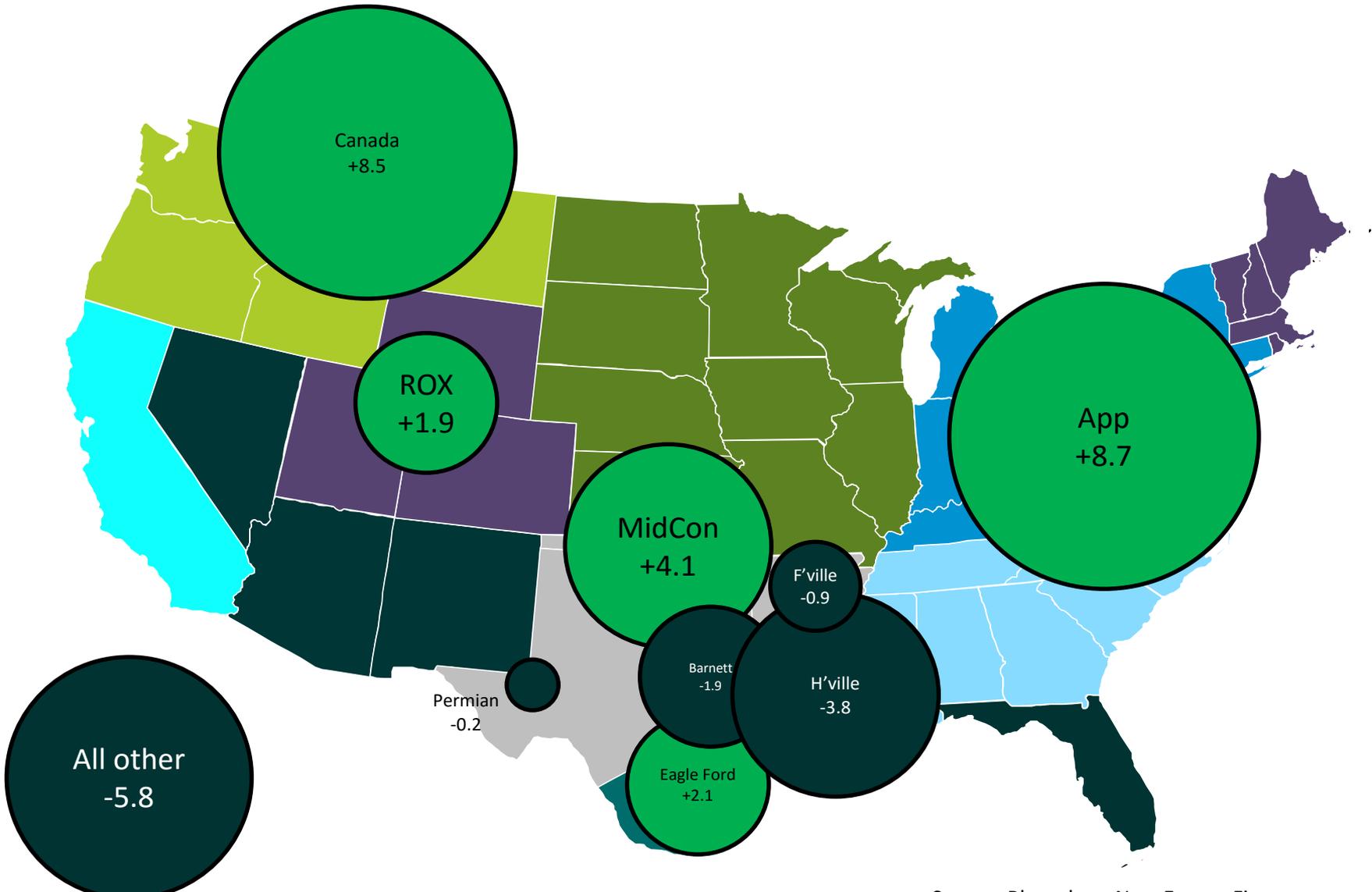


Data Source: Potential Gas Committee, Colorado School of Mines, April 2015

# Change in Production, 2014-2020

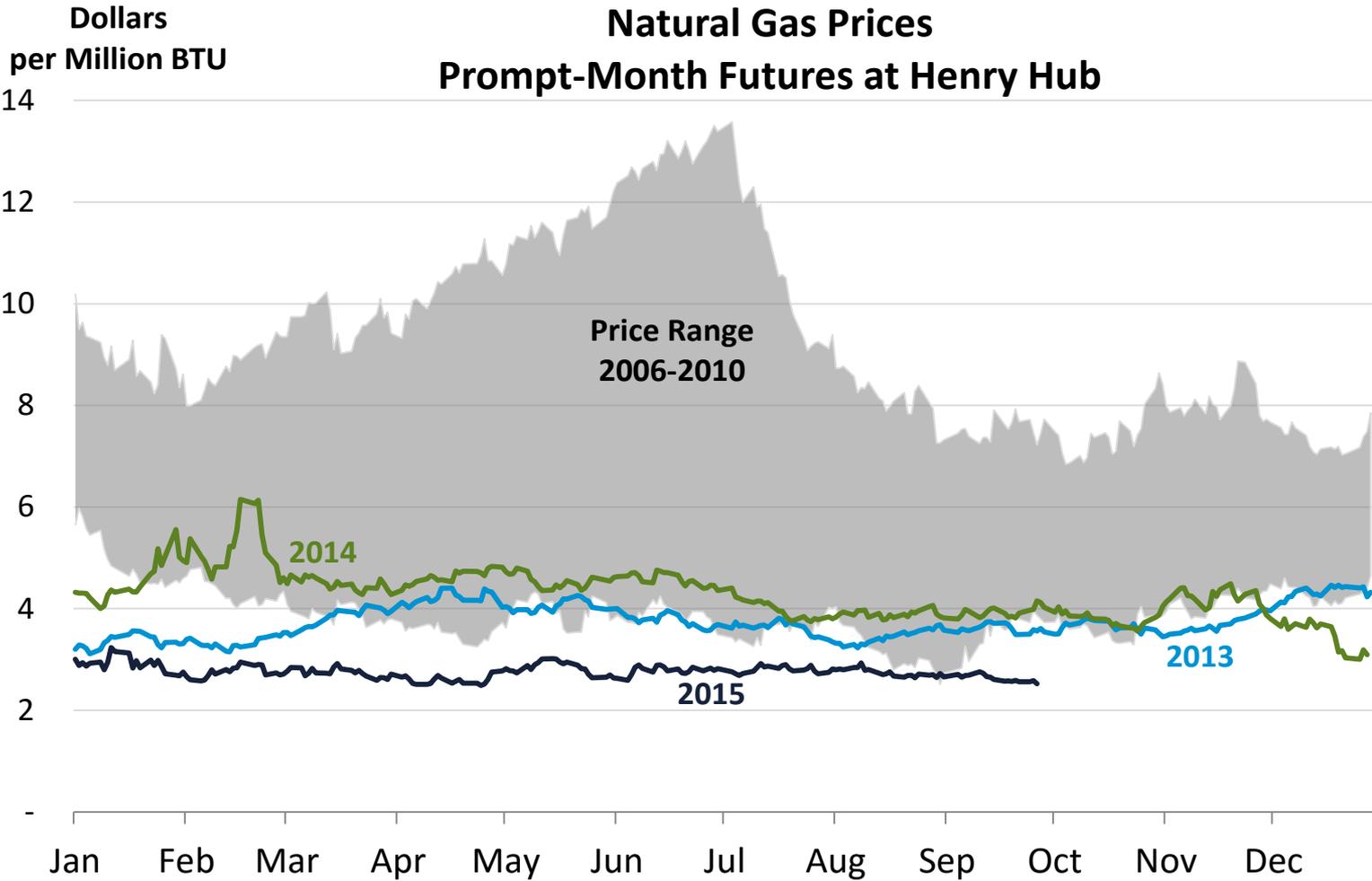


# Change in Production, 2020-2030



Source: Bloomberg New Energy Finance

# Relatively Low and Stable Natural Gas Prices



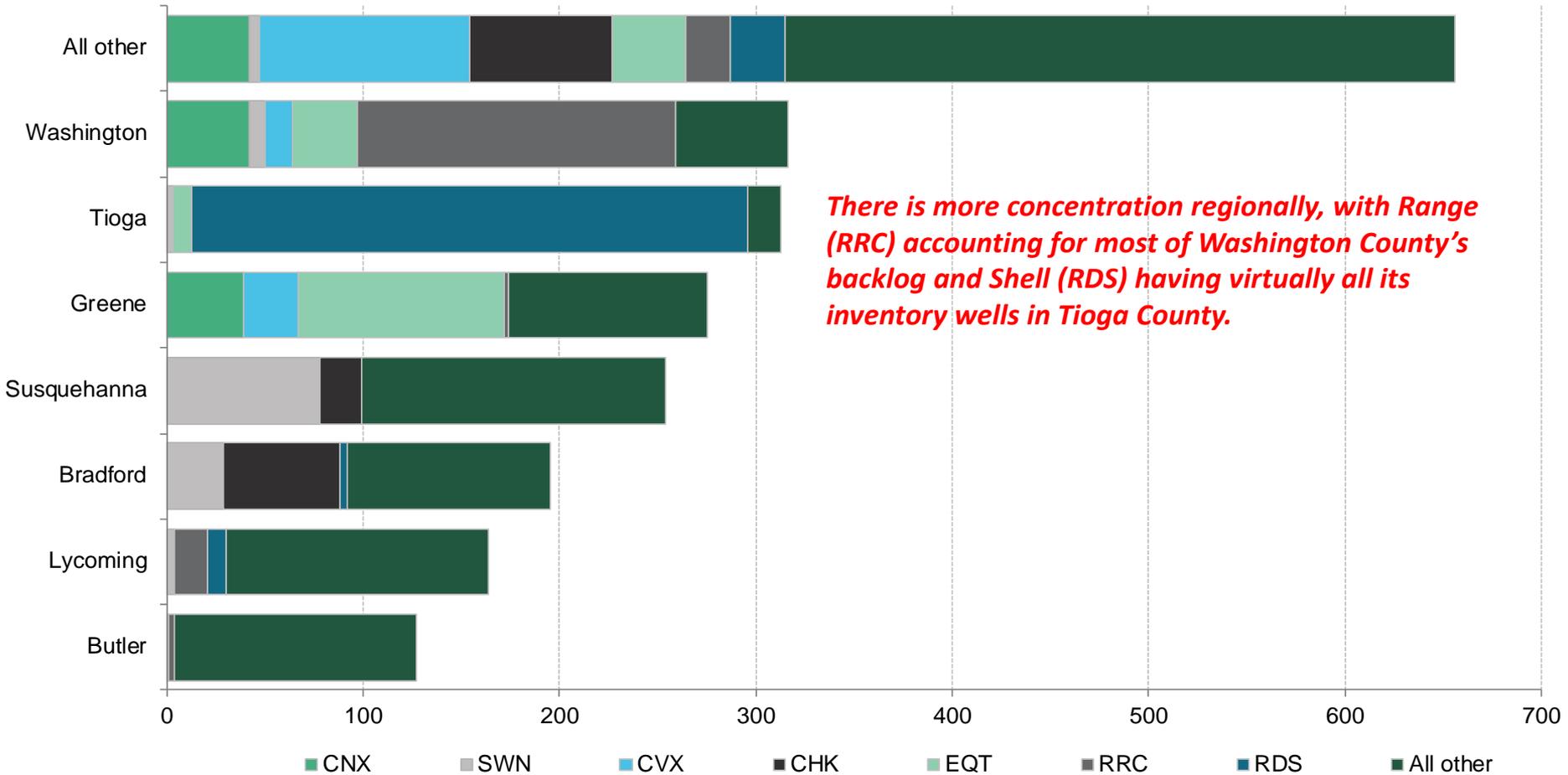
## **Will price-induced declines in domestic oil production hurt natural gas market?**

Probably not.

Low-cost natural gas resources are available at current or slightly higher prices.

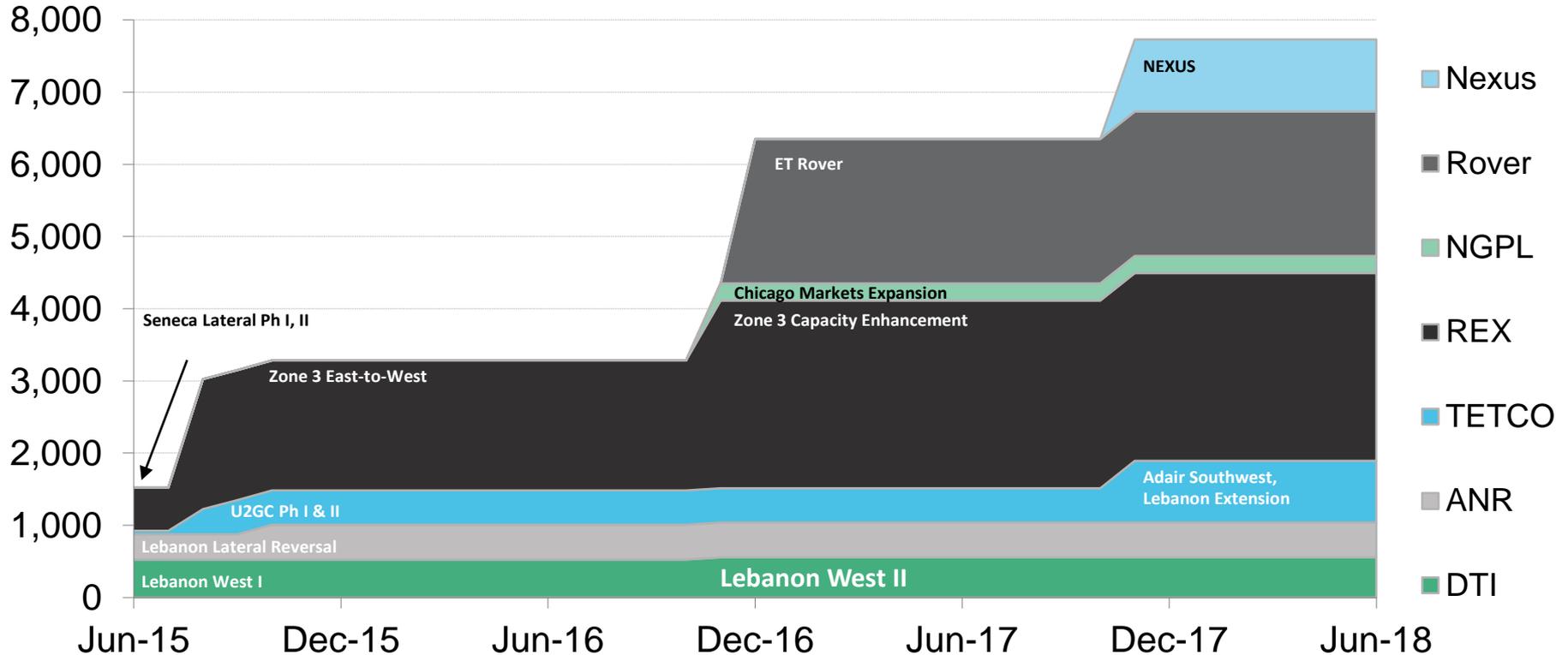
Growth in Northeast gas production is likely to offset declines in associated natural gas production should oil production decline.

# PA well backlog as of end-January 2015



Source: Bloomberg New Energy Finance, PA DEP

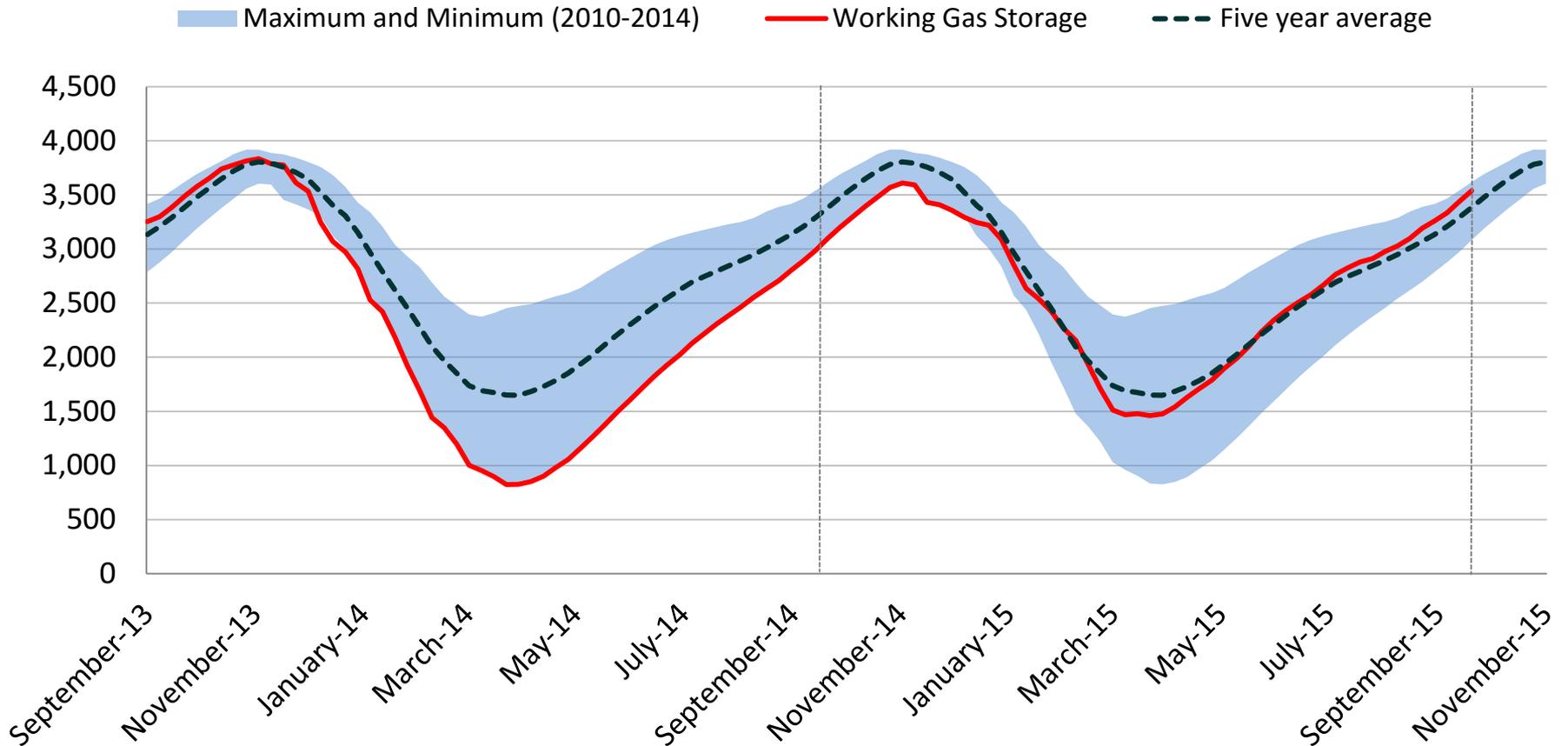
# Pipeline Projects Going to Midwest (MMcfd)



Source: Bloomberg New Energy Finance

# Working Gas in Underground Storage

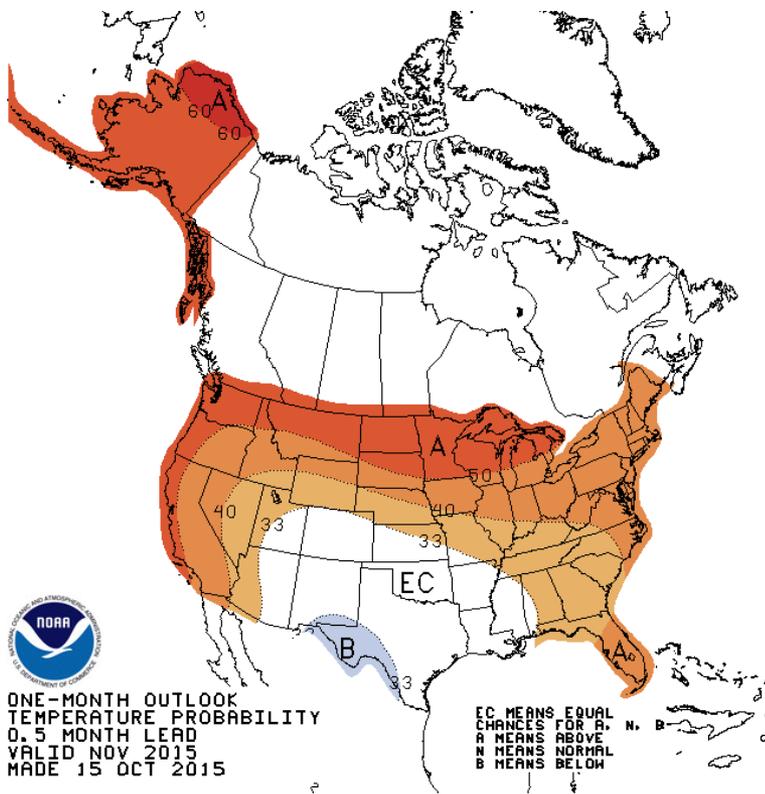
## Working Gas in Underground Storage Lower 48 States (Bcf)



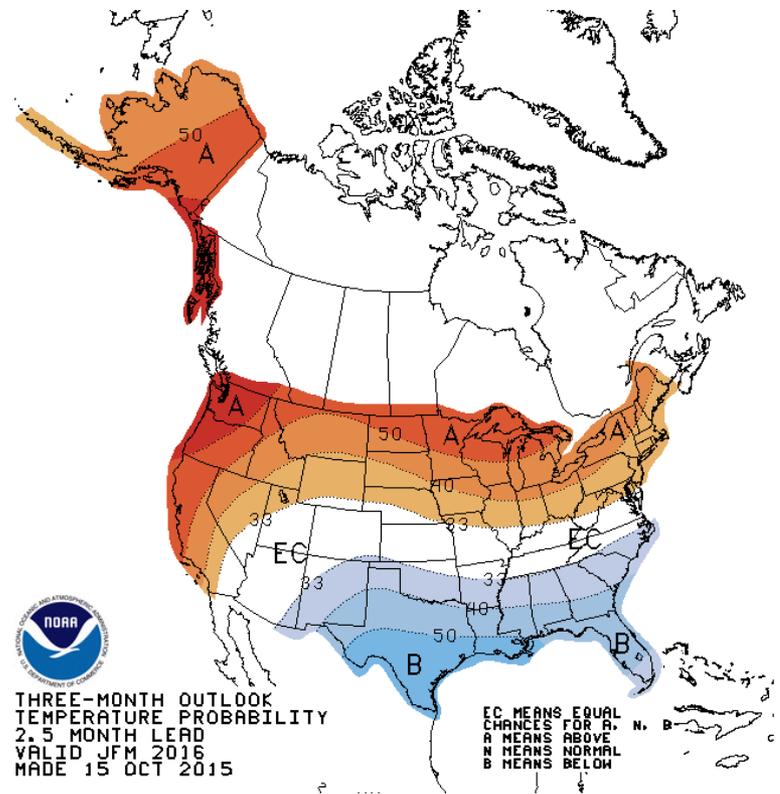
Source: US Department of Energy, Energy Information Administration.

# Domestic Temperature Forecast

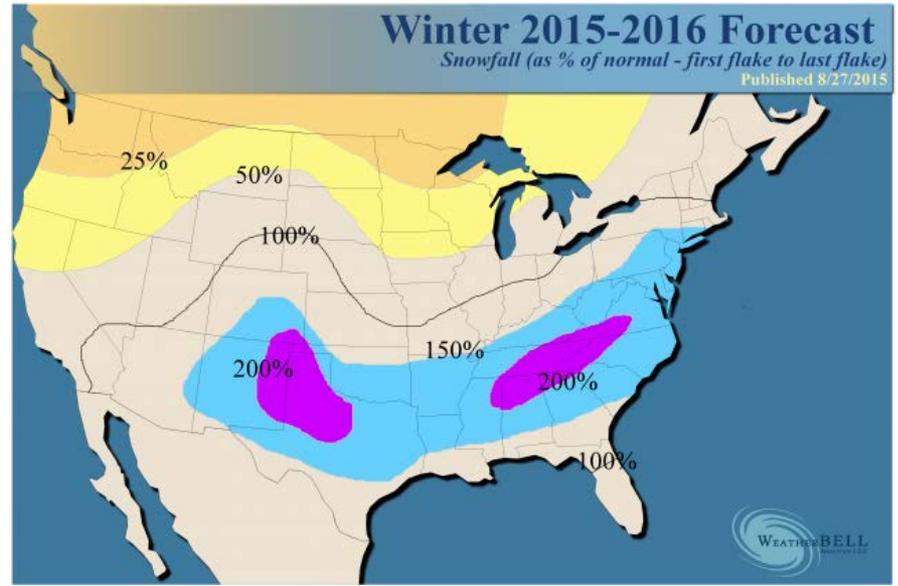
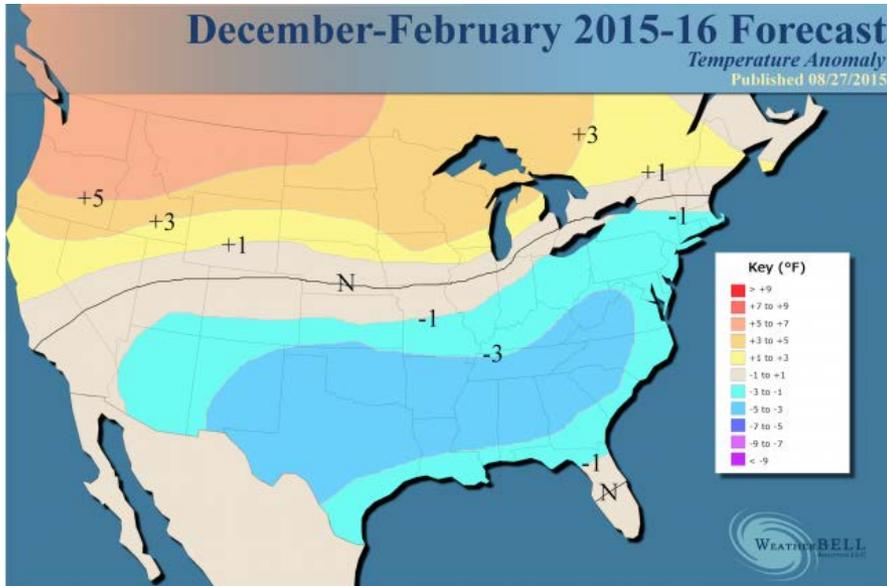
## NOAA Forecast November 2015



## NOAA Forecast January-March 2016

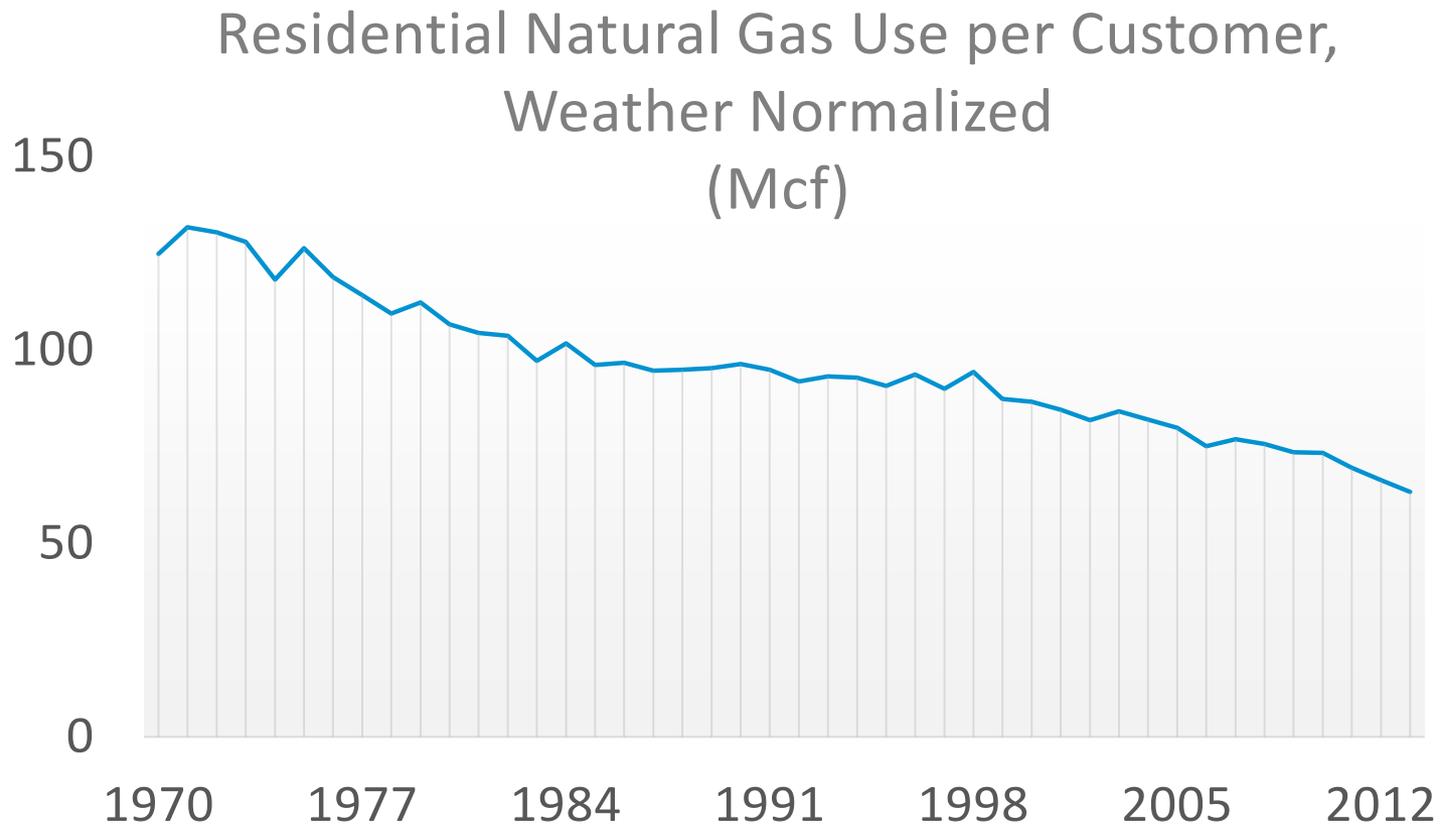


# Temperatures and Snowfall



Source: WeatherBELL Analytics LLC, Public Winter 15-16 Forecast

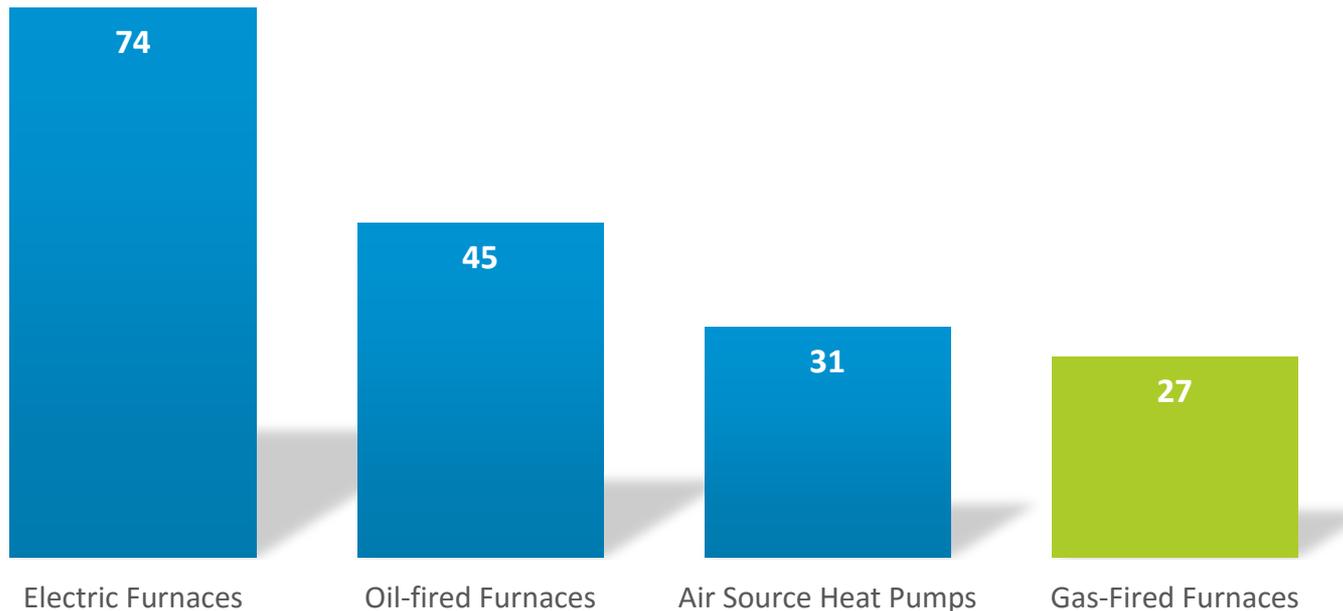
# Average household consumption of natural gas has *dropped by half* since 1970.



Source: Energy Information  
Administration, AGA Calculations

# Natural Gas Used Directly In Homes and Businesses Reduces Greenhouse Gas Emissions

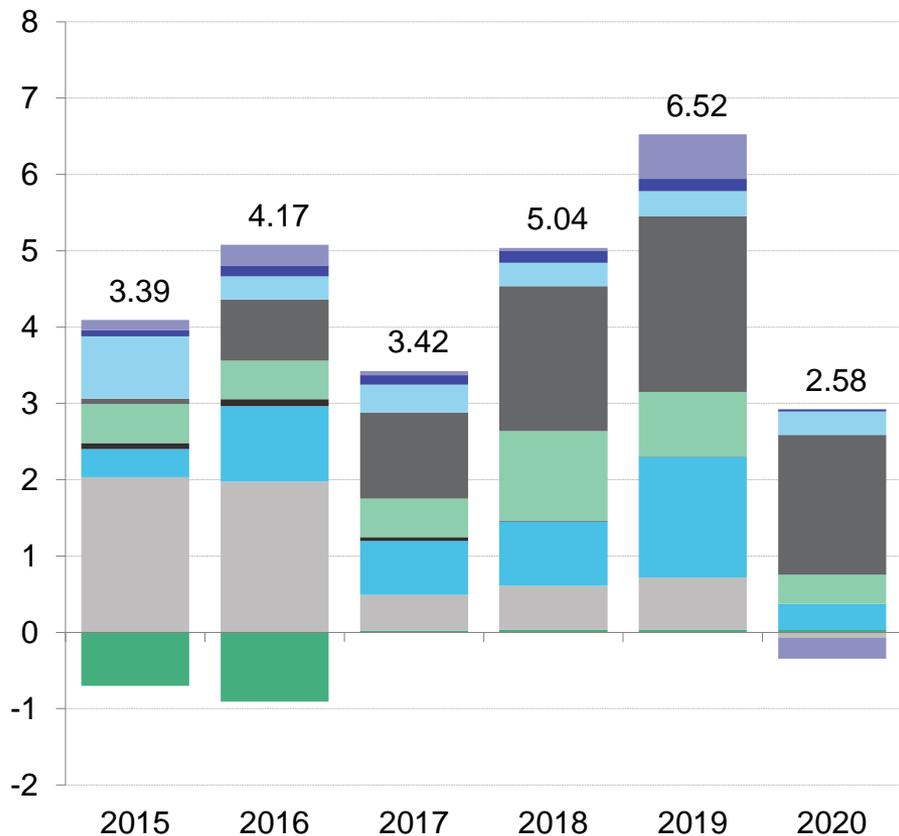
Space Heating System Carbon Dioxide Emissions  
(Ton CO2 per 100 MW Useful Energy Consumption)



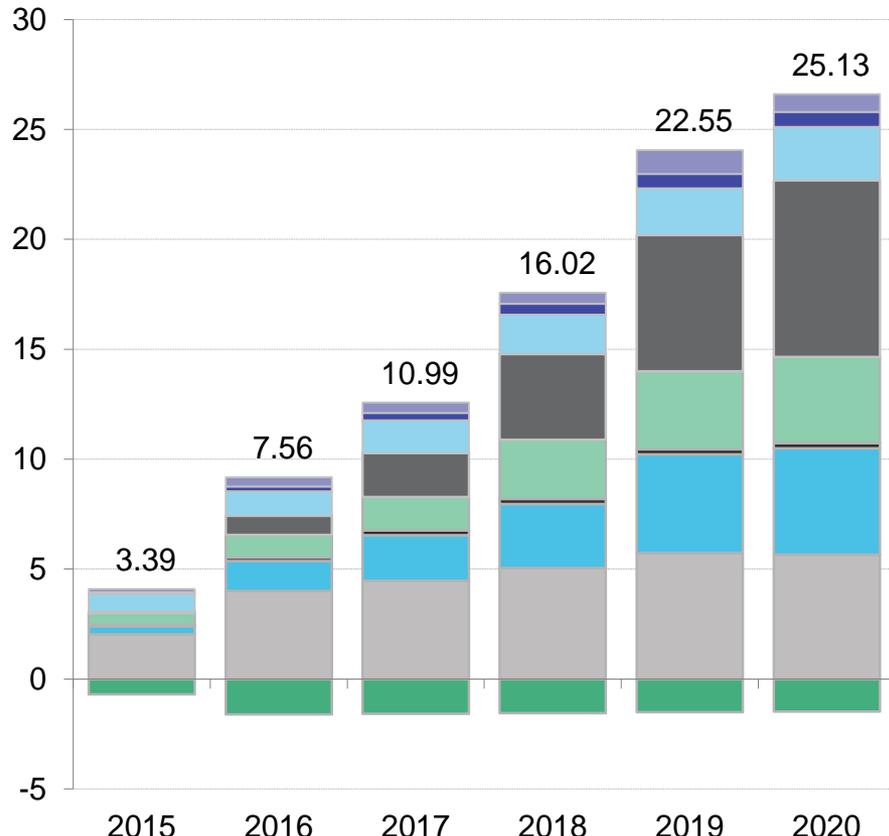
Source: MIT *Future of Natural Gas*  
Appliance efficiencies Energy STAR compliant.

# Natural gas growth likely in North America during next few years.

Year-on-year (Bcfd)



Cumulative growth from 2014 (Bcfd)



Source: Bloomberg New Energy Finance

# Survey of AGA Members

- Question:
  - Do you expect normalized residential heating bills to go up this winter compared to last?
- Response:
  - 17 percent said yes, 83 percent said no.
- Question:
  - By what percent will bills and throughput change compared to last winter?
- Response:
  - 5.9 percent decline in bills and 2.9 percent reduction in throughput. Averages weighted by number of customers.

*Respondents – 41, representing 19.0 million customers.*

*NOTE: Winter's impact on residential prices will vary by jurisdiction.*

# AGA National Average Forecast for Winter Bills

- On average, residential natural gas bills will be 5 to 7 percent lower than the previous winter. This assumes Mother Nature behaves.
- These bills would be the second lowest in the past decade. Since the shale gas revolution, only the winter of 2011-2012 had lower bills.
- This would also allow natural gas to continue to be the lowest-cost energy option for home heating.

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