

# Propane Situation Update for Midwest States



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*July 26, 2017*

## Key takeaways

- EIA continues weekly tracking of Midwest (PADD2) and sub-regional propane stocks. During the heating season these are reported weekly with state-level residential heating fuel prices and included in the Propane Situation Update deck.
- Midwest propane inventories increased 0.82 million barrels (mb) per week since the start of June to reach 21.2 mb as of July 21, 2017; inventories typically range between 25 and 28 mb by the start of October and will reach 27 mb by then if builds average 0.58 mb per week over the next 10 weeks (through end of September)
- The price difference between major hubs in Texas and Kansas that favored propane flows to Texas in the early part of 2017 is now more supportive of keeping propane in the Midwest; at the same time, a decline in the gap between foreign and U.S. prices is curbing U.S. propane exports
- The corn crop is progressing ahead of recent averages, with emergence at least 2 weeks ahead of the 2013 season and on par with 2015; current weather forecasts and futures prices suggest low reliance on propane-fueled crop drying

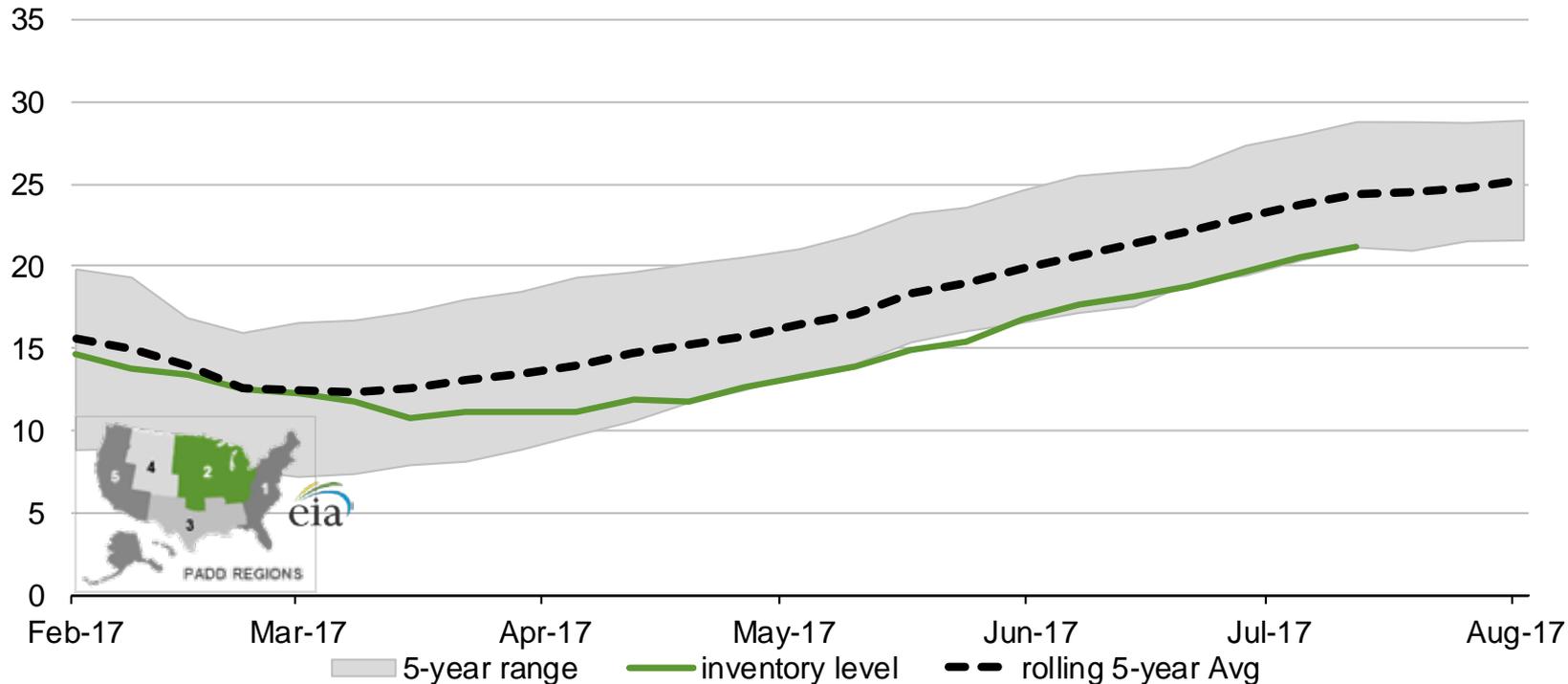
# Midwest (PADD 2) propane inventories

- The current injection season started in April with PADD 2 inventories at the low end of the 5-year range and below 5-year average.
- Inventories at Conway, where the bulk of Midwest propane stocks are held, is also the origin point for pipelines moving propane north into NE, SD, MO, IA, MN, and WI, are currently below the 5-year range
- Inventories in Michigan, as well as IL-IN-OH, at or above 5-year average
- Inventories in Western Canada (source of railed propane into Upper Midwest), and Eastern Canada (source of railed and piped propane into Great Lakes states and Northeast), are near their 5-year average

# Midwest (PADD 2) propane stocks at bottom of 5-year range as of mid-July

PADD 2 propane\* inventories

million barrels

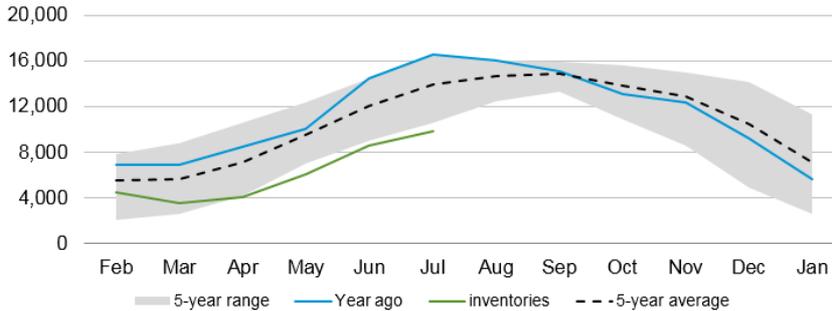


Source: EIA, Weekly Petroleum Status Report, data through July 21, 2017

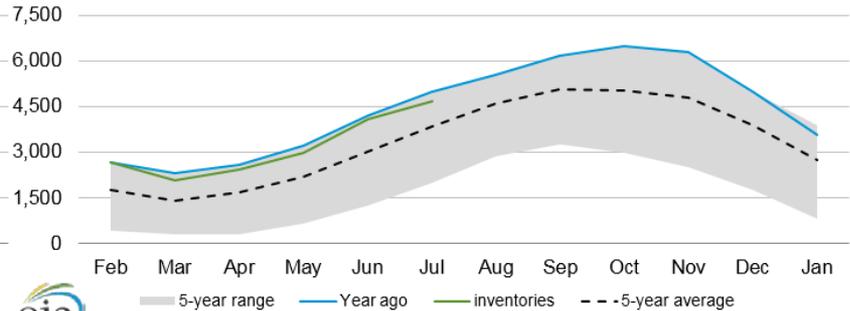
\*propane/propylene for fuel use only

# Selected state propane\* inventories – data through week ending July 21

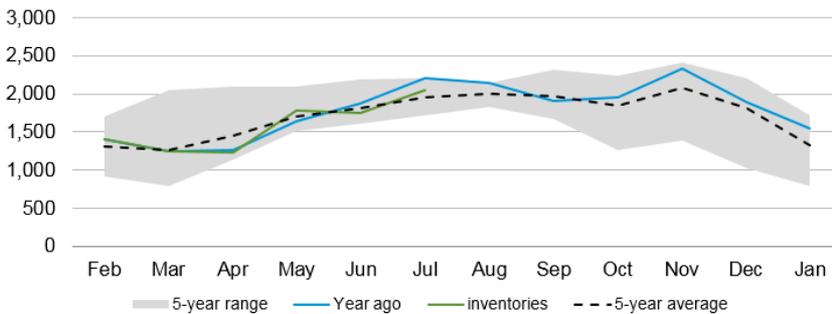
Kansas propane stocks  
thousand bbls



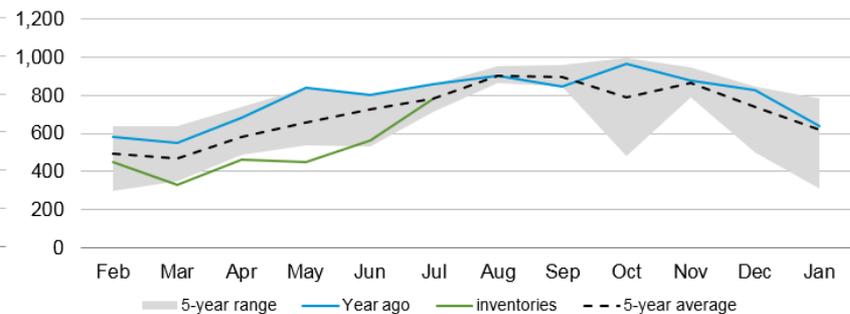
Michigan propane stocks  
thousand bbls



Illinois, Indiana, Ohio propane stocks  
thousand bbls



Iowa, Minnesota, Wisconsin propane stocks  
thousand bbls

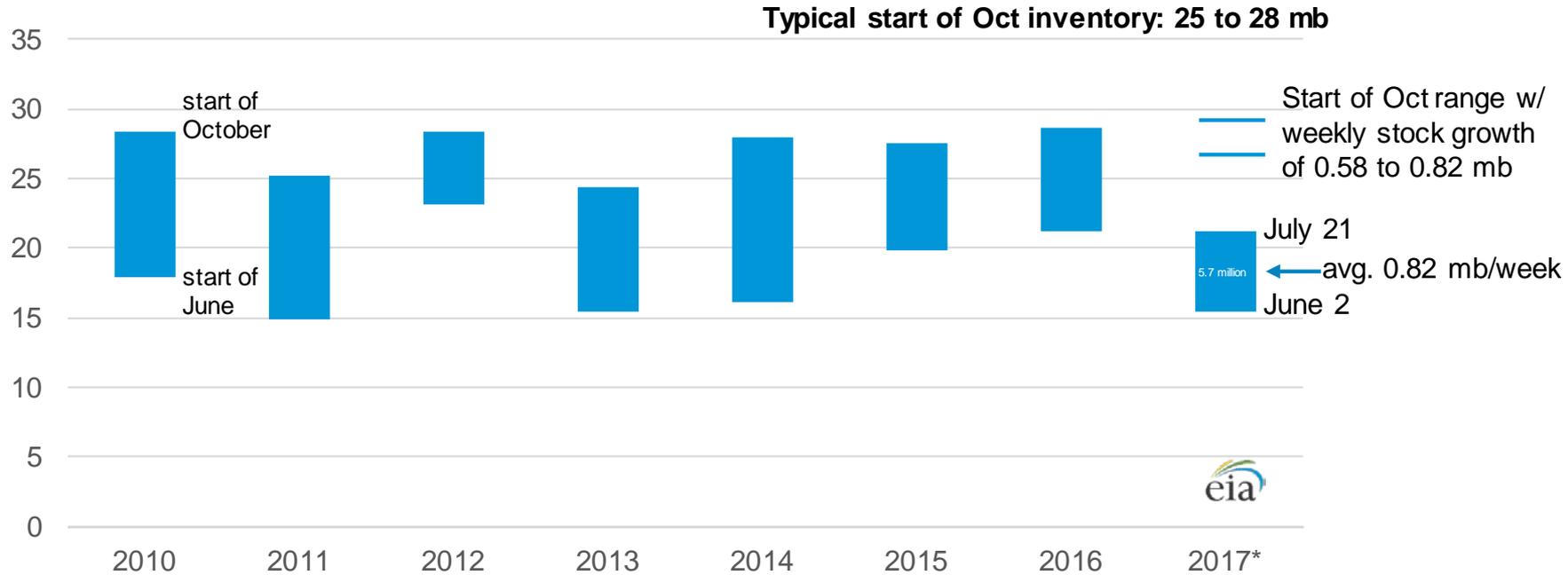


Source: EIA, Weekly Petroleum Status Report, data through July 21, 2017

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

# Midwest propane stocks in historical context: start-of-October stock level depends on inventory build rate over June through September

June through September Midwest propane stock build  
million of barrels (mb)

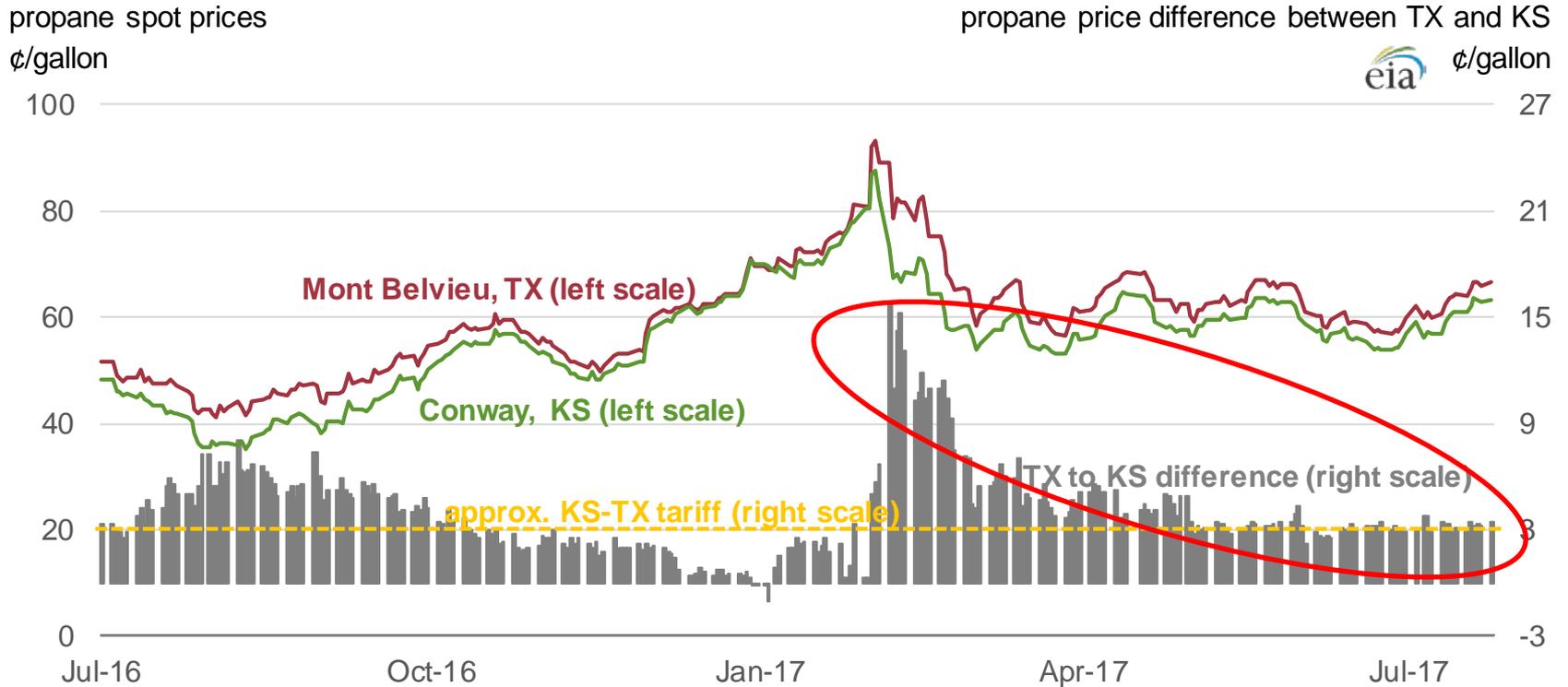


Source: EIA, Weekly Petroleum Status Report, data through July 21, 2017

# Propane price trends

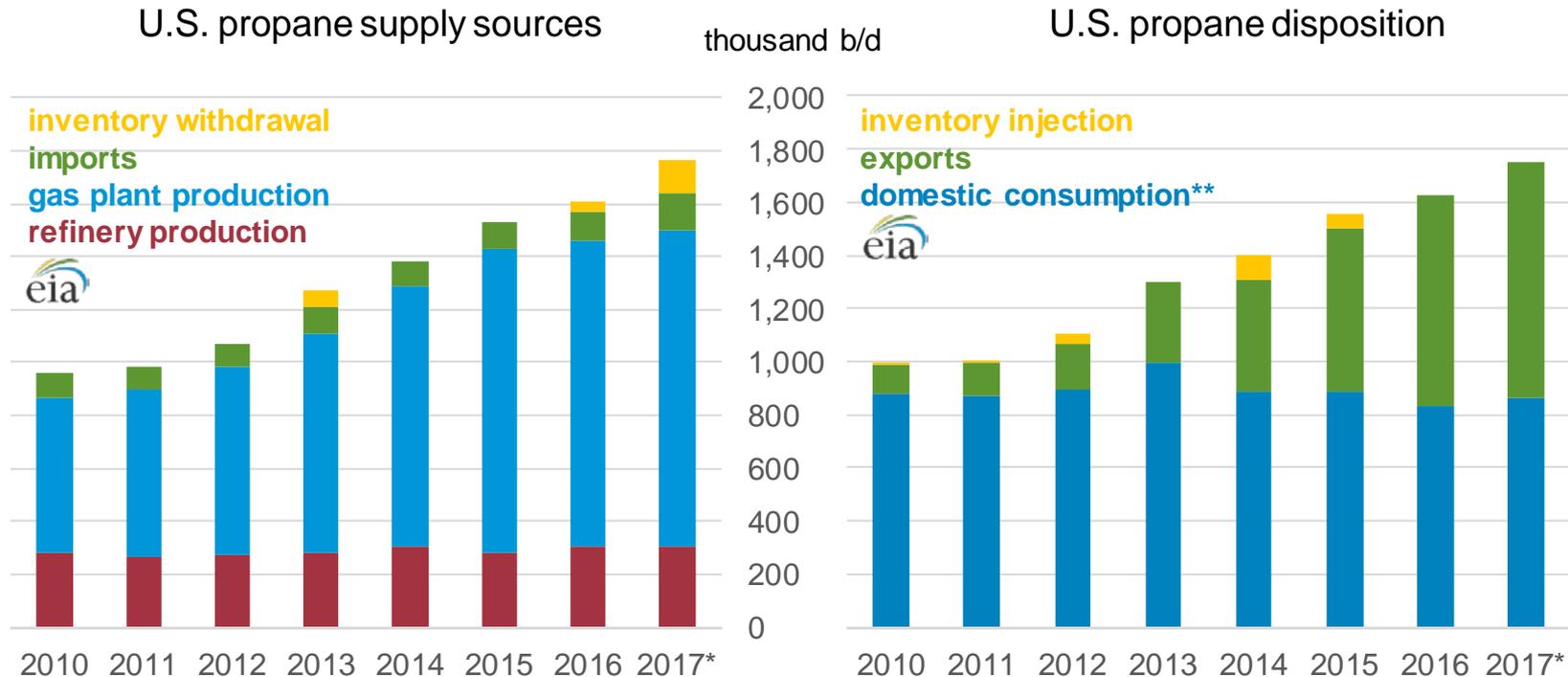
- Recent narrowing of the price difference between the Mont Belvieu, TX and Conway, KS market centers tends to support continued inventory builds at Conway
- Approximate cost of moving propane south from Conway to Belvieu is 3¢/gal.
- A price difference above 3¢/gal, as occurred from February through May, encourages propane to move south. A difference below 3¢/gal suggests propane will remain at Conway
- Current difference is just about spot-on 3¢/gal

# The difference between propane spot prices at Mt. Belvieu, TX and Conway, KS, which supported high southbound flows in the Feb-Apr period, has narrowed



Source: EIA, Bloomberg

# U.S. production of propane increased 73% between 2010 and 2017, while domestic demand has remained fairly flat

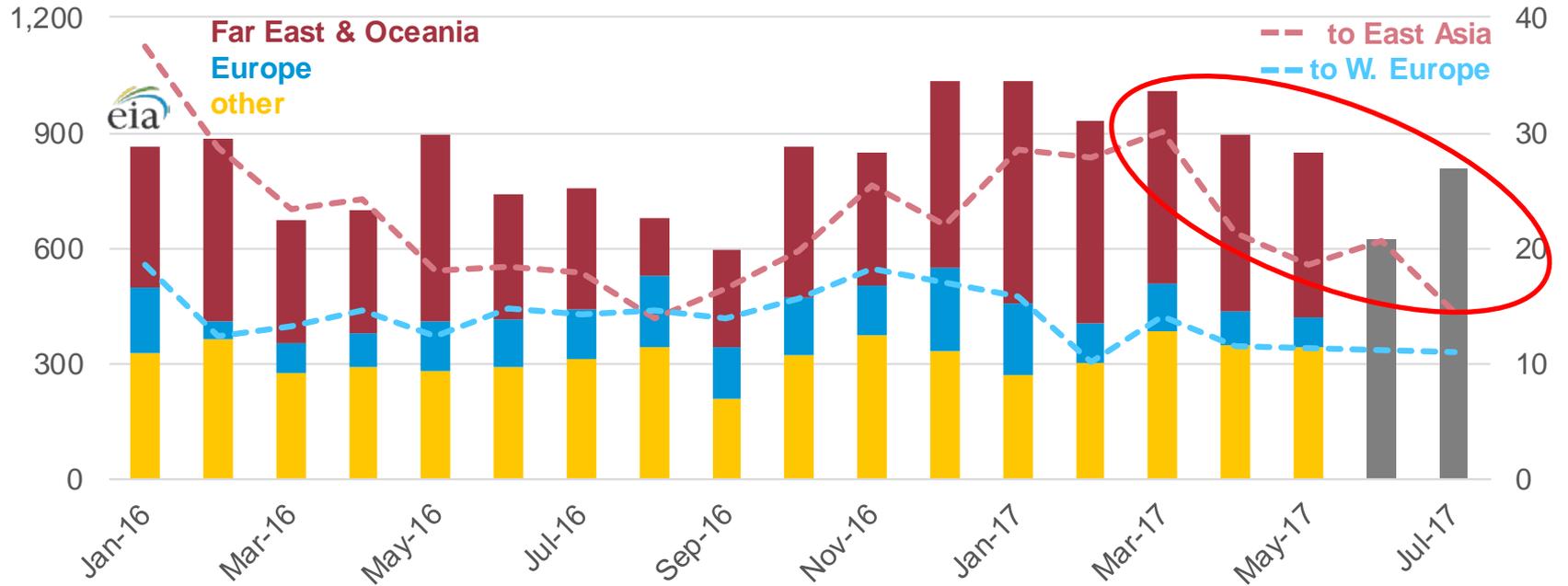


\*2017 data through June; 2017 May and June monthly totals estimated from weekly reported data \*\*product supplied

# Exports of propane have generally declined from December thru March levels as international price premiums have decreased

U.S. propane exports  
1,000 b/d

international propane price premium  
¢/gallon



\*2017 data through July; June and July totals estimated from weekly data

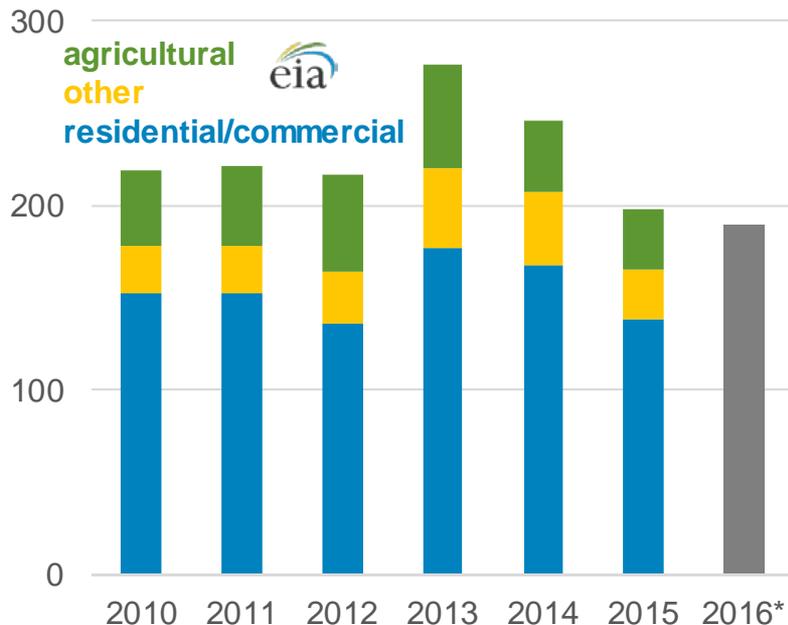
Source: U.S. Energy Information Administration; Dept. of Commerce; Bloomberg

## Current progress of the corn crop, and recent weather forecasts, suggest low propane use for grain drying

- Corn crop progress, both emerged and silking, in line with 2015 and 2016, and 2 weeks ahead of 2013. 2013 was a strong drying year, with high propane demand for corn drying, while 2015 and 2016 saw almost no drying activity
- Corn futures prices for December 2017 delivery are quite low, averaging \$3.93/bushel mid-May to mid-June (drying decisions, i.e. building propane stock for drying season, are generally made during this time). Futures at this time in 2013 were at \$5.42/bushel. Current futures price is barely above producer costs, and leaves little margin for costs associated with drying.
- NOAA weather forecast suggests optimal growing conditions, with harvest starting earlier than any crop this decade bar 2016. Expectations are for drying to take place in the field rather than using propane-fueled dryers

# Residential/commercial sales account for 70% to 80% of total Midwest propane use; 75% of residential use is for space heating

Midwest (PADD 2) propane demand by sector  
thousand b/d



West North Central (Upper Midwest) Census Region  
propane-weighted heating degree days (HDD)



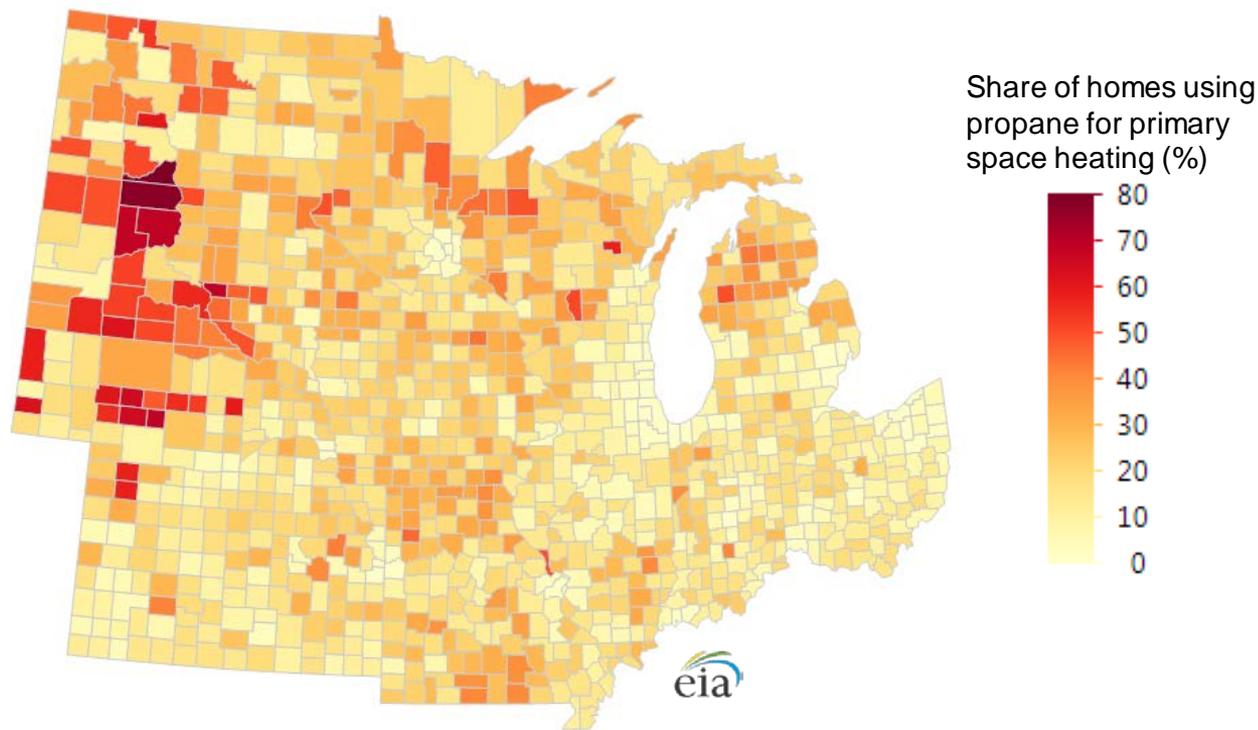
\* 2016 propane use by end sector not available at this time

Source: U.S. Energy Information Administration; American Petroleum Institute; [National Oceanic and Atmospheric Administration](#)

# Nearly all Midwest households using propane for space heating are in single-family homes in rural areas

Of homes that use propane for space heating:

- 83% are in rural areas
- 97% are single-family or mobile homes



Source: U.S. Census Bureau, 2011-2015 American Community Survey

## For more information

U.S. Energy Information Administration home page | [www.eia.gov](http://www.eia.gov)

State Energy Portal | [www.eia.gov/state](http://www.eia.gov/state)

Winter Heating Fuels Site | [www.eia.gov/special/heatingfuels/](http://www.eia.gov/special/heatingfuels/)

Movements of Propane by Rail |

[http://www.eia.gov/dnav/pet/pet\\_move\\_railNA\\_a\\_EPLLP\\_A\\_RAIL\\_mbb1\\_m.htm](http://www.eia.gov/dnav/pet/pet_move_railNA_a_EPLLP_A_RAIL_mbb1_m.htm)

Today in Energy | [www.eia.gov/todayinenergy](http://www.eia.gov/todayinenergy)

Short-Term Energy Outlook | [www.eia.gov/steo](http://www.eia.gov/steo)

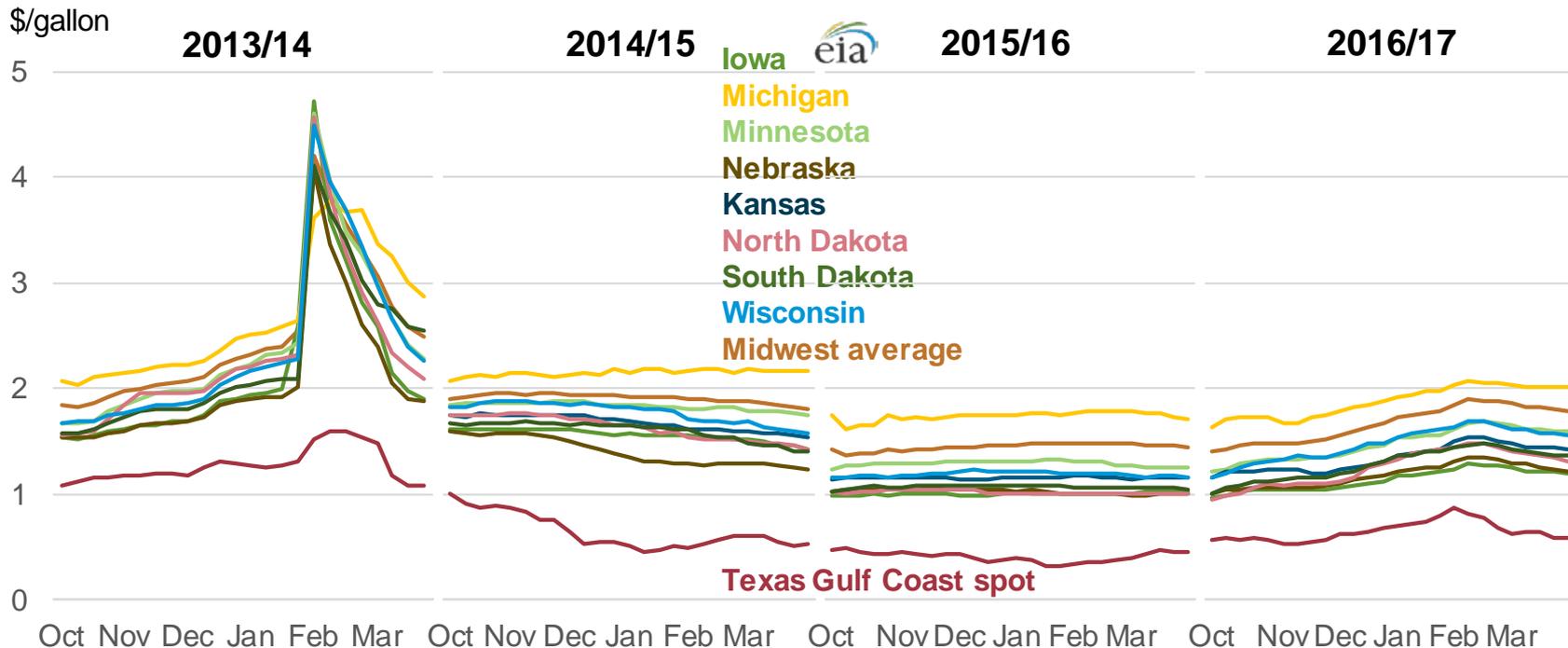
Energy Explained – Hydrocarbon Gas Liquids |

[http://www.eia.gov/energyexplained/index.cfm?page=hgls\\_home](http://www.eia.gov/energyexplained/index.cfm?page=hgls_home)

Monthly Energy Review | [www.eia.gov/mer](http://www.eia.gov/mer)

# EIA's weekly residential will-call propane price data for Midwest states shows a major anomaly in the 2013/14 winter

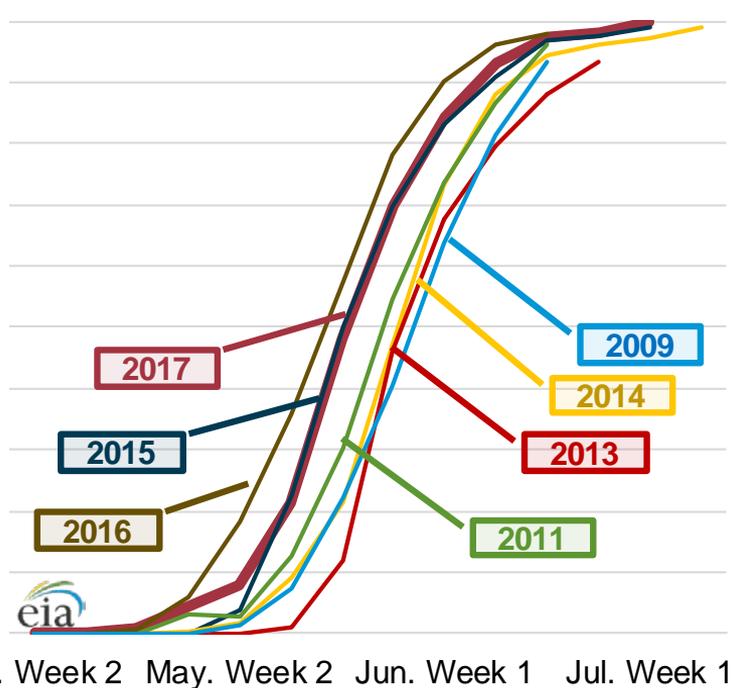
Residential delivered propane price in selected states



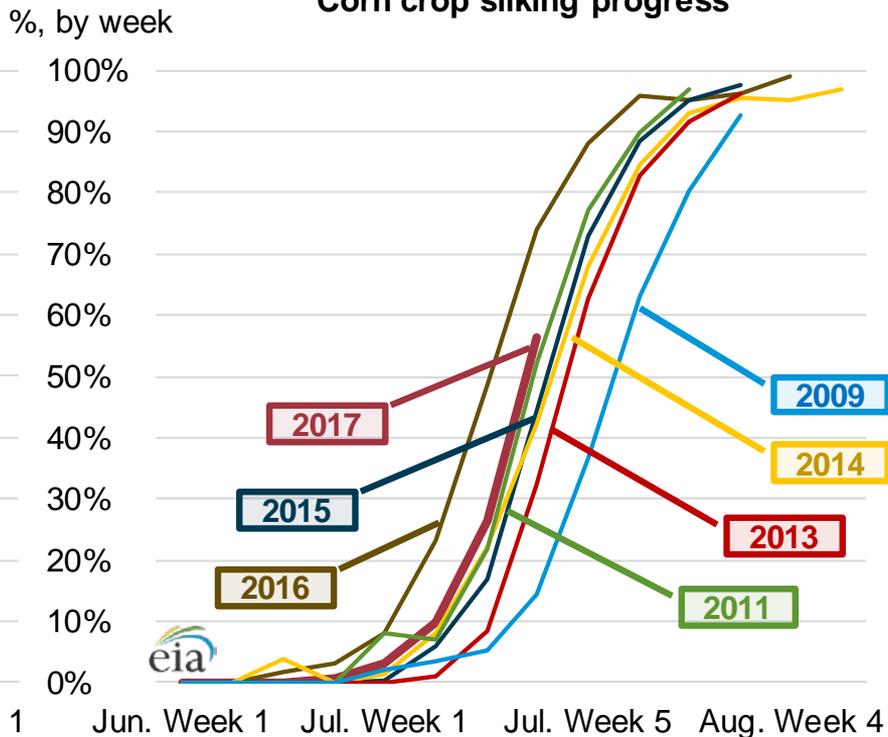
Source: U.S. Energy Information Administration, [Heating Oil and Propane Update](#); EIA, [Weekly Mont Belvieu, TX Propane Spot Price FOB](#)

# Corn crop coming along. Silking progress ahead of 2015; nearly 2 weeks ahead of 2013

**Corn crop emerged progress**



**Corn crop silking progress**

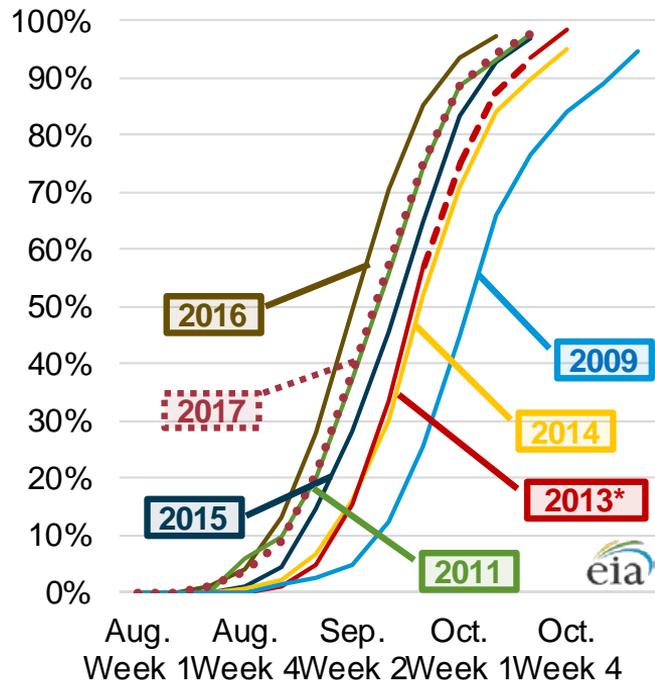


Source: USDA [National Agricultural Statistics Service](#)

# Corn futures pricing suggests no margin to dry corn; Current crop maturity data suggests 2017 crop will mature early

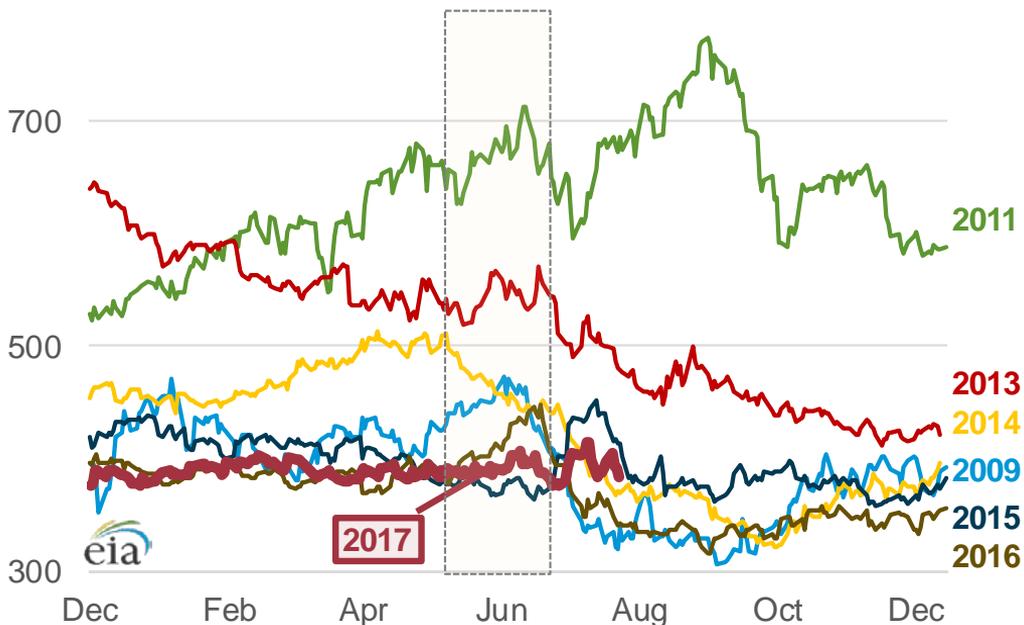
## Corn crop progress

% mature, by week



## Corn futures price for delivery in December

¢/bushel



\*USDA 2013 data incomplete. Weeks 40 and 41 not available.

Sources: USDA [National Agricultural Statistics Service](#); Bloomberg

# Weather forecast suggests early corn crop, with rain during harvest at normal levels; low need for propane drying if forecast is accurate

Aug.-Sep.-Oct.

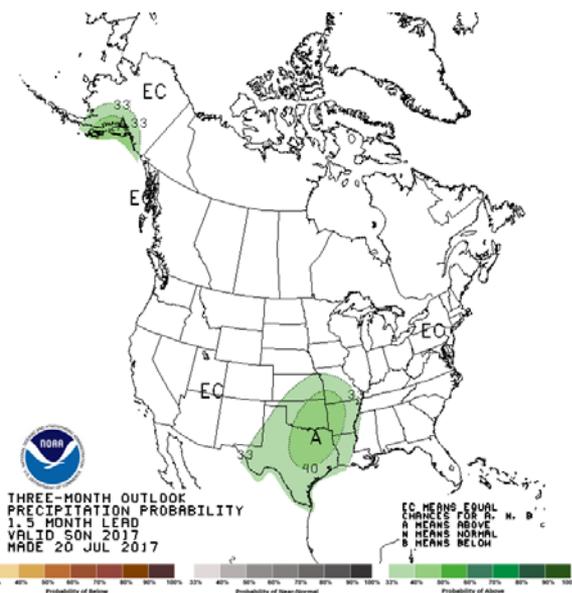
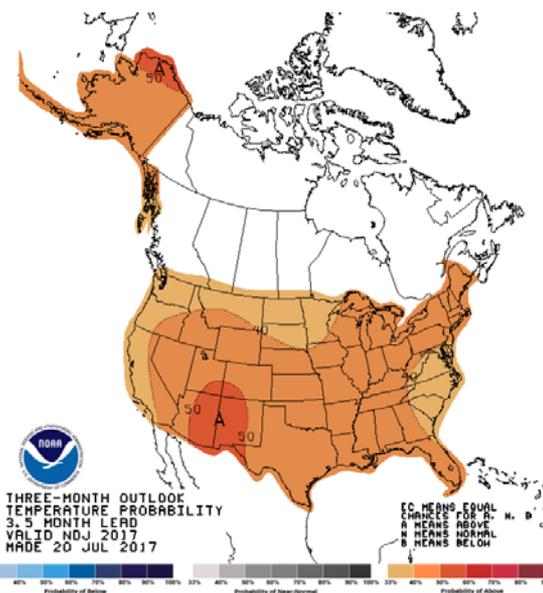
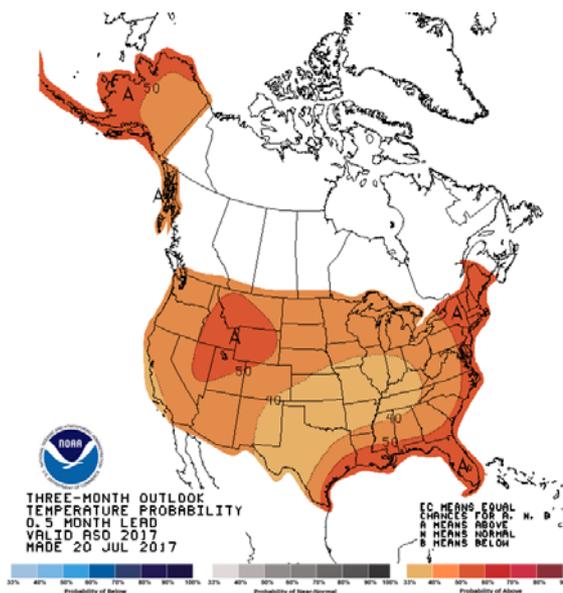
Temperature Outlook

Nov.-Dec.-Jan.

Temperature Outlook

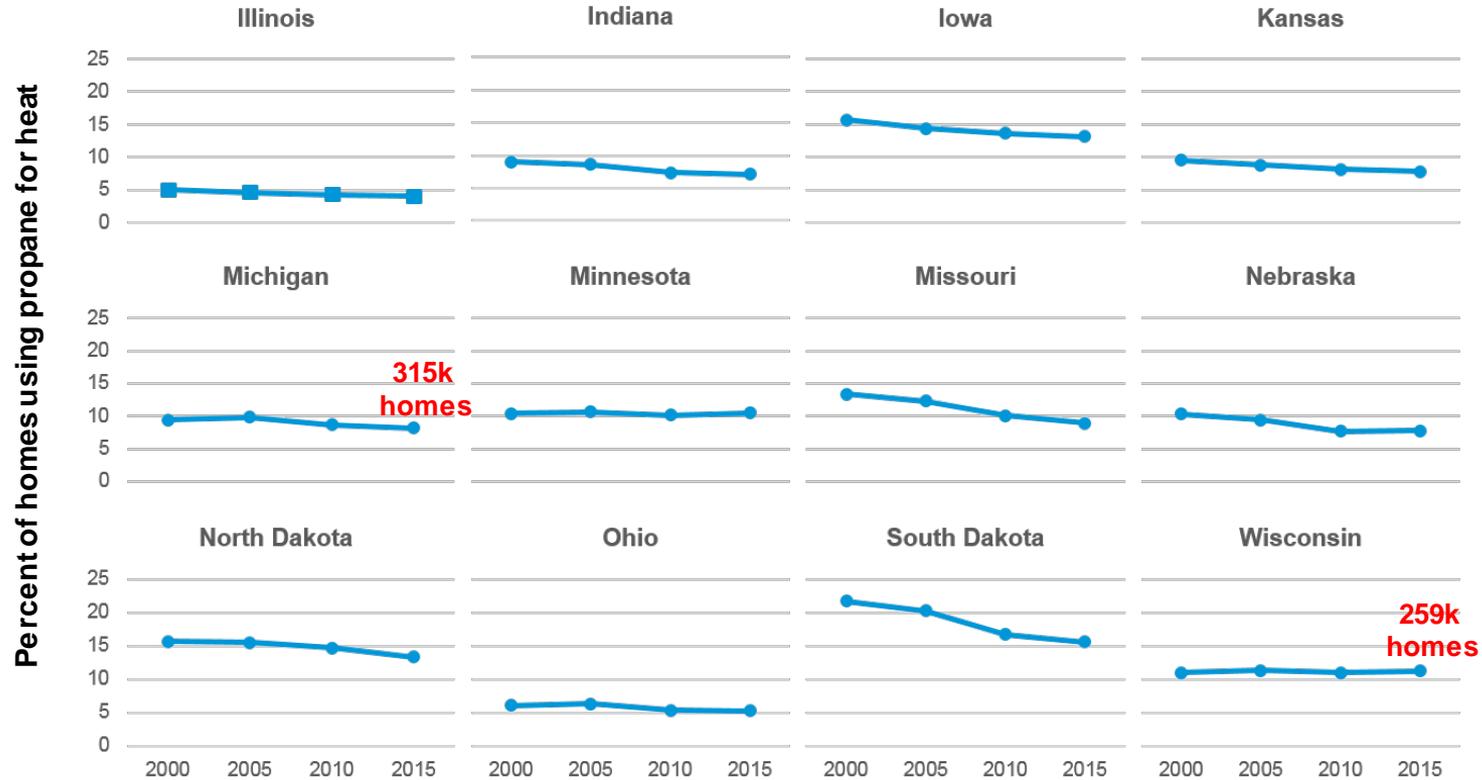
Sep.-Oct.-Nov.

Precipitation Outlook



Source: NOAA [0.5-month Outlook \(A.S.O.\)](#), [3.5 month Outlook \(N.D.J.\)](#), [1.5 month Outlook \(S.O.N.\)](#); Projections made 20 Jul. 2017

# Share of households using propane for heating in Midwest states flat or declining since 2000

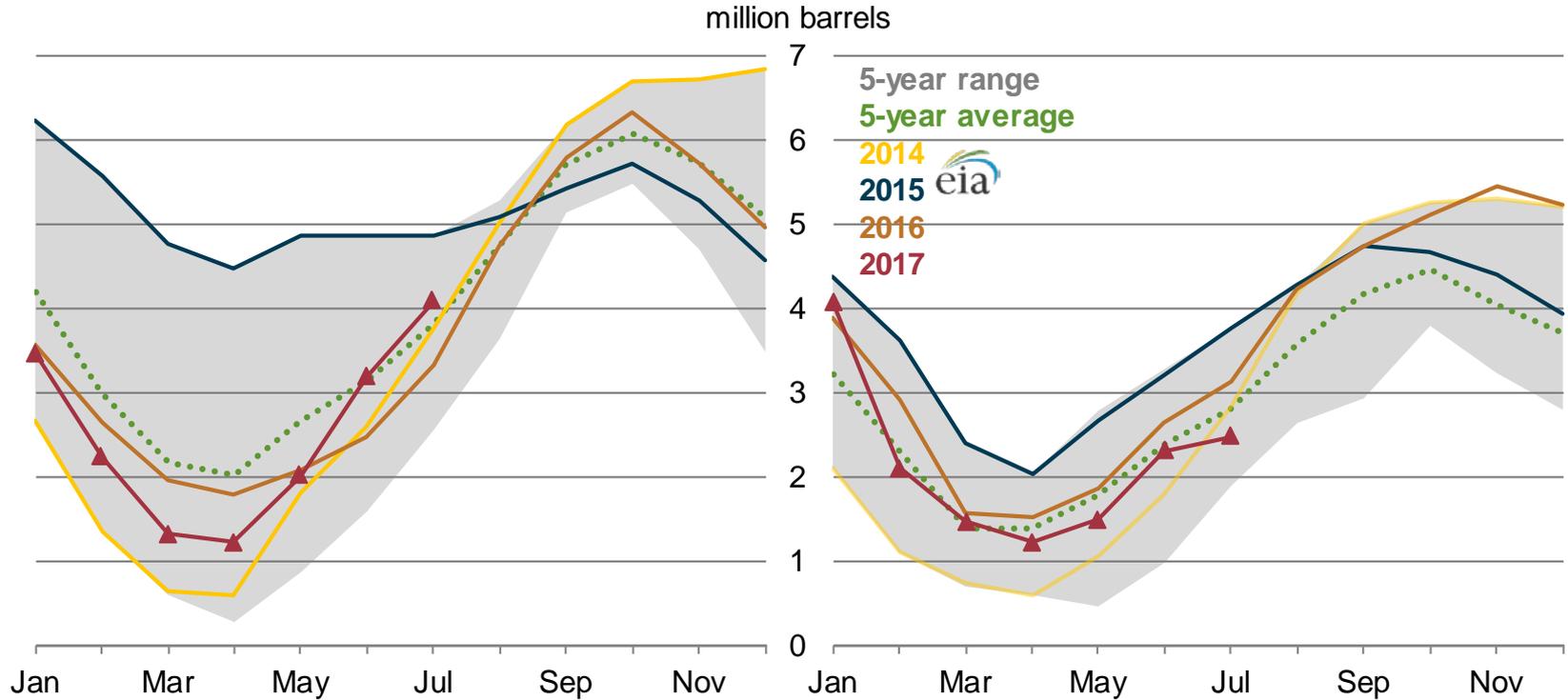


Source: U.S. Census Bureau; 2000 Census; 2005, 2010, and 2015 American Community Survey

# Propane inventories in Canada near 5-year average levels

propane inventories in Western Canada

propane inventories in Eastern Canada



Source: [Canada National Energy Board](#)