

Winter Fuels Markets Update

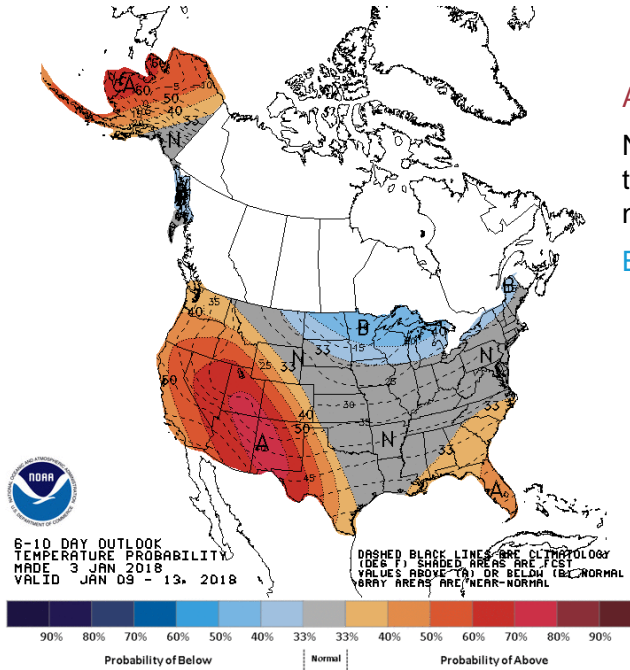


January 5, 2018

Key takeaways

- Current cold weather in the Midwest and Northeast United States has put some pressure on winter heating fuel stocks, though EIA's review that regional stocks are adequate for this cold wave
- EIA is closely watching Midwest (PADD 2) propane inventories, which reached 21.6 million barrels as of December 29, 2017, roughly 1% below that region's five-year average for this time of year
- As of December 29, 2017, distillate inventories in the Northeast (PADDs 1A and 1B), the main region where distillate is used for space heating, are above the five-year average level but below last year's high levels
- While natural gas inventories are currently below the five-year average and at or below last year's level in each of the five natural gas storage regions, they remain well within the five-year range
- Limitations on capacity for regional natural gas into New England and New York City have resulted in higher prices and increased burning of oil for electric generation

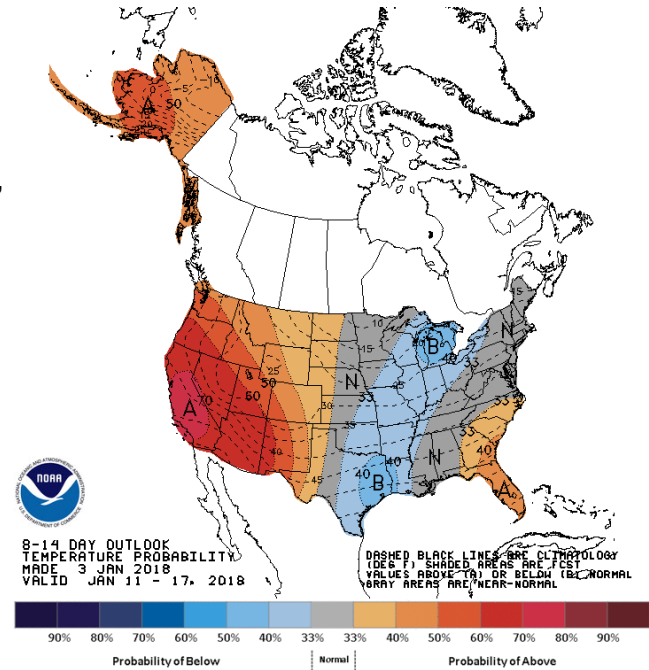
NOAA's projected temperatures: January 9 –13 and January 11 –17



A = temperatures above normal
N = equal chance that temperatures are above normal, normal, or below normal
B = temperatures below normal

Source: [NOAA](http://www.noaa.gov), January 3, 2018

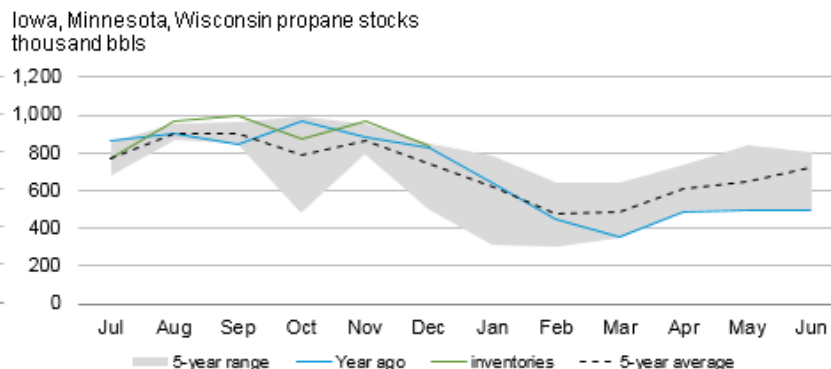
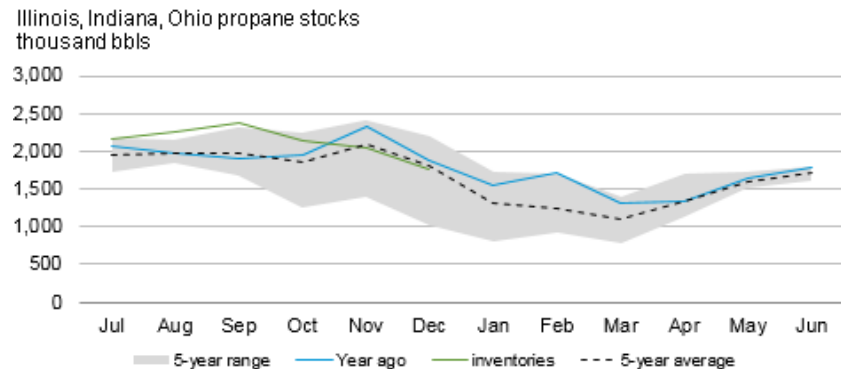
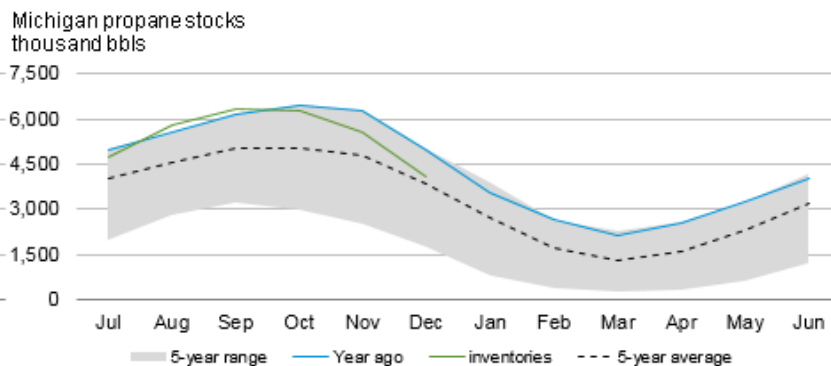
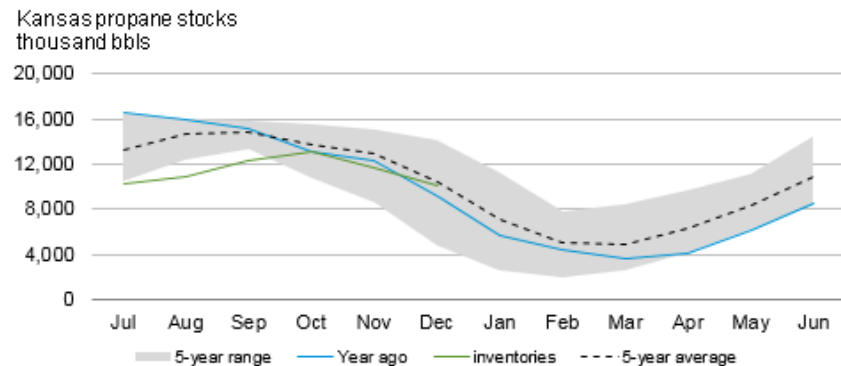
Petroleum Administration for Defense Districts (PADDs)



Midwest (PADD 2) propane inventories

- PADD 2 inventories reported for December 29, 2017, were nearly on-par with five-year average levels, and 1.1 million barrels (5%) below same week last year
- Inventories at Conway, where the bulk of Midwest propane stocks are held, and which serve as the origin point for pipelines moving propane north into NE, SD, MO, IA, MN, and WI, are within the five-year range
- Inventories in Michigan; IL,IN,OH; as well IA,MN,WI are at or above five-year average
- Inventories in Western Canada (source of railed propane into Upper Midwest), which started the winter season at historical highs and over 1.5 million barrels above the five-year average, fell in November as shipments south drew inventories down
- Inventories in Eastern Canada (source of railed and piped propane into Great Lakes states and Northeast) also declined in November from near the top of the five-year range to close to the five-year average

Selected key states propane* stocks are close to or above the five-year average for the week ending December 29, 2017

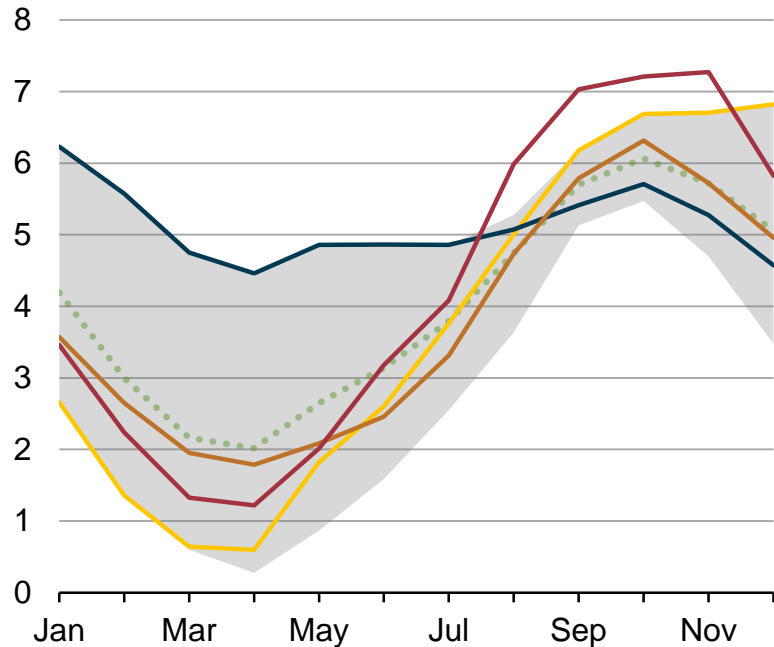


Source: EIA, Weekly Petroleum Status Report, data through Dec 29, 2017

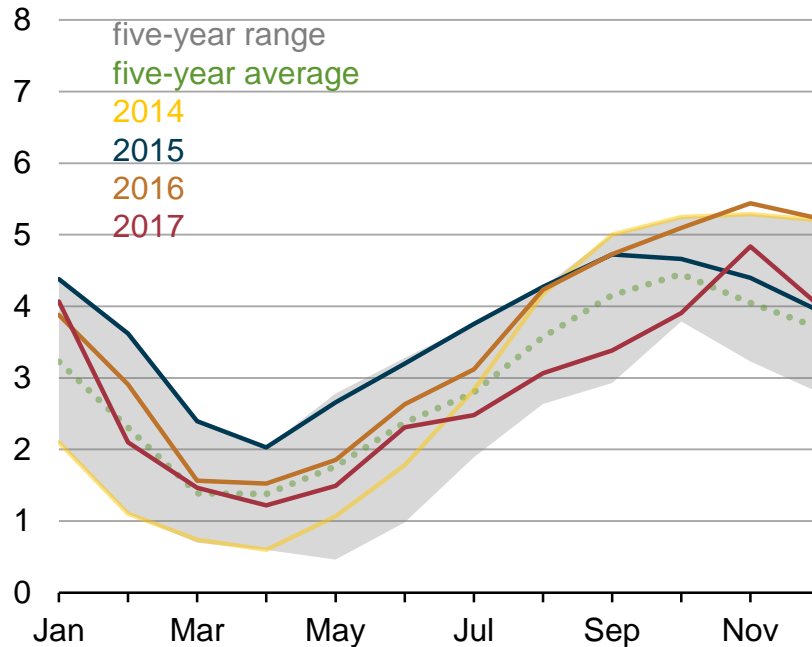
*propane/propylene for fuel use only; inventories include stocks at terminals, gas plants, and refineries only (excluding pipelines)

Total Canadian propane inventories fell 2.3 million barrels in November, as strong U.S. demand and higher prices spurred exports

propane inventories in Western Canada
million barrels



propane inventories in Eastern Canada
million barrels



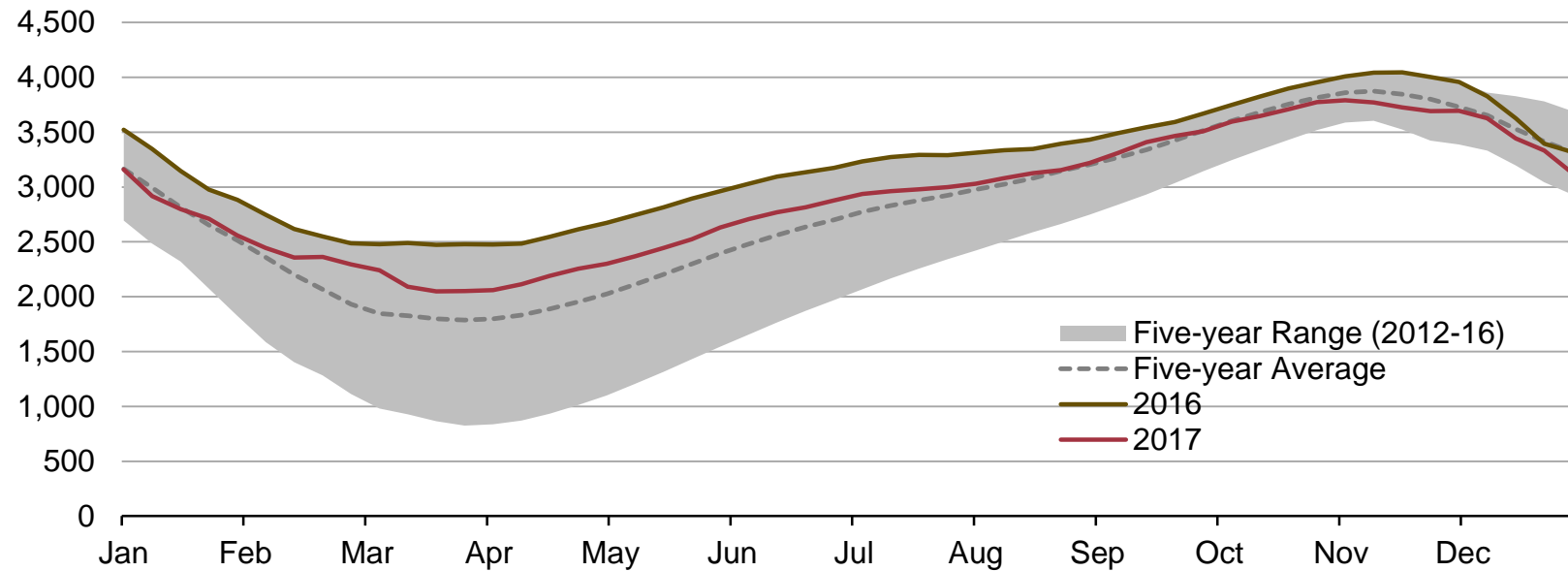
Source: Canada's [National Energy Board](#), December 14, 2017

Winter 2017-18 takeaways – Natural gas

- As of December 29, 2017, inventories of natural gas in working storage were 6% below both the five-year average and last year's level
- Natural gas inventories were 3.8 trillion cubic feet (Tcf) at the beginning of November 2017, slightly below the 4.0 Tcf level in November 2016

Natural gas inventories are within the five-year range, but below the five-year average and below 2016 levels throughout 2017

lower 48 working gas storage stocks
billion cubic feet

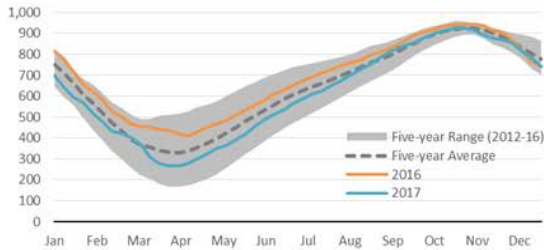


Note: Gray band represents the range between the minimum and maximum from 2012 to 2016

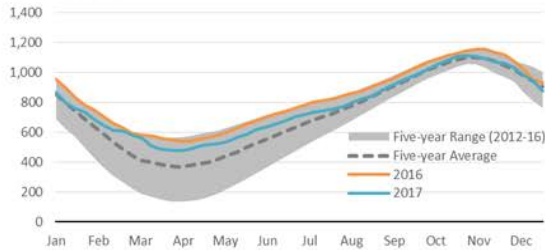
Source: U.S. Energy Information Administration, Weekly Natural Gas Storage Report

Working gas stocks are below the five-year average in each of the six storage regions (as of December 29, 2017)

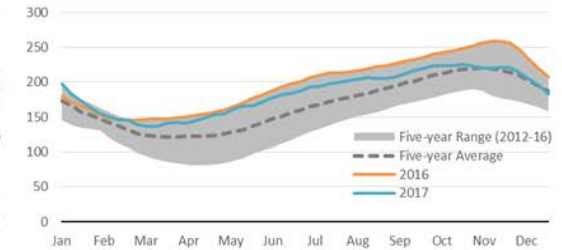
East Region working gas storage stocks
Billion cubic feet



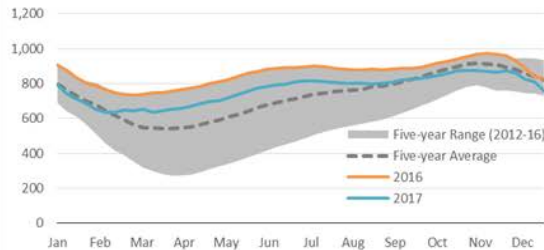
Midwest Region working gas storage stocks
Billion cubic feet



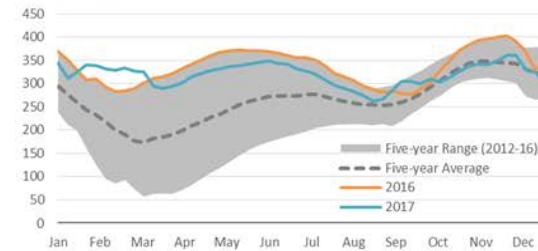
Mountain Region working gas storage stocks
Billion cubic feet



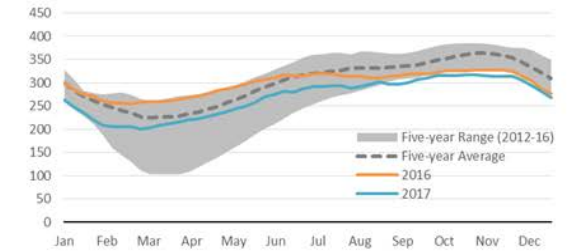
South Central Nonsalt Region Working Gas Storage Stocks
Billion cubic feet



South Central Salt Region Working Gas Storage Stocks
Billion cubic feet



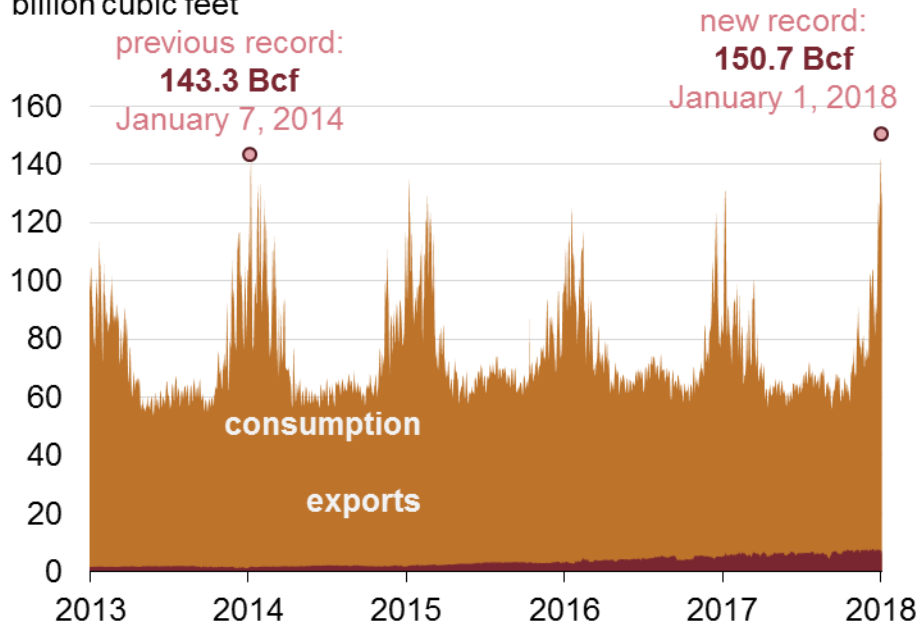
Pacific Region working gas storage stocks
Billion cubic feet



Source: U.S. Energy Information Administration, Weekly Natural Gas Storage Report

Northeast consumption drives U.S. record Natural Gas consumption on January 1

daily U.S. natural gas consumption and exports
billion cubic feet



Source: U.S. Energy Information, based on PointLogic

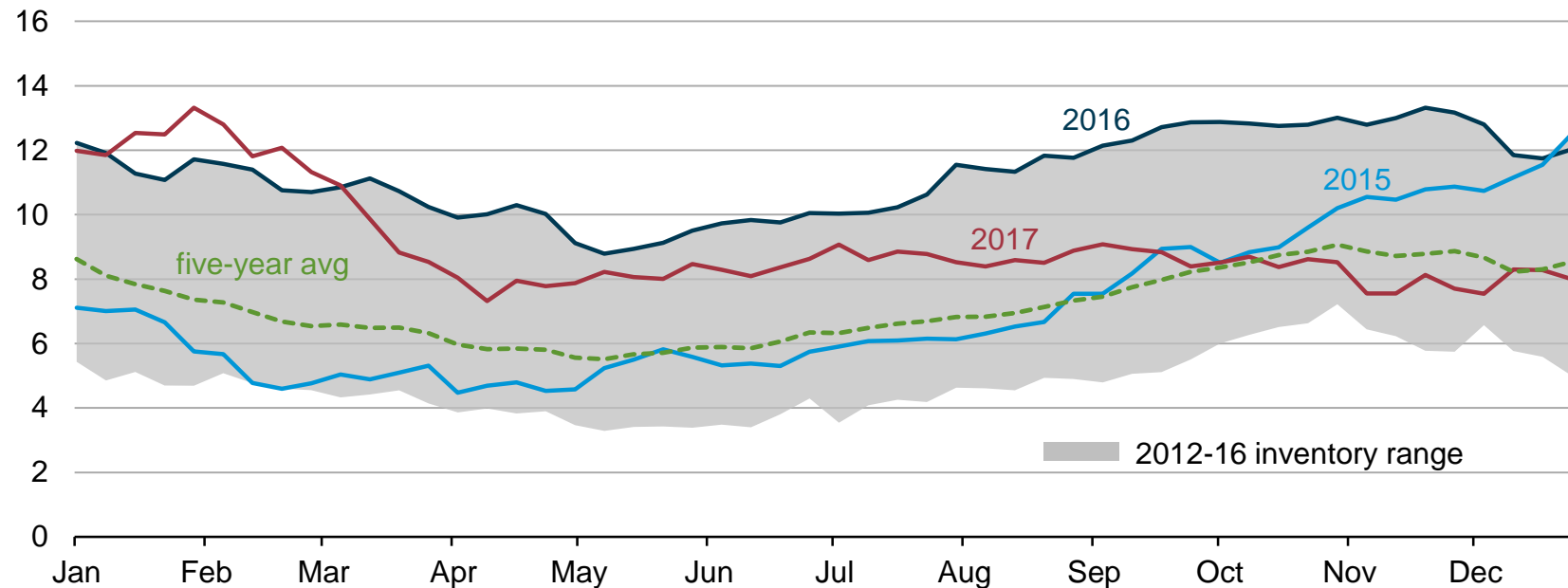
- Demand on January 5 in New England and New York City will be about 9.1 Bcf, due to falling temperatures, New York City's gas load could reach 6.3 Bcf on January 6 (S&P Global estimates)
- Major pipelines to the Northeast are full
- LNG supplies into the Northeast U.S. and eastern Canada should top 2.0 Bcf on January 5
- Prices are about \$83/MMBtu in Boston (up 128% from January 4), and about \$140/MMBtu in New York City (up 173% from January 4), and \$4.65/MMBtu at Henry Hub (down 38% from January 4)

Winter 2017-18 takeaways – Heating oil

- Distillate stocks in the Northeast (combined PADDs 1A and 1B) totaled 38.7 million barrels on December 29, 2017, 1.5 million barrels (4%) above the five-year average but 14.4 million barrels below year-ago levels
- Unless severely cold temperatures in the Northeast coincide with severely cold temperatures in Europe, ample supplies should be available to meet demand, but localized supply issues are possible

New England (PADD 1A) total distillate inventories are within the five-year range, but roughly 6% below the five-year average

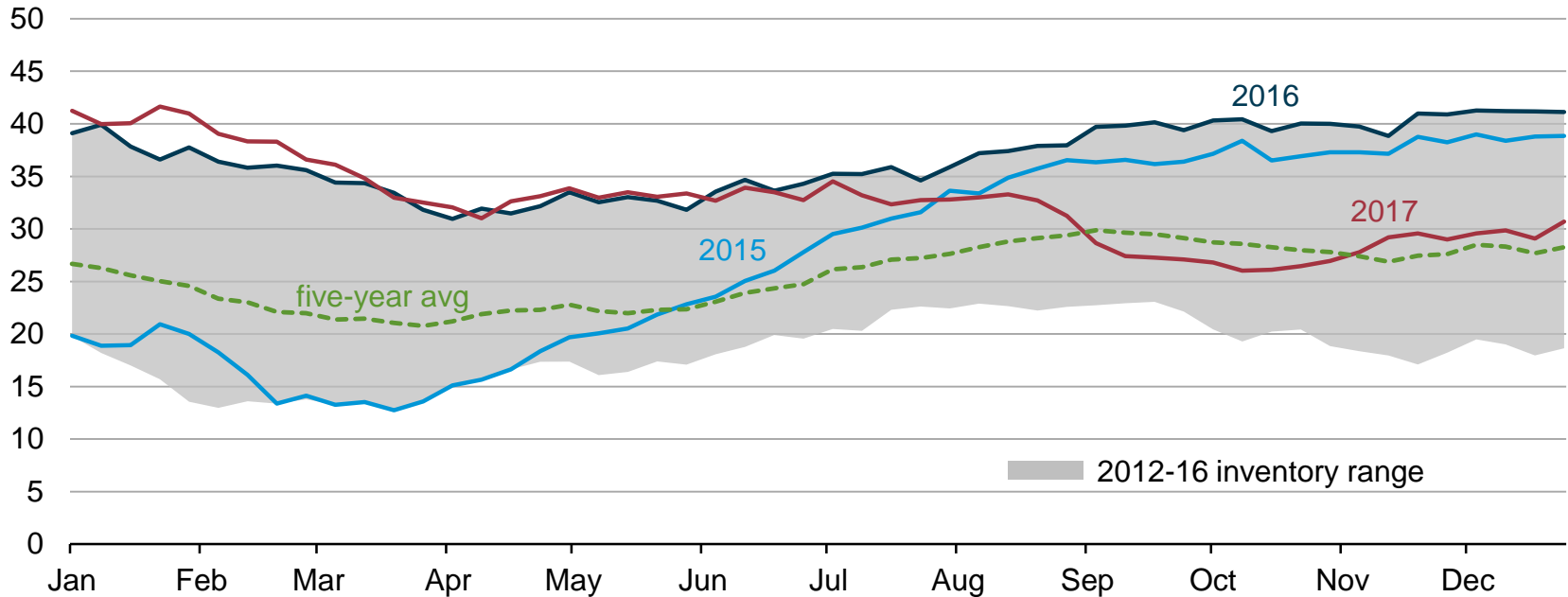
New England (PADD 1A) total distillate fuel
million of barrels



Source: EIA, Weekly Petroleum Status Report, data through December 29, 2017

Central Atlantic (PADD 1B) distillate inventories are 9% above the five-year average

Central Atlantic (PADD 1B total distillate fuel)
million of barrels



Source: EIA, Weekly Petroleum Status Report, data through December 29, 2017

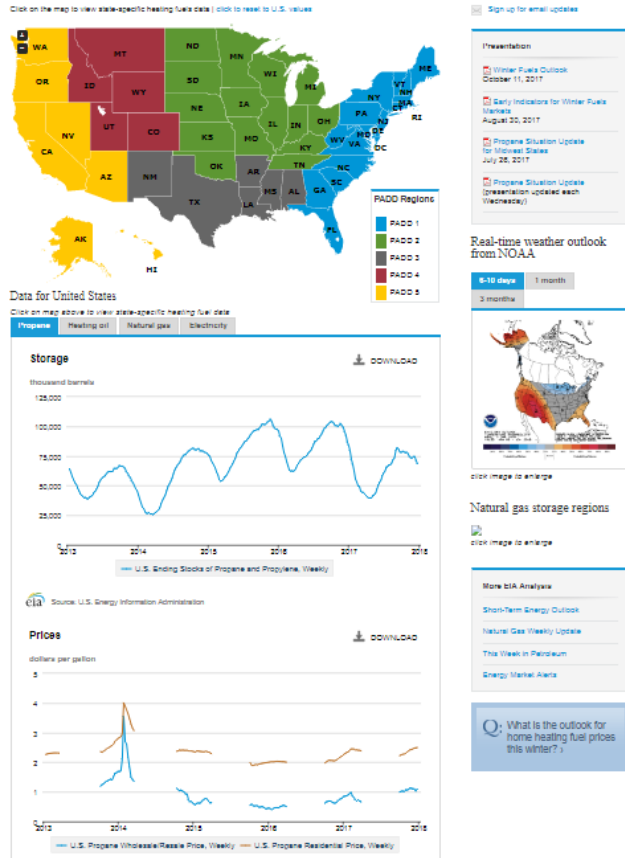
New England power plants appear to have adequate stocks of fuel oil to continue operating at high rates of burn through the weather event

- Assuming a continuous high rate of oil burn in New England since January 2, and even without any replacement of power plant oil stocks, EIA estimates that New England oil-fired power plants have sufficient supplies through (at least) January 12 – after we expect the current weather event to end
- According to EIA survey data, at the end of October the New England region held fuel oil stocks at power plants just under 4 million barrels
- EIA estimates the amount of oil burned each day in New England based on generation data published by ISO-NE and assumed typical conversion factors from megawatt-hours to barrels of oil.
- Any receipts by power plants of additional fuel oil over this period would, of course, provide more days of burn

Winter Heating Fuels Webpage

www.eia.gov/special/heatingfuels

- Availability and pricing for the four principals heating fuels
 1. propane
 2. heating oil
 3. natural gas
 4. electricity
- Data relevant to each state available through clickable map
- Links to resources for each state
- Current week and three-month weather forecasts from NOAA
- Every graph can be downloaded as an image or as a spreadsheet



For more information

U.S. Energy Information Administration home page | www.eia.gov

Energy Alerts | www.eia.gov/special/alerts

Winter Heating Fuels Site | www.eia.gov/special/heatingfuels/

Energy Disruptions | www.eia.gov/special/disruptions

State Energy Portal | www.eia.gov/state

Movements of Propane by Rail |

http://www.eia.gov/dnav/pet/pet_move_railNA_a_EPLLPA_RAIL_mdbl_m.htm

Today in Energy | www.eia.gov/todayinenergy

Short-Term Energy Outlook | www.eia.gov/steo