

2018 Kentucky Industrial Utility Customers Natural Gas Market Outlook

Dan Grieshop
Manager, Scheduling and Supply Services
Energy Supply and Optimization

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NATURAL GAS

ELECTRIC

COLUMBIA GAS OF KENTUCKY

COLUMBIA GAS OF MARYLAND

COLUMBIA GAS OF MASSACHUSETTS

COLUMBIA GAS OF OHIO

COLUMBIA GAS OF PENNSYLVANIA

COLUMBIA GAS OF VIRGINIA

NIPSCO GAS

NIPSCO ELECTRIC

SIGNIFICANT SCALE
ACROSS SEVEN STATES

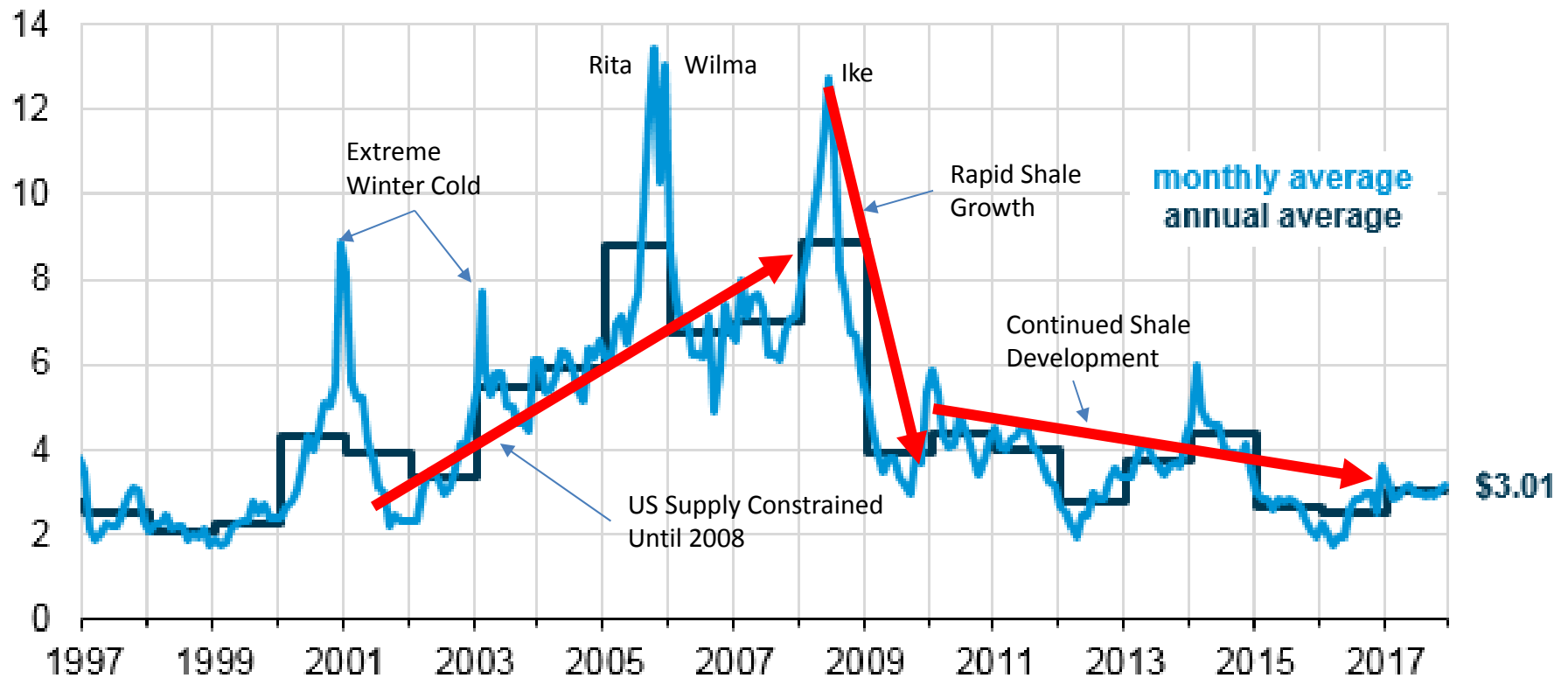
~3.5M Gas Customers
~500K Electric Customers

Today's Presentation

- **Historical Prices**
- **2017 Forecast**
- **2018 Fundamental Analysis Forecast**
- **2018 Cycle Analysis Forecast**
- **Boring is Good**

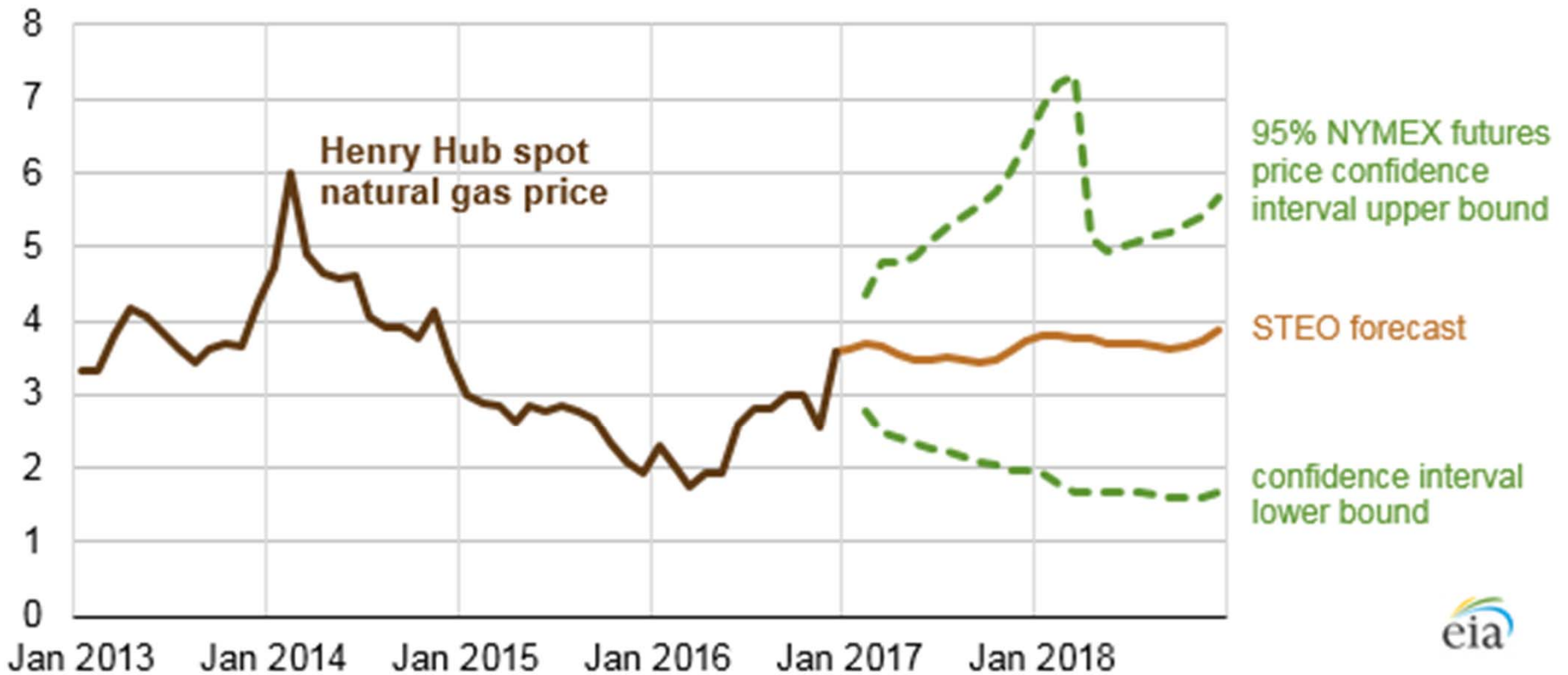
Historic Prices

Monthly and annual average natural gas spot price at Henry Hub (1997-2017)
dollars per million British thermal units



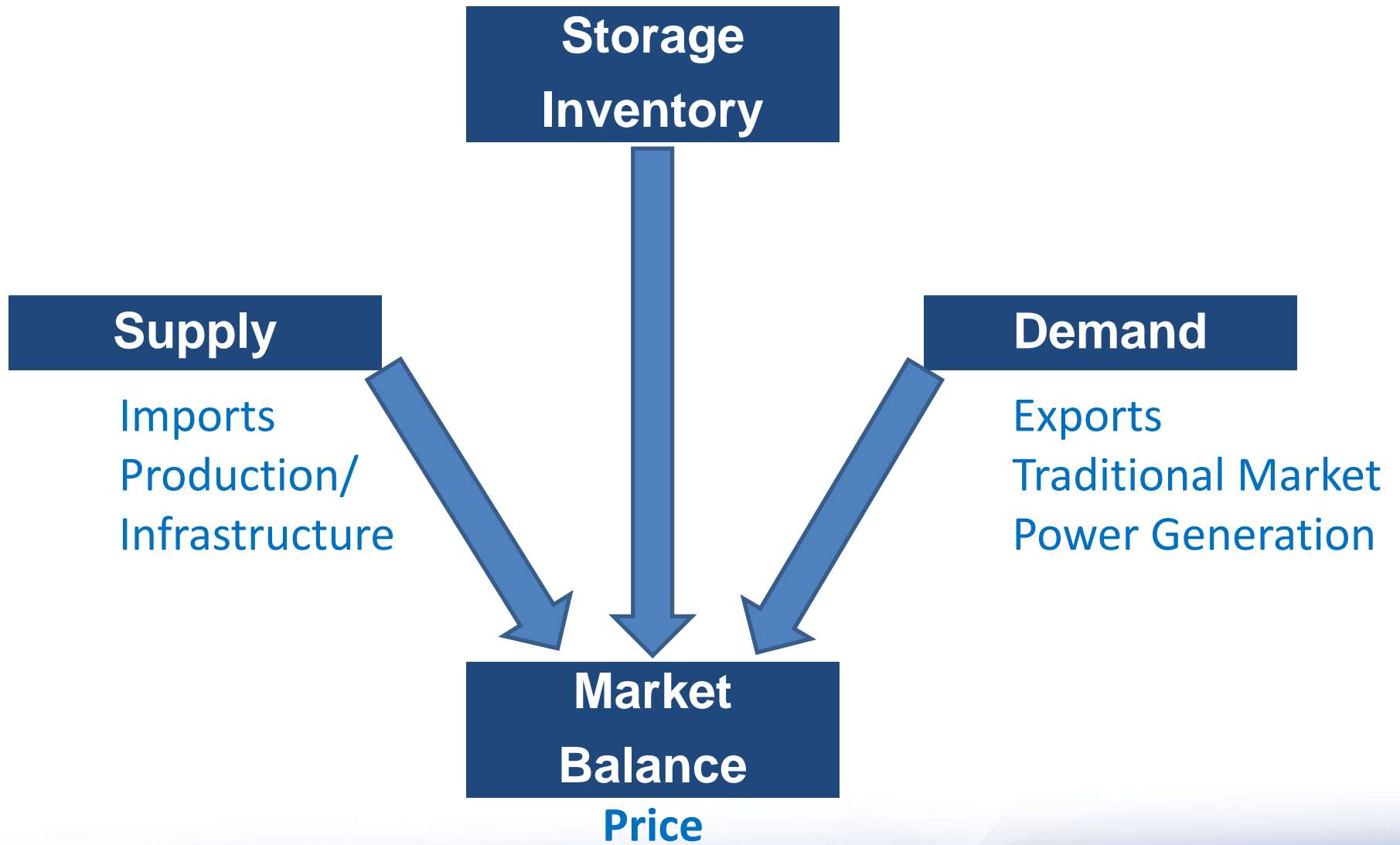
Last Year Forecast for 2017

Henry Hub natural gas price and NYMEX confidence intervals (2013-18)
dollars per million British thermal units




Cycle Analysis: Trading range of \$3.23 to \$2.64/Dth

Fundamental Analysis

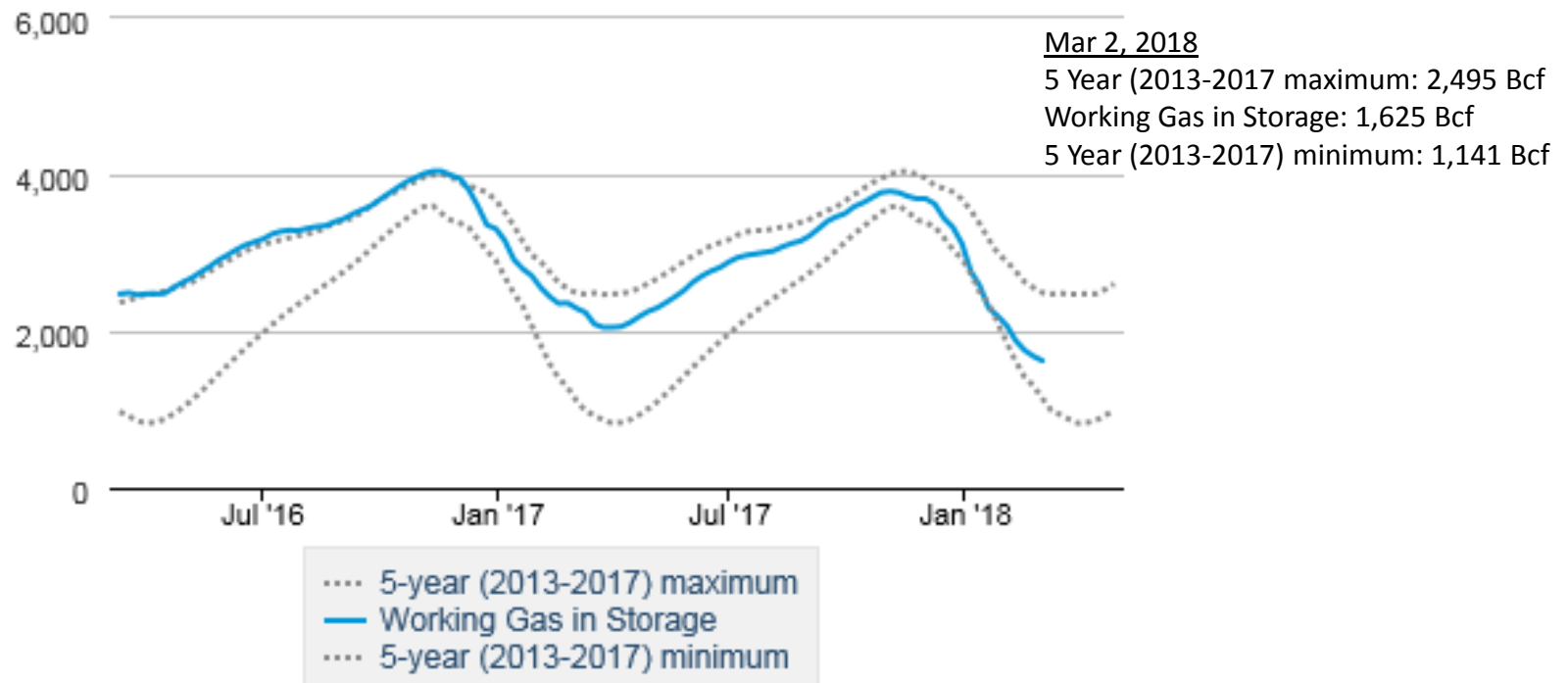


Storage

Working natural gas in underground storage

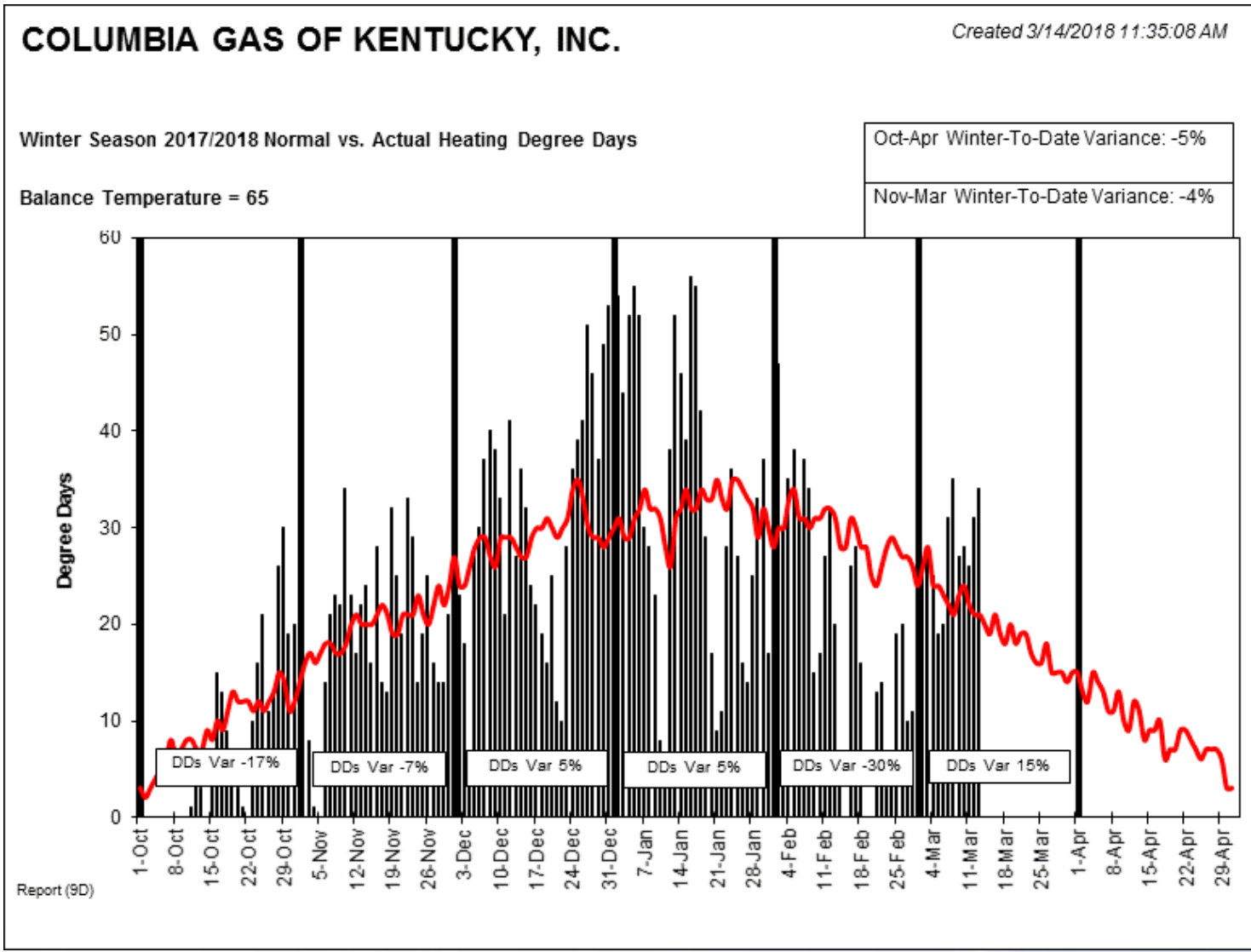
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billion cubic feet



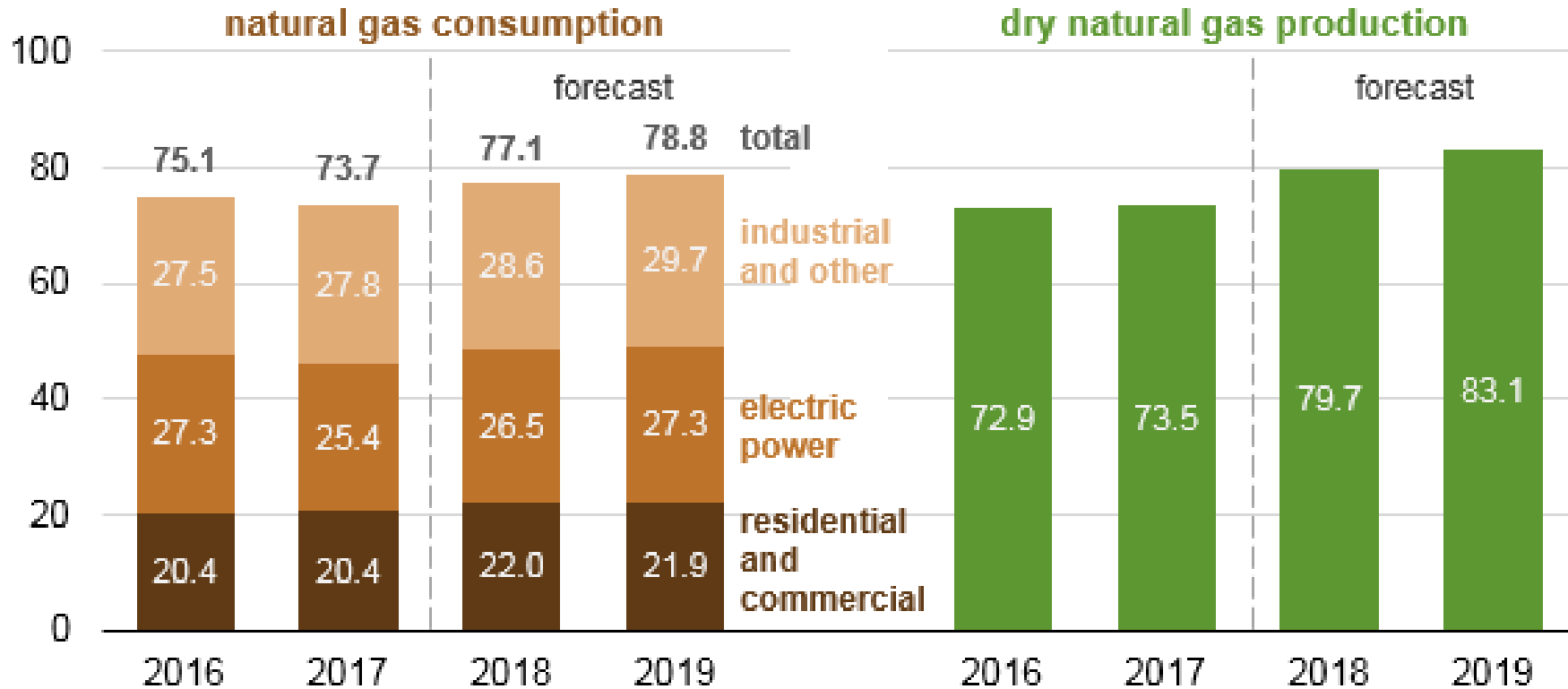
Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report"

Heating Degree Days – Columbia Gas of Kentucky



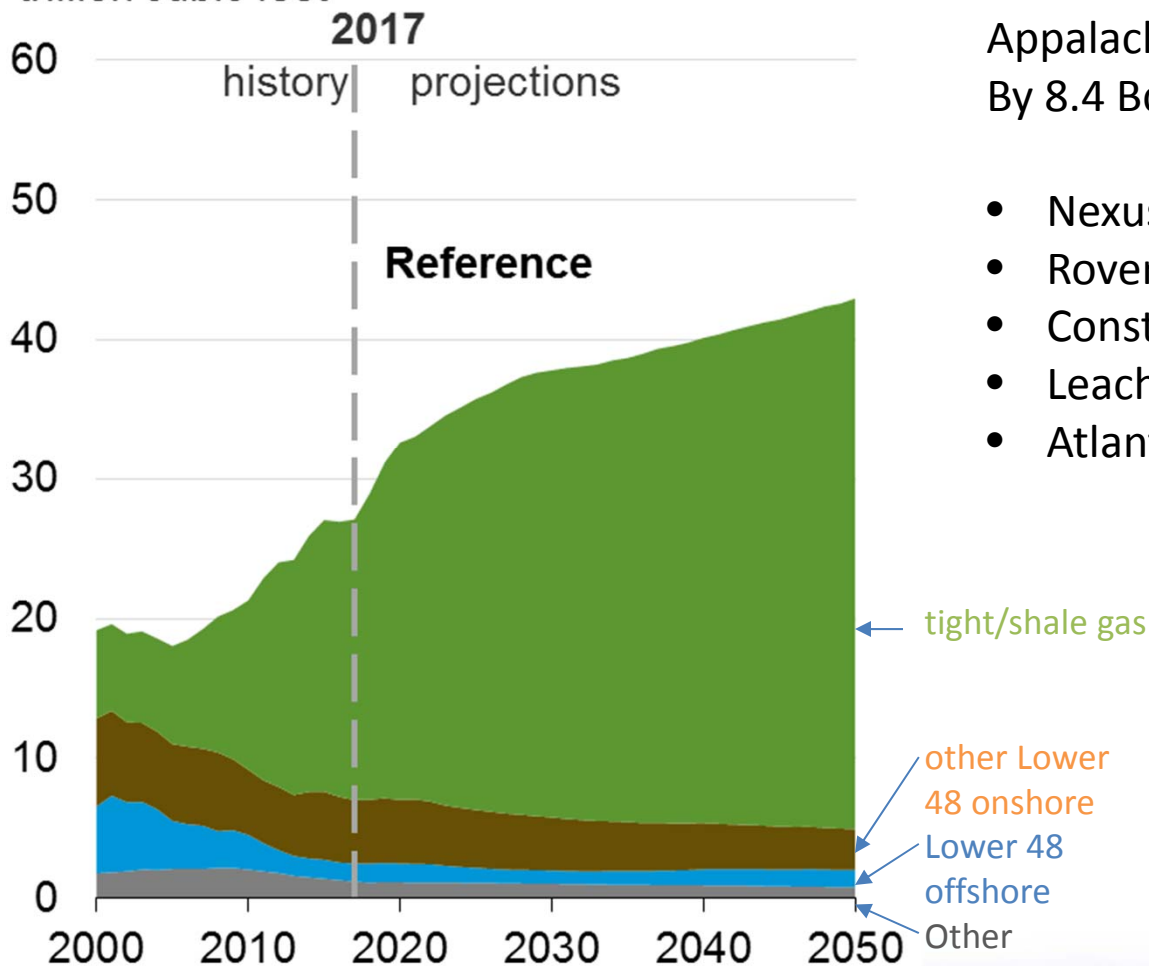
Supply & Demand

Annual U.S. natural gas consumption and production (2016-2019)
billion cubic feet per day



Supply

Natural gas production by type
trillion cubic feet



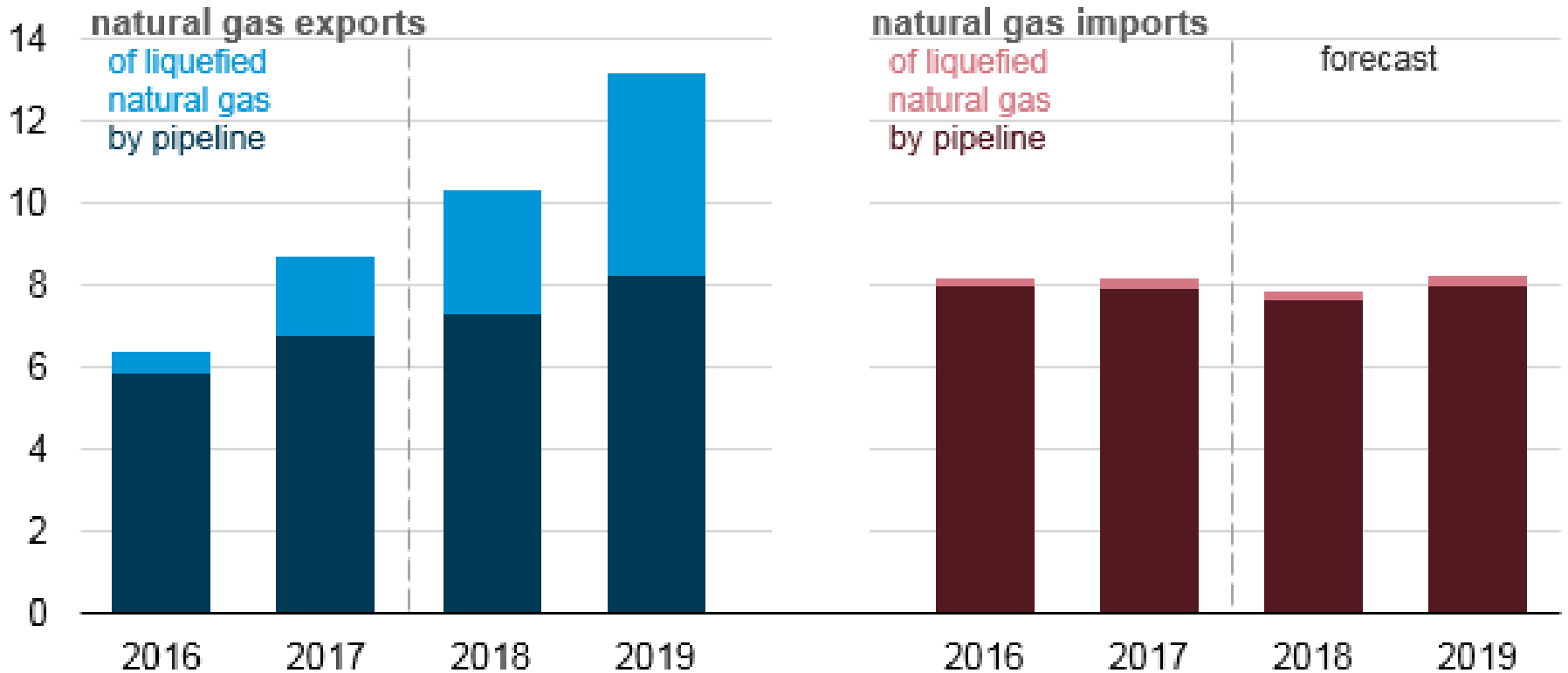
Infrastructure

From this winter to spring 2018,
Take away capacity from the
Appalachian Region to increase
By 8.4 Bcf/Day. - EIA

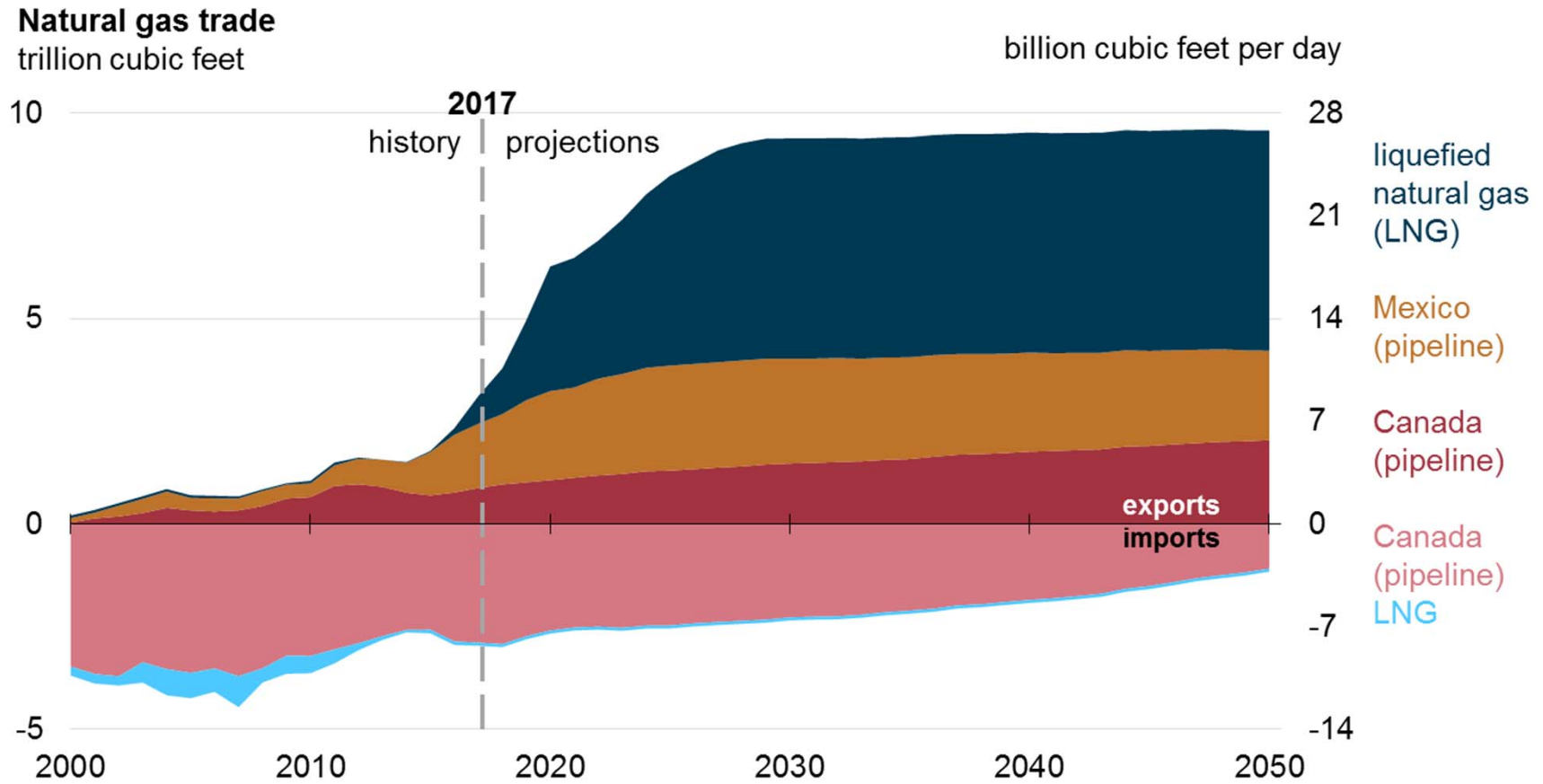
- Nexus 1.5 Bcf/Day
- Rover 3.25 Bcf/Day
- Constitution 0.6 Bcf/Day
- Leach Xpress 1.5 Bcf/Day
- Atlantic Bridge 0.1 Bcf/Day

Exports & Imports

Annual U.S. natural gas trade (2016-2019)
billion cubic feet per day



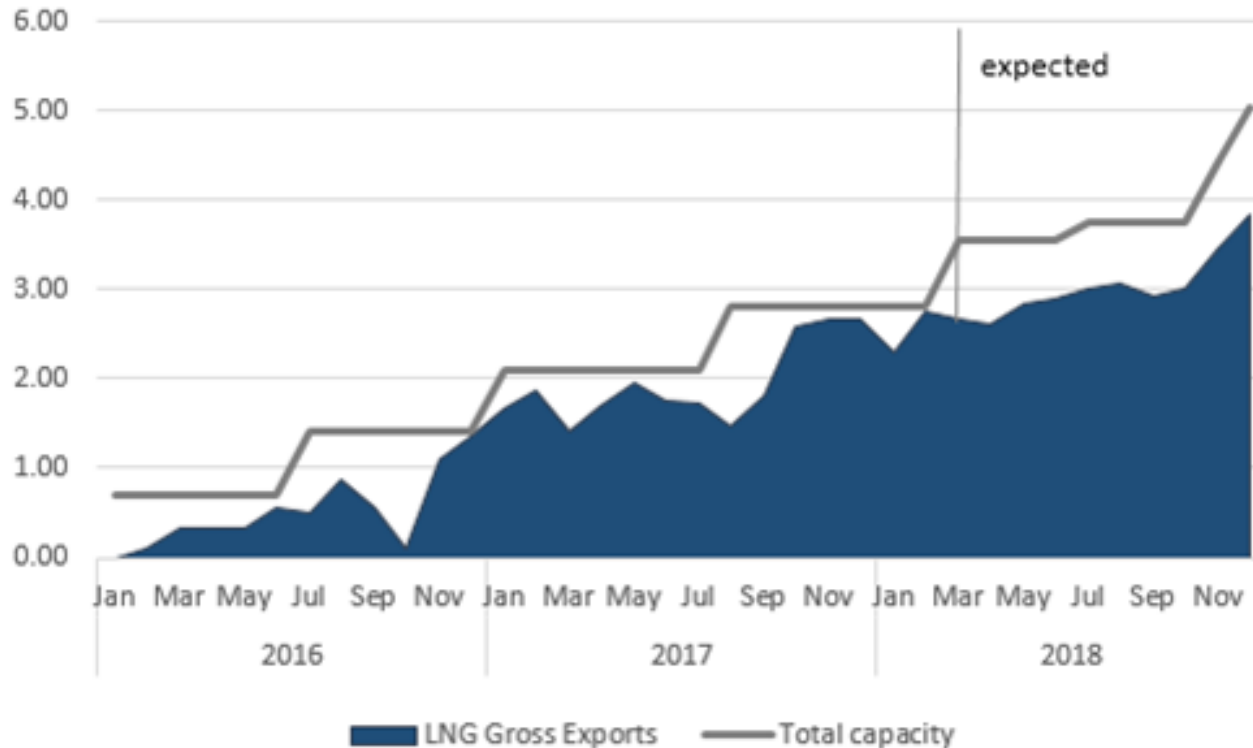
Exports & Imports



Exports & Imports – LNG Exports

U.S. liquefied natural gas exports and capacity (2016-2018)

billion cubic feet per day

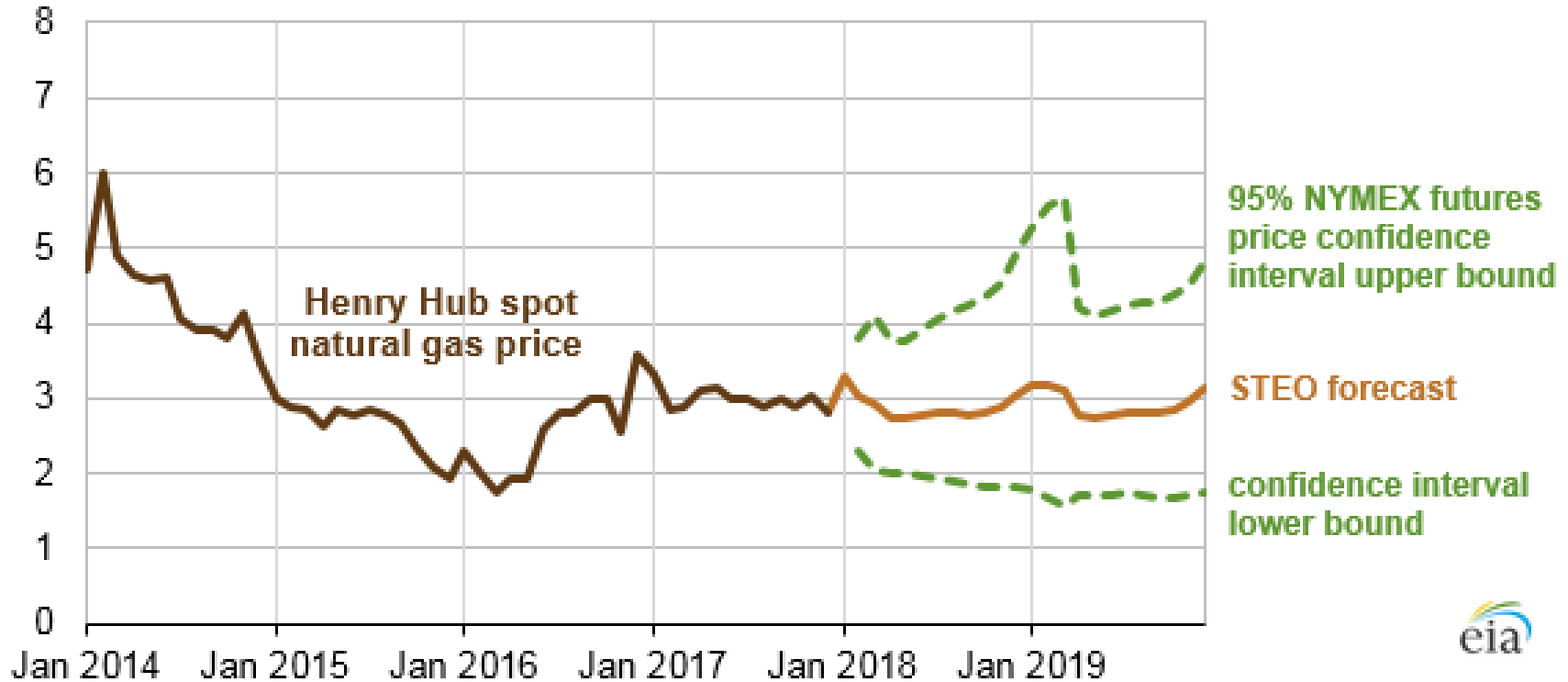


Sources: U.S. Energy Information Administration, *Short-Term Energy Outlook*; and U.S. Department of Energy, LNG Monthly Report

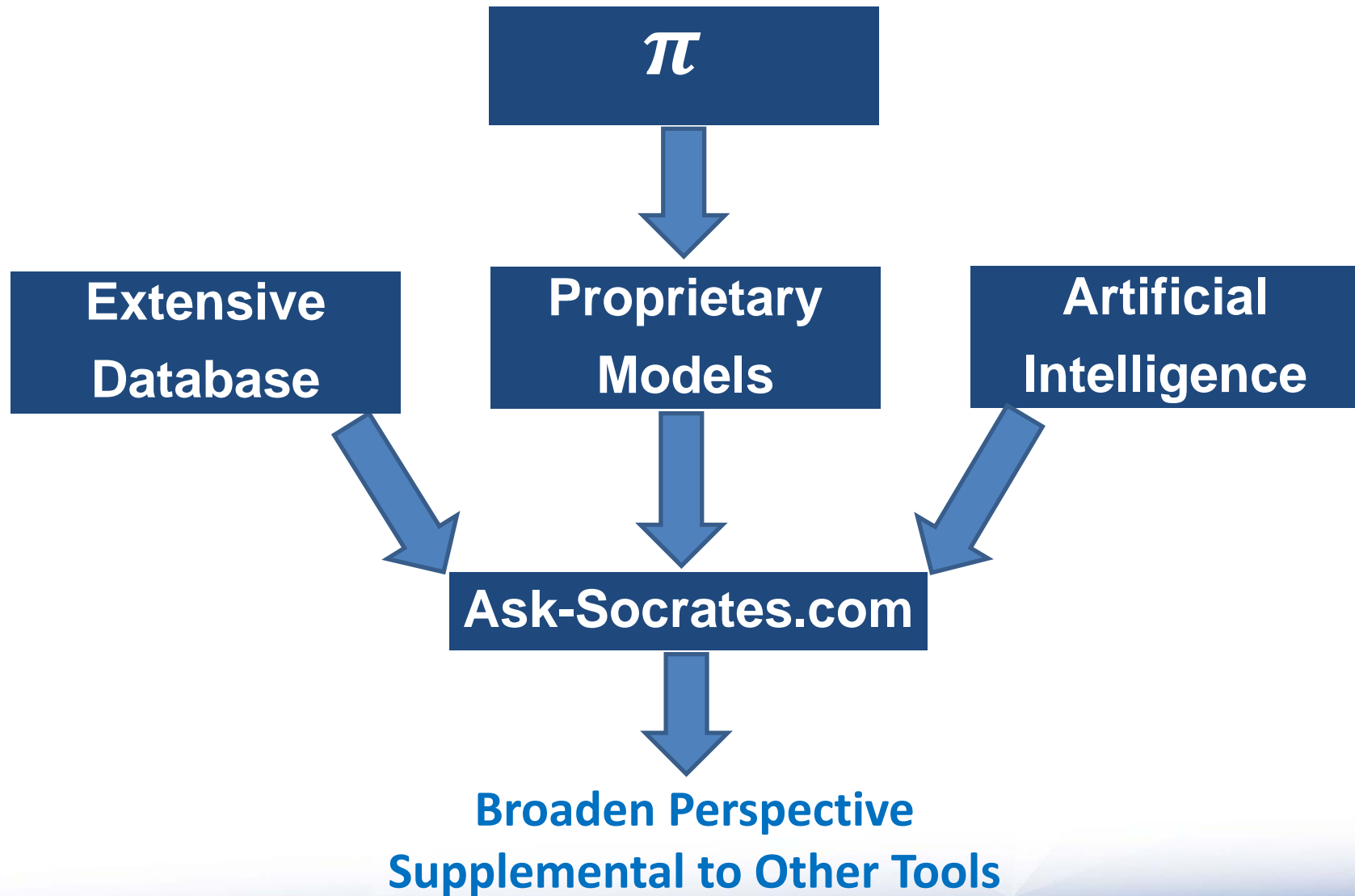


Fundamental Analysis – US EIA Forecast 2018

Monthly Henry Hub natural gas price and NYMEX confidence intervals (2014-2019)
dollars per million British thermal units



Technical Analysis – Armstrong Economics



Armstrong Economics – Cycle Analysis

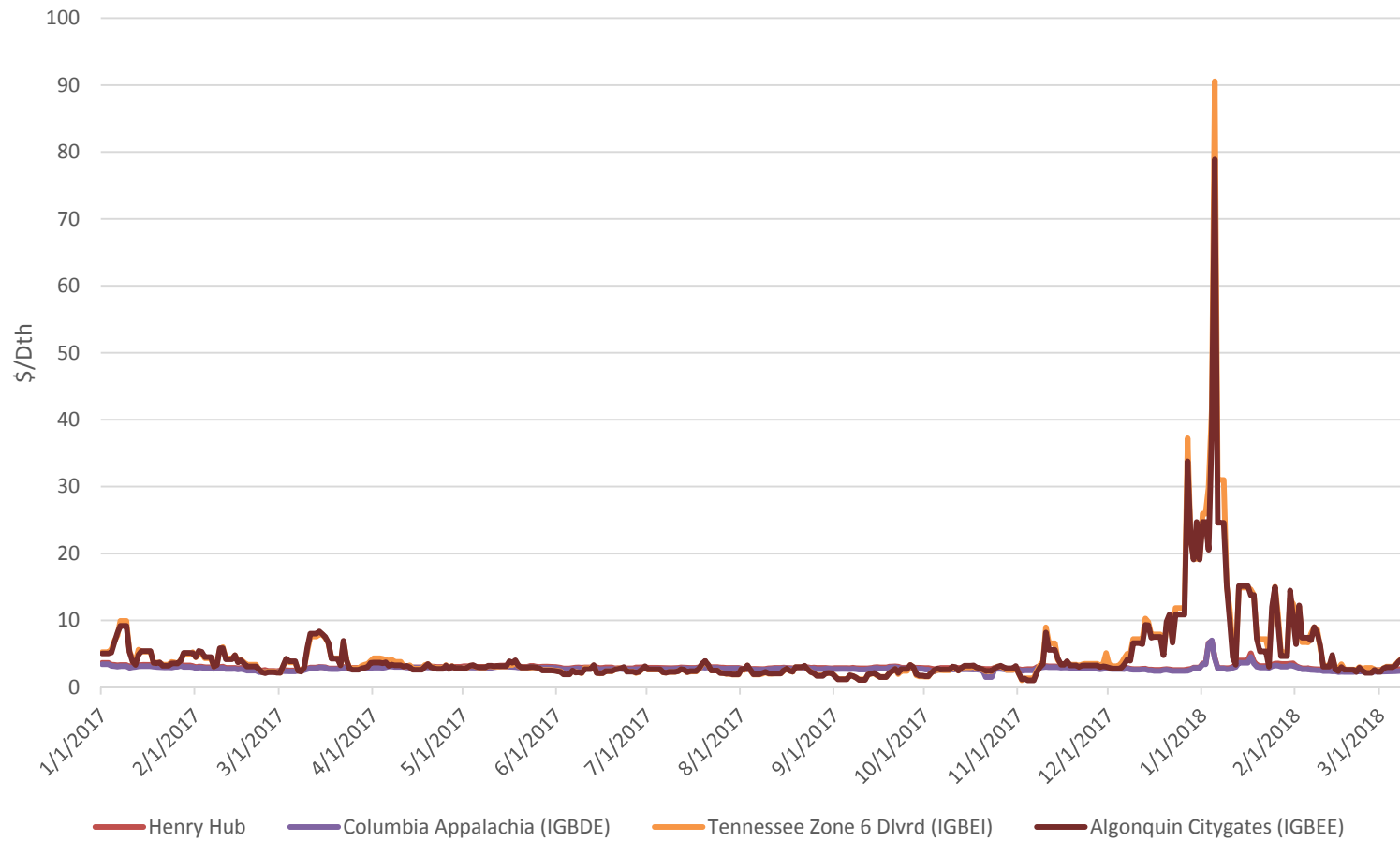
“AS OF THE CLOSE OF Fri. Mar. 13, 2018: “...Some caution is necessary since the last high \$3.628 was important given we did obtain three sell signals from that event established during January. Critical support still underlies this market at \$2.043 and a break of that level on a monthly basis would warn of a further decline ahead becomes possible. Nevertheless, at this time, the market is still holding.

Taking a broader view, this market is in a downward trend on all our indicators looking at the monthly level. We can see this market has been down for the past month. The last high on the monthly level was \$3.628, which was created during January. The last monthly level low was \$1.611, which formed during March 2016. That is critical technical support and a breach of that low would warn of the potential shift in near-term trend. We have generated a sell signal, so some caution is required. ”

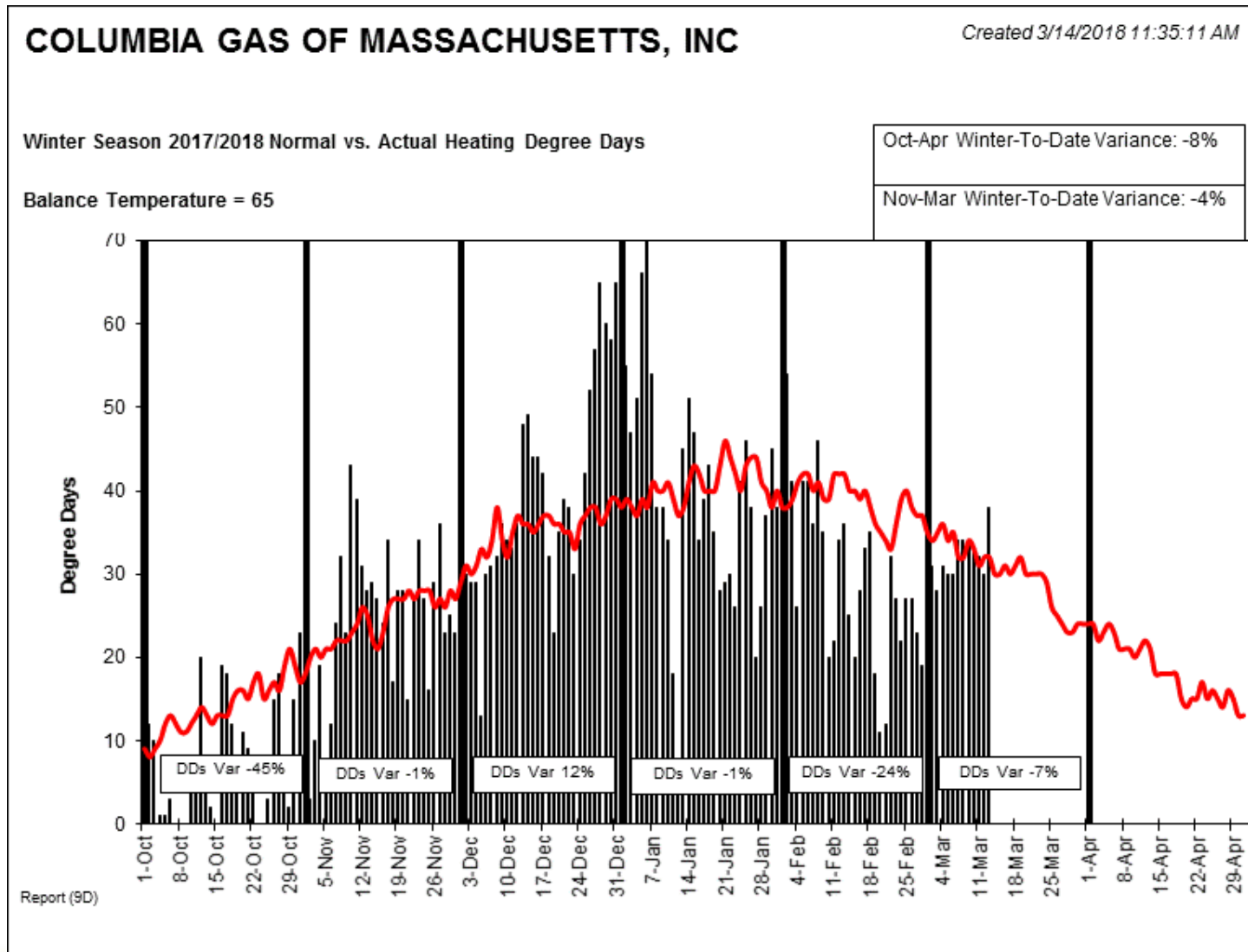
- Ask-Socrates.com
- Permission granted from ArmstrongEconomics

Capacity Constraint

Gas Daily Natural Gas Prices

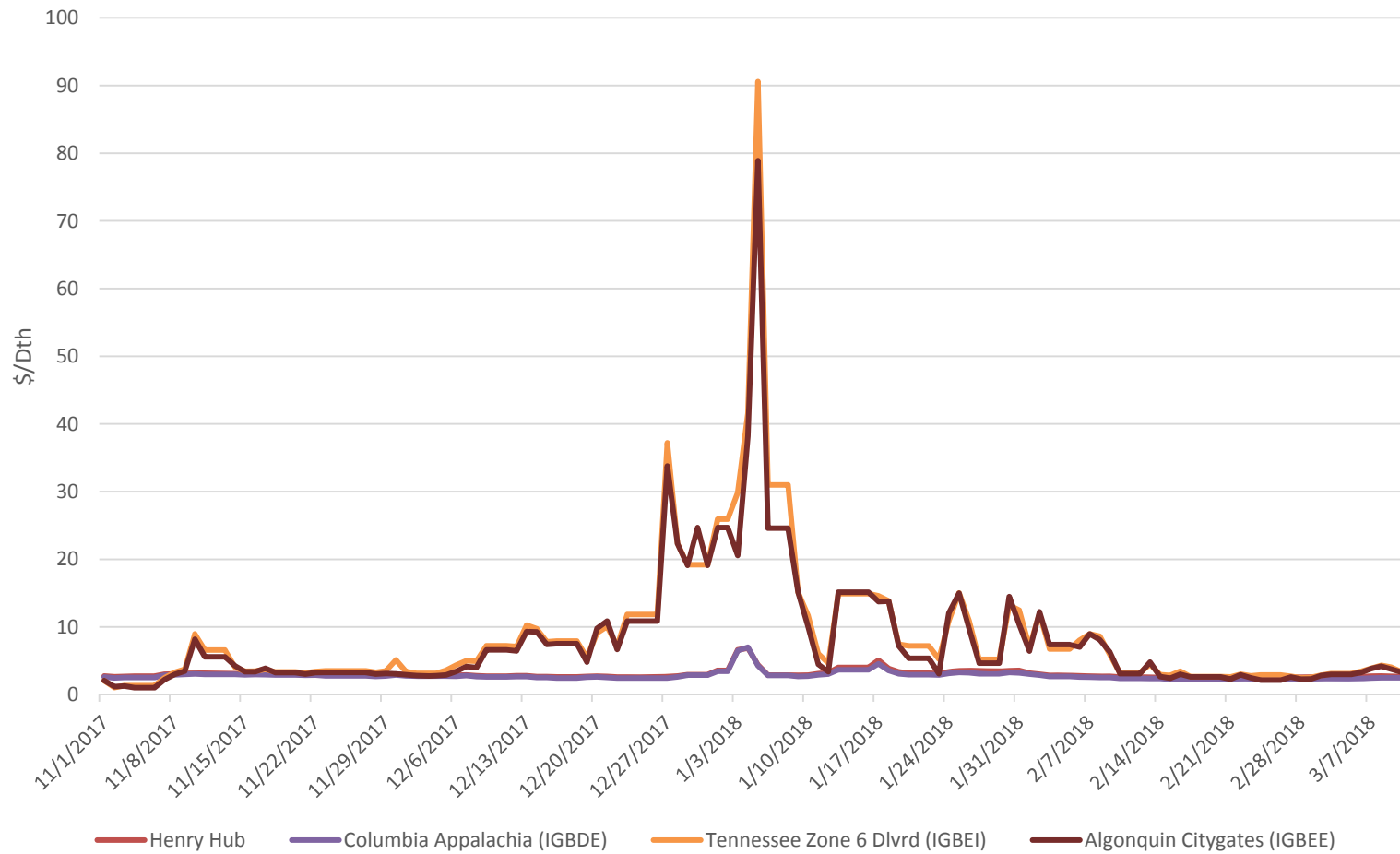


Heating Degree Days – Columbia Gas of Massachusetts



Capacity Constraint

Gas Daily Natural Gas Prices



Thank you!

Questions?