

Arkansas Propane Market

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Education and Research
Council

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Overview of Arkansas Propane Markets

Economic Value of Propane in Arkansas

2012 Odorized Propane Sales Breakout

(Gallons) (% of State)

Residential	40,020,000	46.7%
Commercial	12,781,000	14.9%
Cylinder	1,736,000	2.0%
Internal Combustion	9,768,000	11.4%
Industrial	4,810,000	5.6%
Agricultural	16,567,000	19.3%

Total Arkansas Odorized Propane Demand	85,682,000	100.0%
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Total Propane-Heated Households	83,916	
Propane Share of Arkansas Home Heating		7.34%

2012 Employment

Production	17
Transportation, Storage, and Wholesale	46
Retail	564

Direct Arkansas Employment Related to Odorized Propane	627
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2012 Contribution to State Economy

(\$1,000)

Total Market Value of Odorized Propane Sold in Arkansas (\$1,000)	\$161,791
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Supply	\$2,536
Transportation, Storage, and Wholesale	\$9,522
Retail	\$70,847

Total Direct Value Added in Arkansas	\$82,905
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Indirect and Induced	\$187,542
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Total Odorized Propane Industry Contribution to Arkansas GDP	\$270,447
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2012 Labor Income

(\$1,000)

Production	\$1,825
Transportation, Storage, and Wholesale	\$3,261
Retail	\$18,868

Direct Labor Income in Arkansas Odorized Propane Industry	\$23,955
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2012 Propane Production

(Gallons) (% of U.S. Total)

Refineries	3,122,409	0.07%
Gas Processing Plants	758,280	0.01%

Total Arkansas Propane Production	3,880,690	0.03%
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Refineries	1,485,000	0.07%
Gas Processing Plants	361,000	0.01%

Total Allocated Arkansas Odorized Propane Production	1,846,000	0.03%
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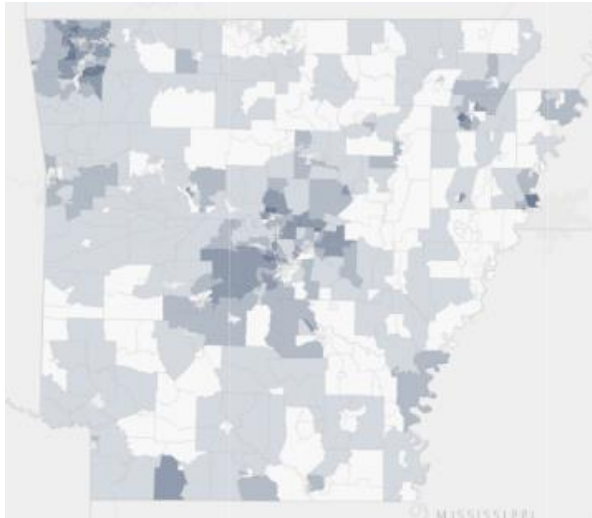
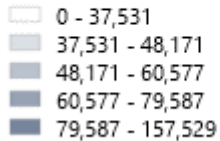
Source: ICF Impact of the U.S. Consumer Propane Industry on U.S. and State Economies in 2012

Arkansas Population and Income Metrics

Median Household Income by Census Tract (2015)

Demographics

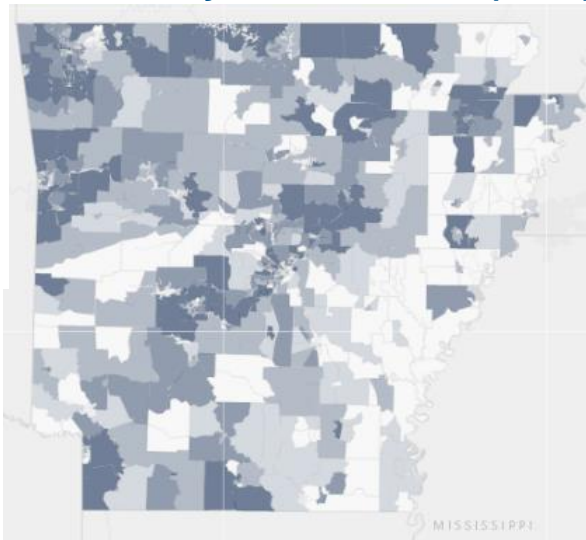
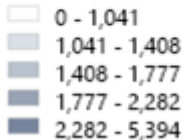
Median Household Income (\$)



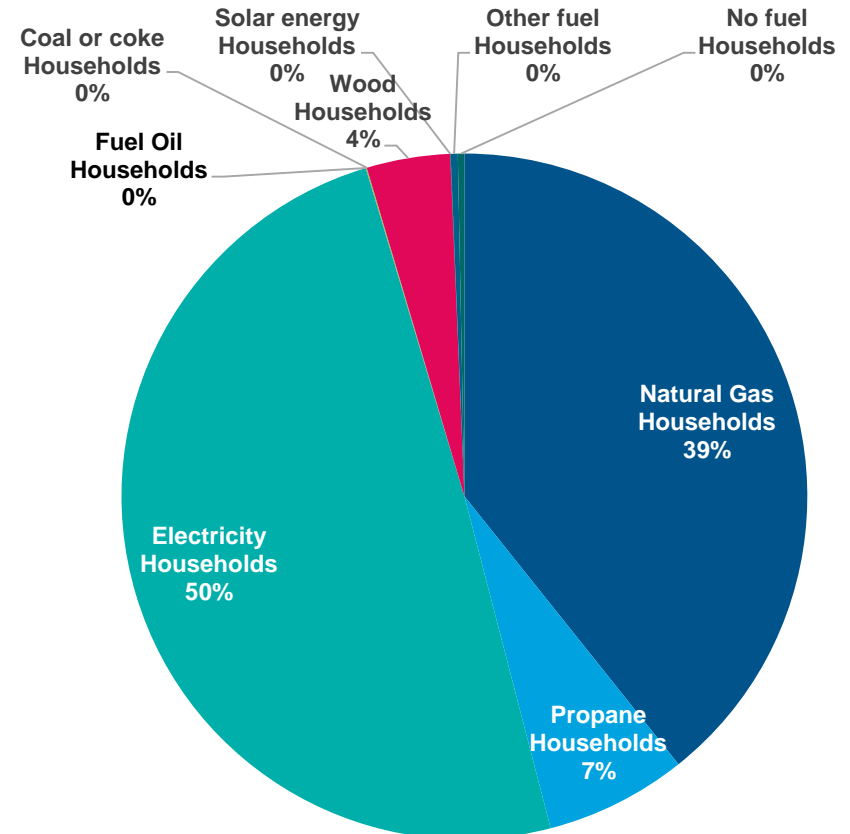
Number of Households by Census Tract (2015)

Demographics

Households (actual)



Arkansas Households by Heating Fuel

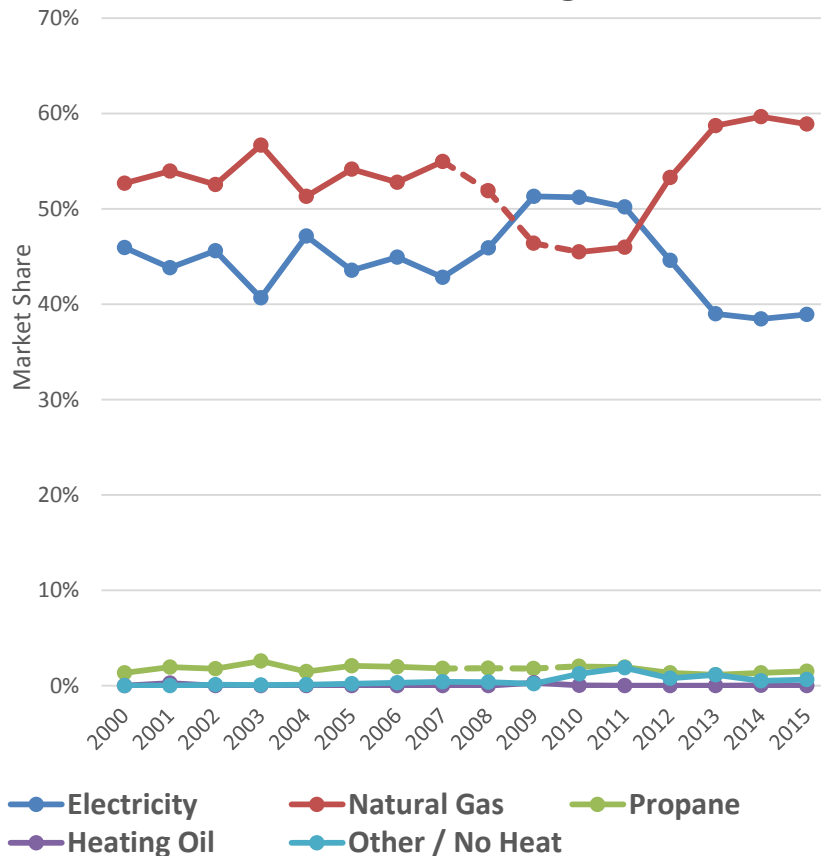


Arkansas Demographic Information

Population 2016	Population Change (%) 2017 - 2022	Households	Median HH Income (\$)	Median Income Change (%) 2017 - 2022
2,994,495	2.08	1,178,438	44,271	6.23

West South Central Region New Home Construction Trends

West South Central; Share of Fuel Sources for All New Housing Starts



*Natural Gas & Propane data for 2008 & 2009 has been estimated

West South Central Region Housing Starts

Total Housing Starts (2014)	Propane Heated Housing Starts (2014)	Total Housing Starts (2015)	Propane Heated Housing Starts (2015)
119,876	1,528	123,642	1,796

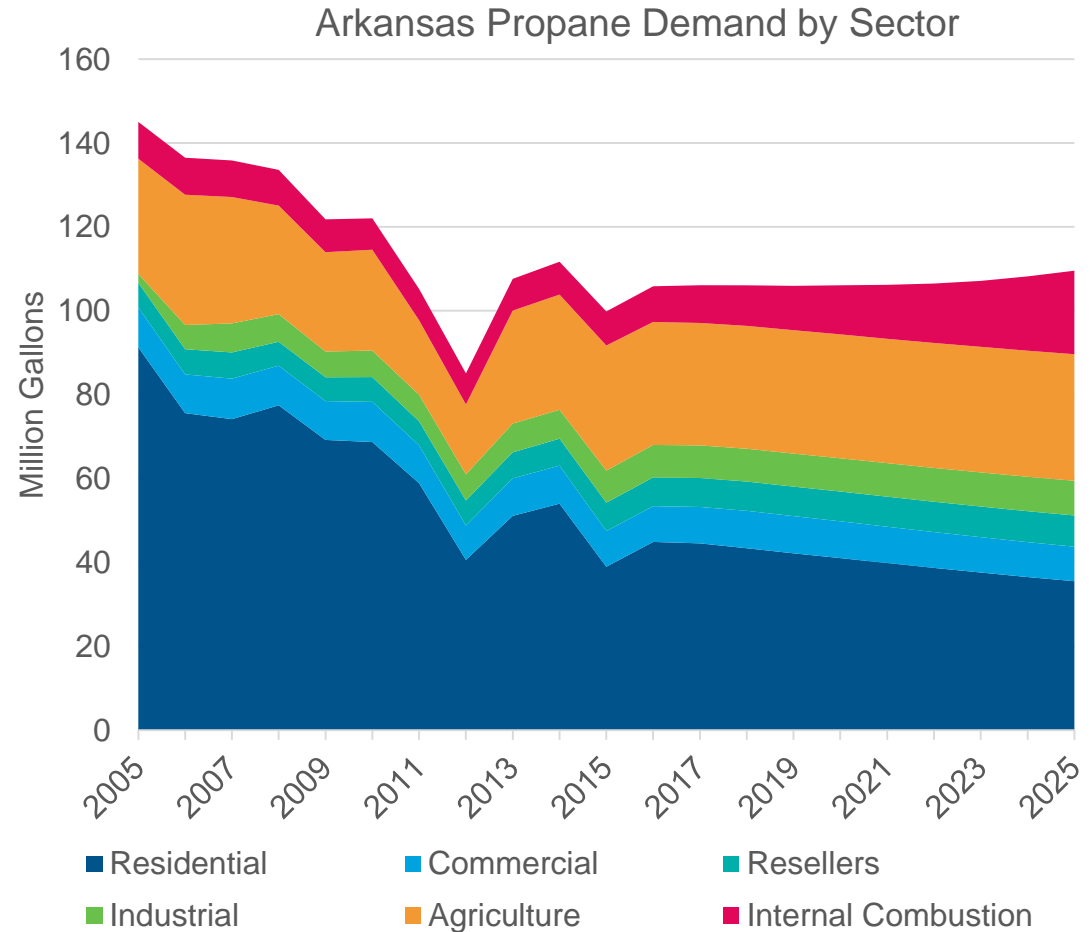
West South Central Region Housing Starts by State

State	2015 Households	2015 Propane Households	2015 New Residential Construction Permits
Arkansas	1,144,663	76,481	8,500
Louisiana	1,737,908	37,623	13,830
Oklahoma	1,465,951	95,737	11,545
Texas	9,421,412	293,458	175,443

Sources: ICF, Survey of Construction Data, American Community Survey

Arkansas Odorized Propane Demand Forecast

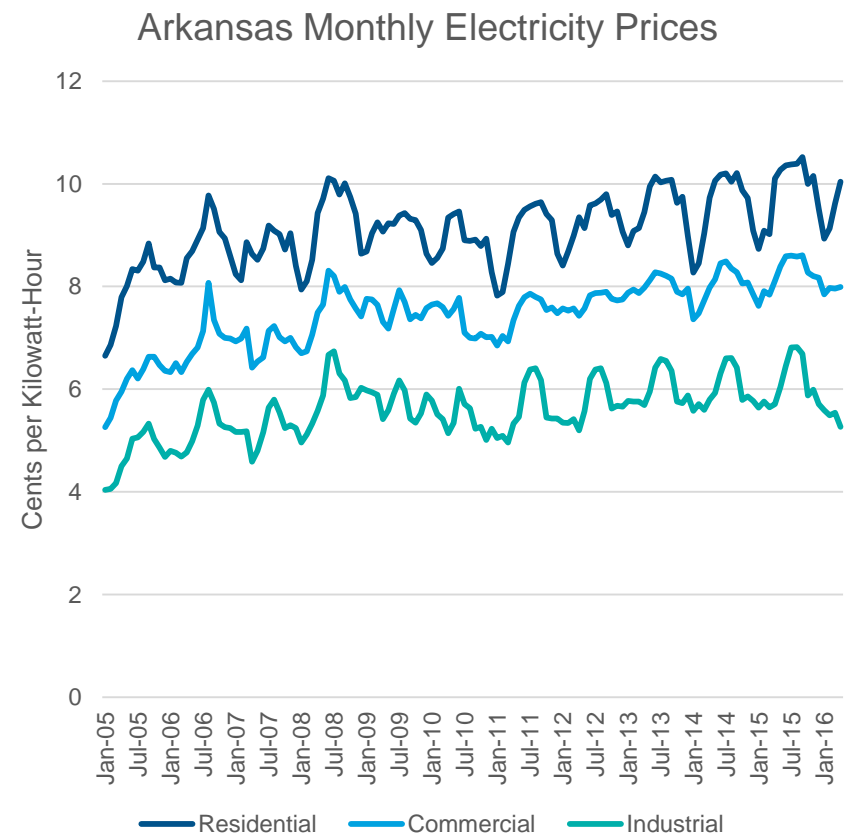
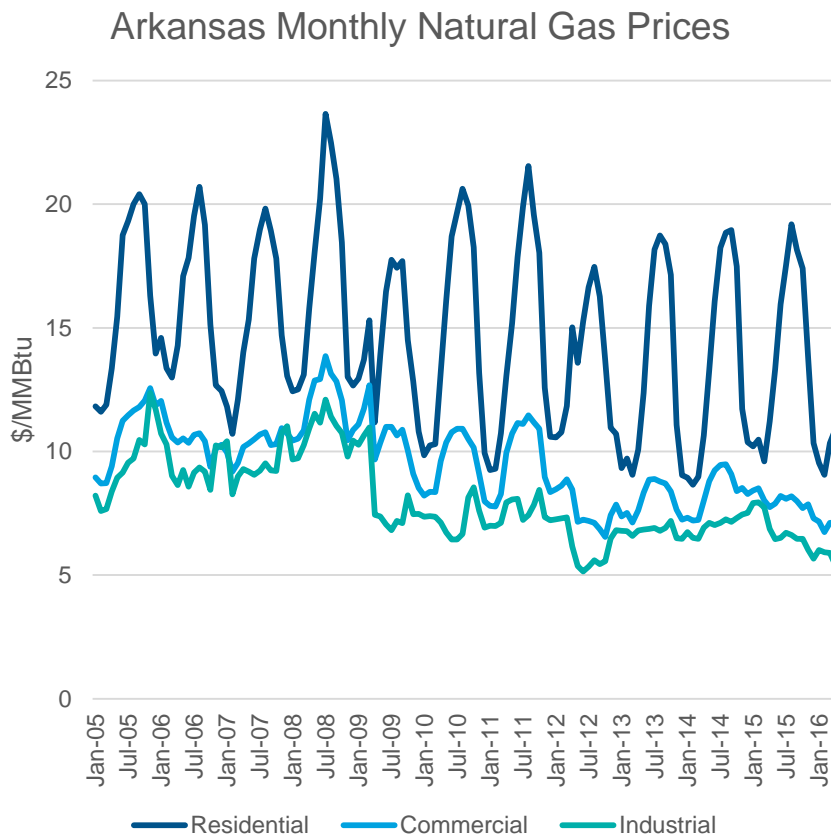
- Total propane demand in 2016 is expected to be 106 million gallons.
 - ICF forecasts propane demand to increase to 110 million gallons by 2025.
 - A 4% increase from 2015 to 2025.
- Residential propane demand is the largest sector within Arkansas and is expected to decline from 45 million gallons in 2016 to 36 million in 2025.



Source: ICF Propane Demand Forecast Model

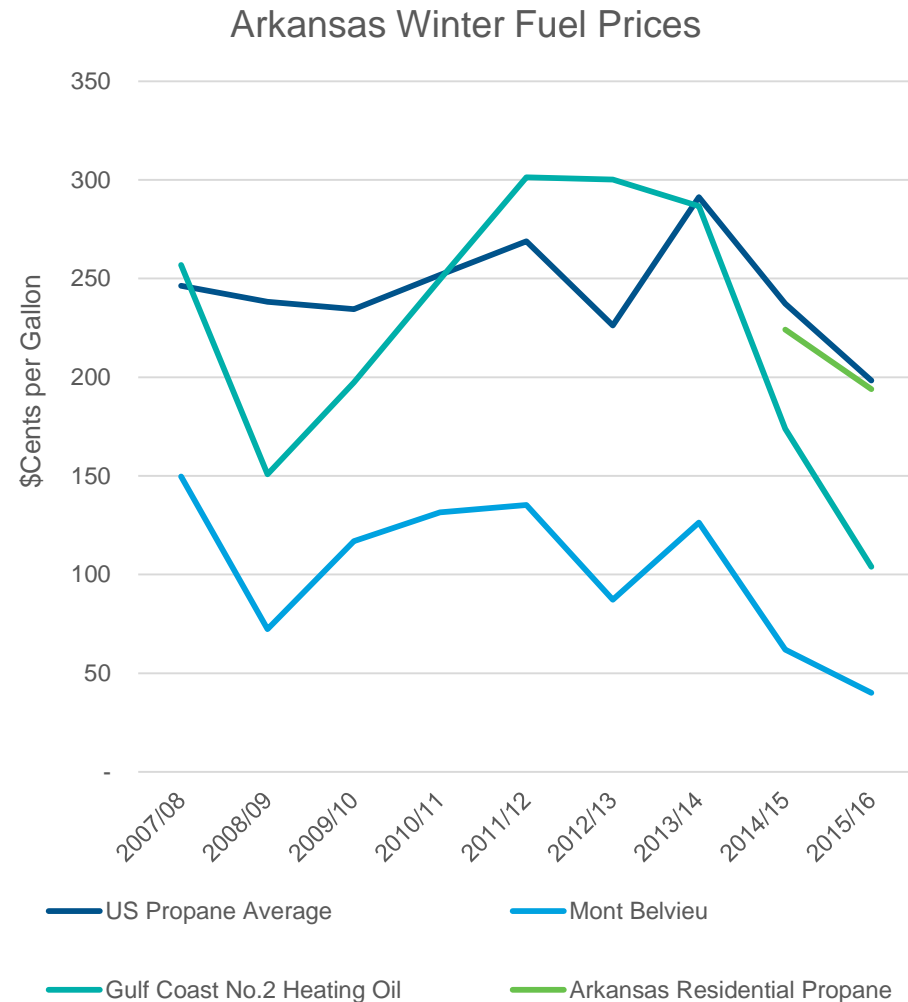
Arkansas Delivered Natural Gas and Electricity Prices

- Arkansas Residential Natural Gas prices have increased 2.7% from 2012 to 2015.
- Arkansas Electricity prices have increased 7.1% from 2012 to 2015.



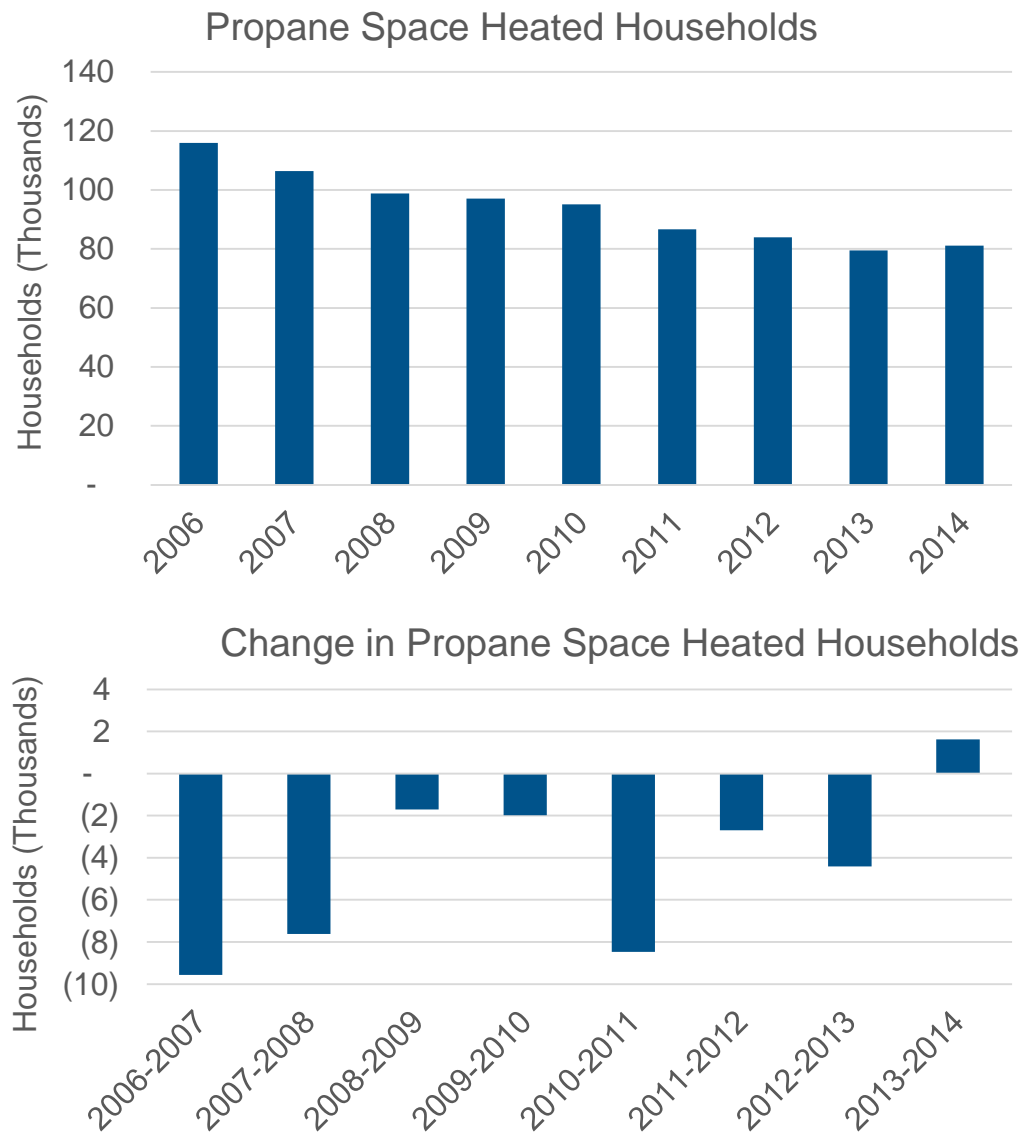
Arkansas Winter Fuel Price Comparison of Propane and Heating Oil

- Arkansas first began reporting Residential Propane prices in 2014/15.
 - Residential prices declined to 194 cents per gallon in 2015/16, a 13% decrease from the prior year.
- Over the past two years, Arkansas Residential Propane prices have averaged -9 cents per gallon below National Residential Propane prices.
 - Arkansas Residential Propane prices have been on average 158 cents per gallon above Mont Belvieu prices during the same time period.
- Arkansas does not report Residential Fuel Oil Prices.



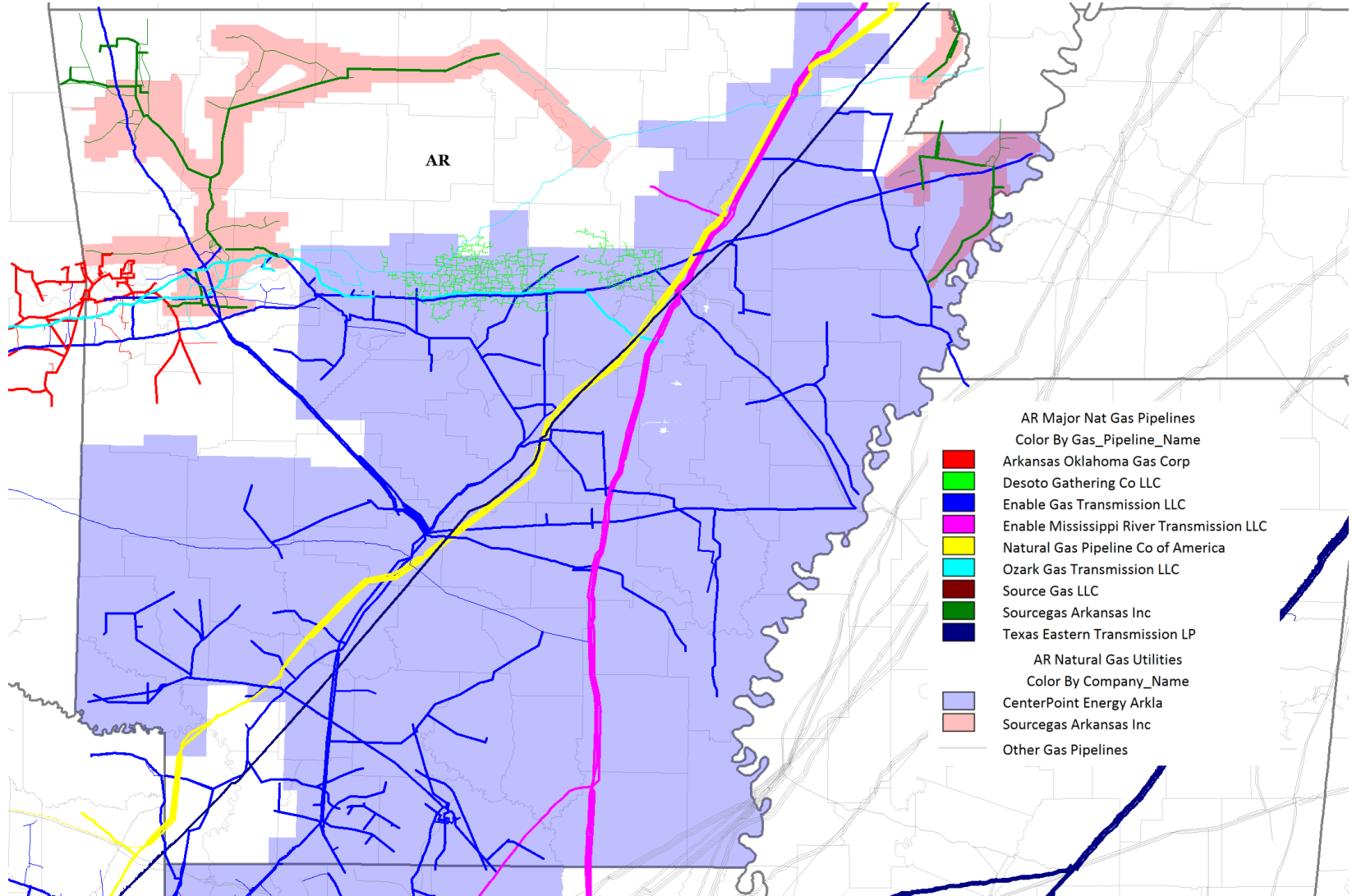
Propane Space Heating Customers in Arkansas

- Propane space heated households have been declining since 2006 when there were 115,000 households using propane.
- In 2014, there were over 81,000 households that used propane as the primary space heating fuel accounting for 7% of households.
- Electricity had a 50% share of home heating households and natural gas had a 39% share.
- ICF forecasts propane households to continue to decrease through 2025.

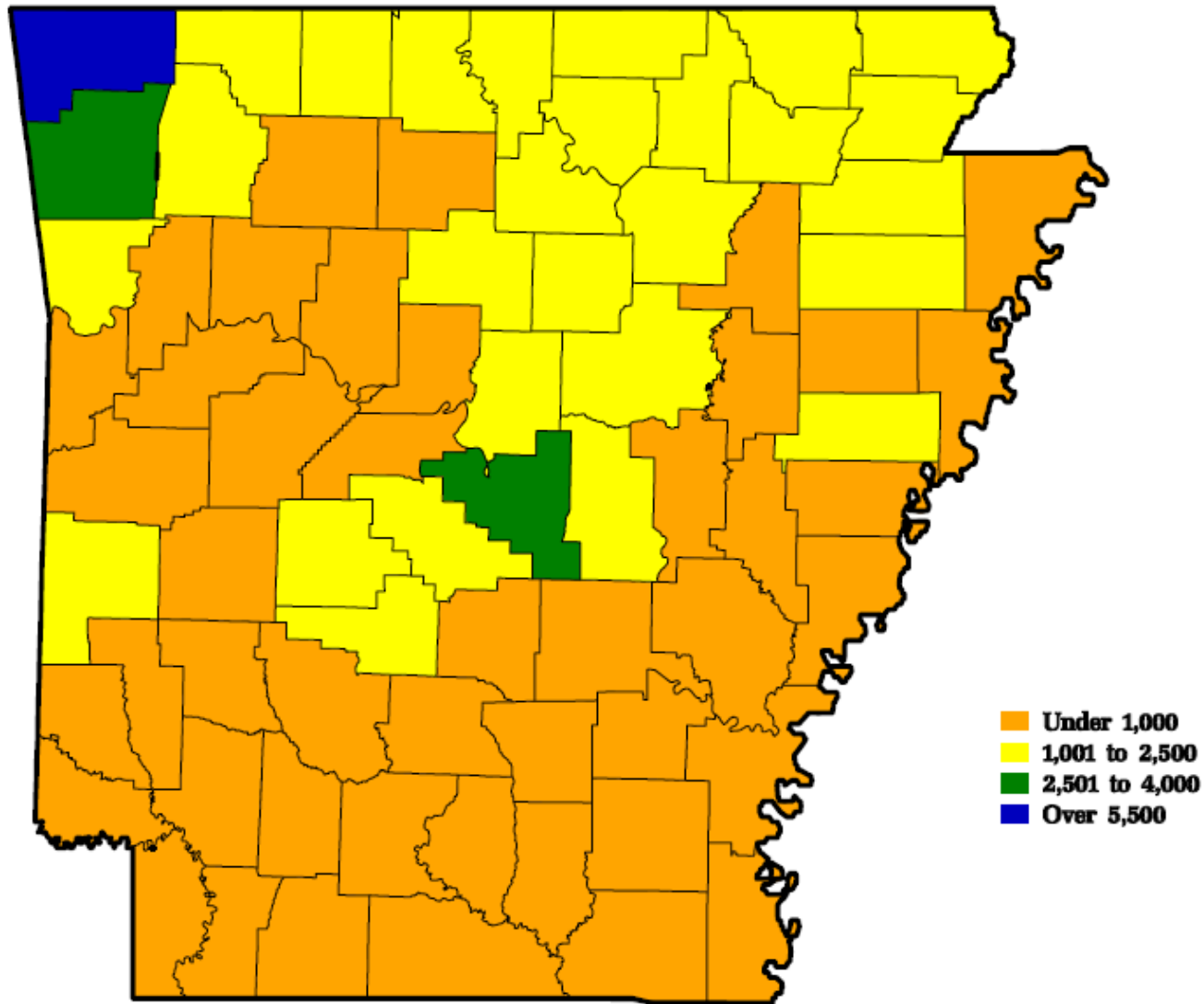


Sources: ICF, American Community Survey

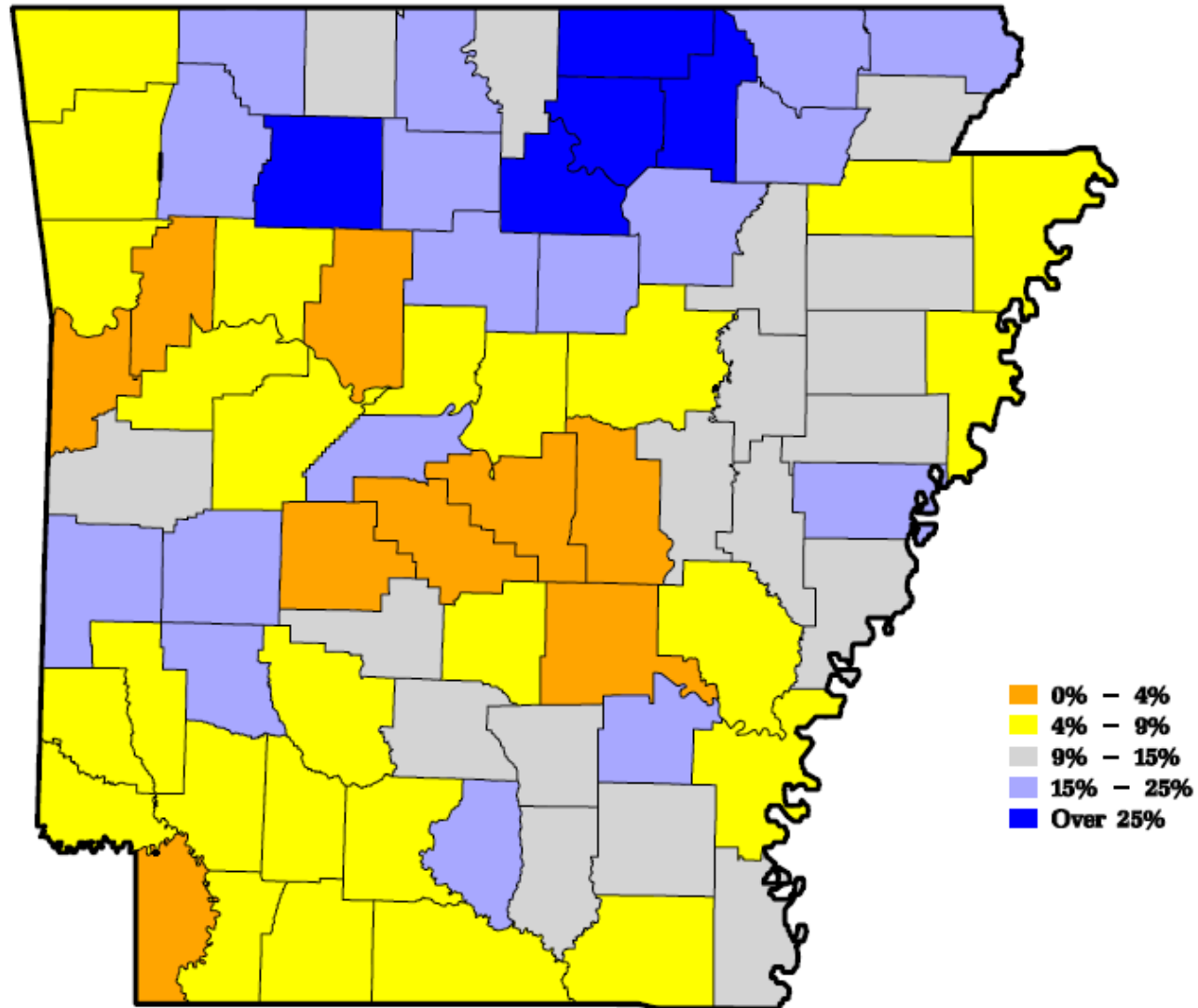
Major Natural Gas Transmission Lines in Arkansas



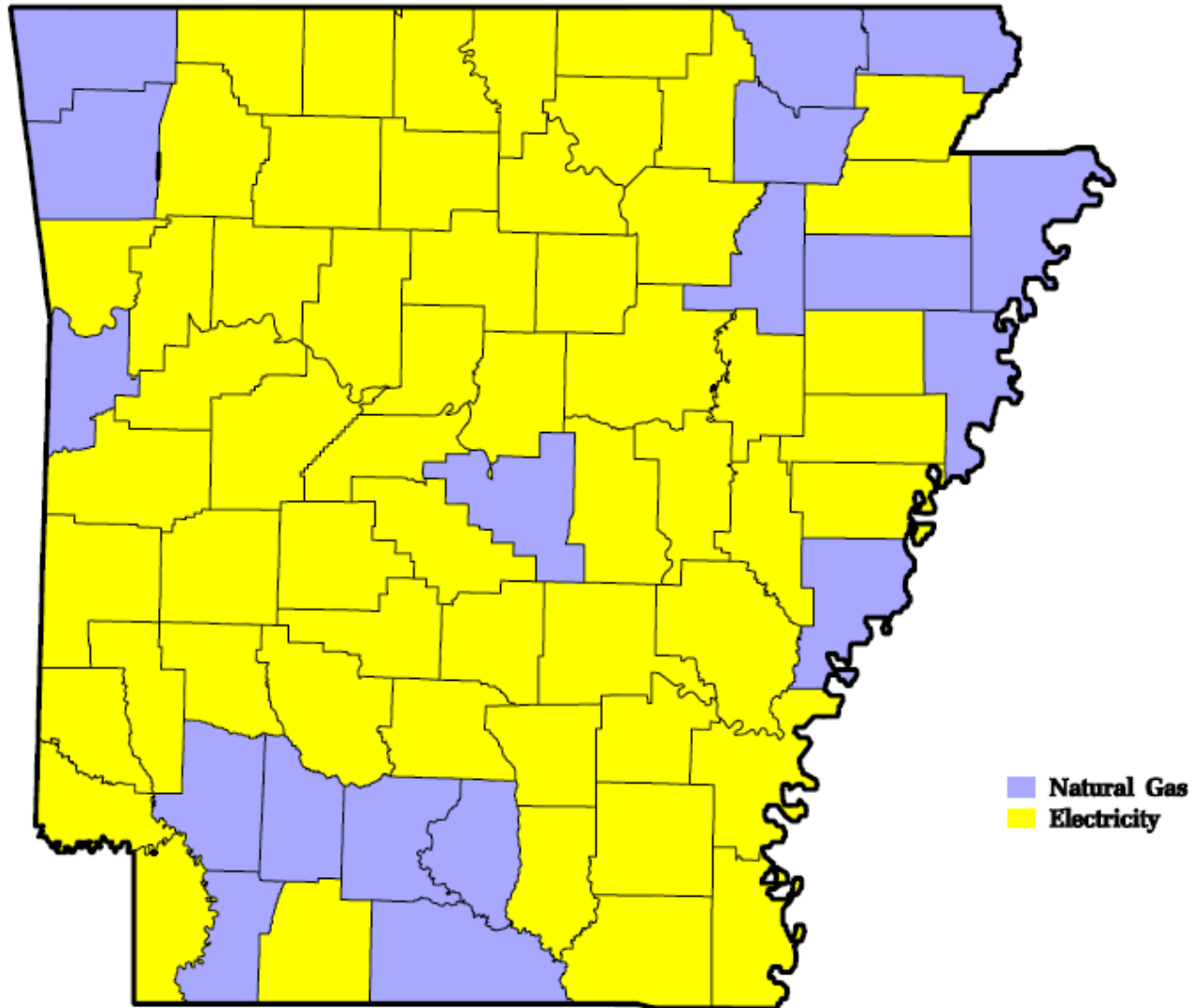
2014 Propane Space Heated Households



2014 Propane Market Share



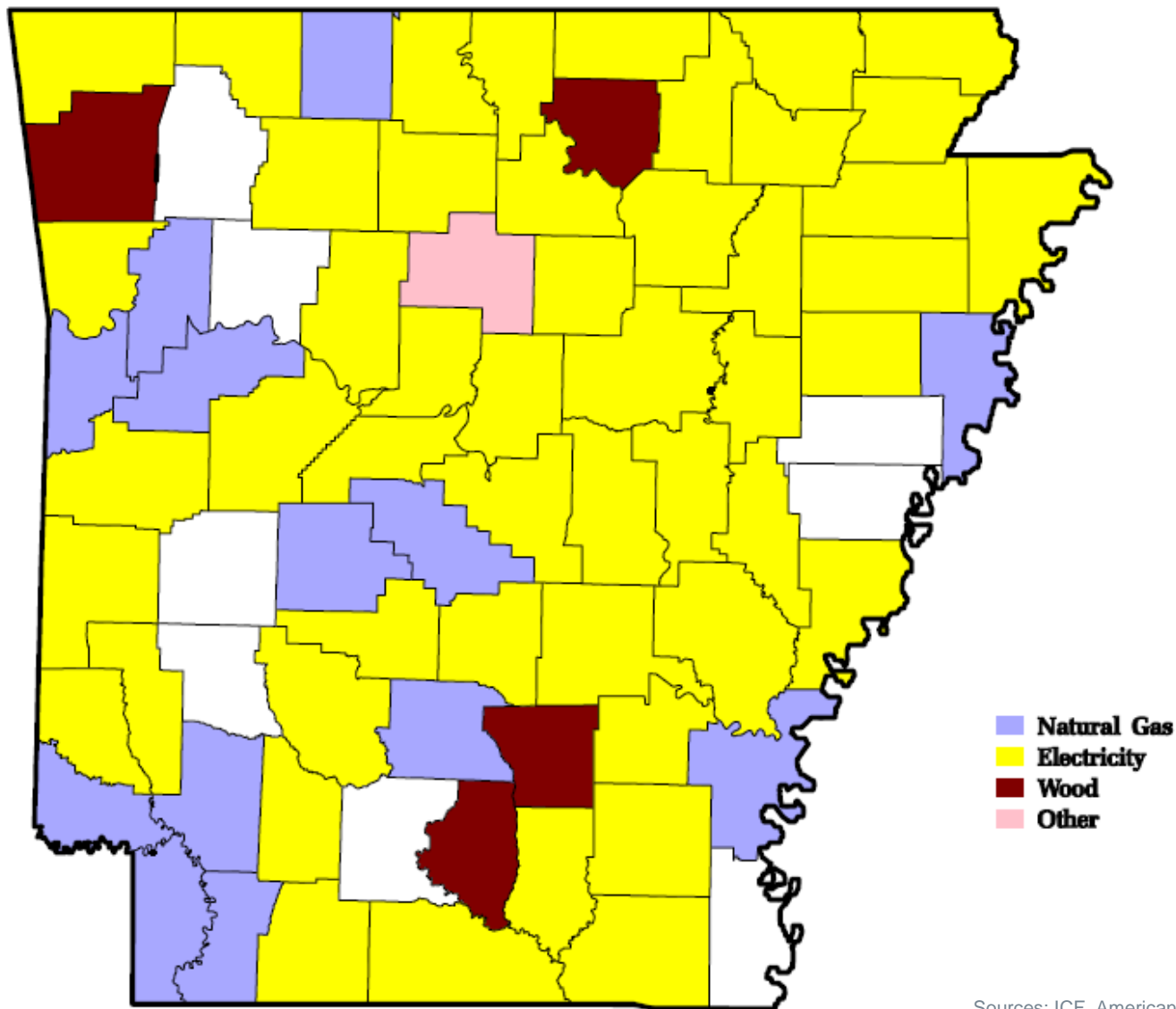
2014 Top Heating Fuel





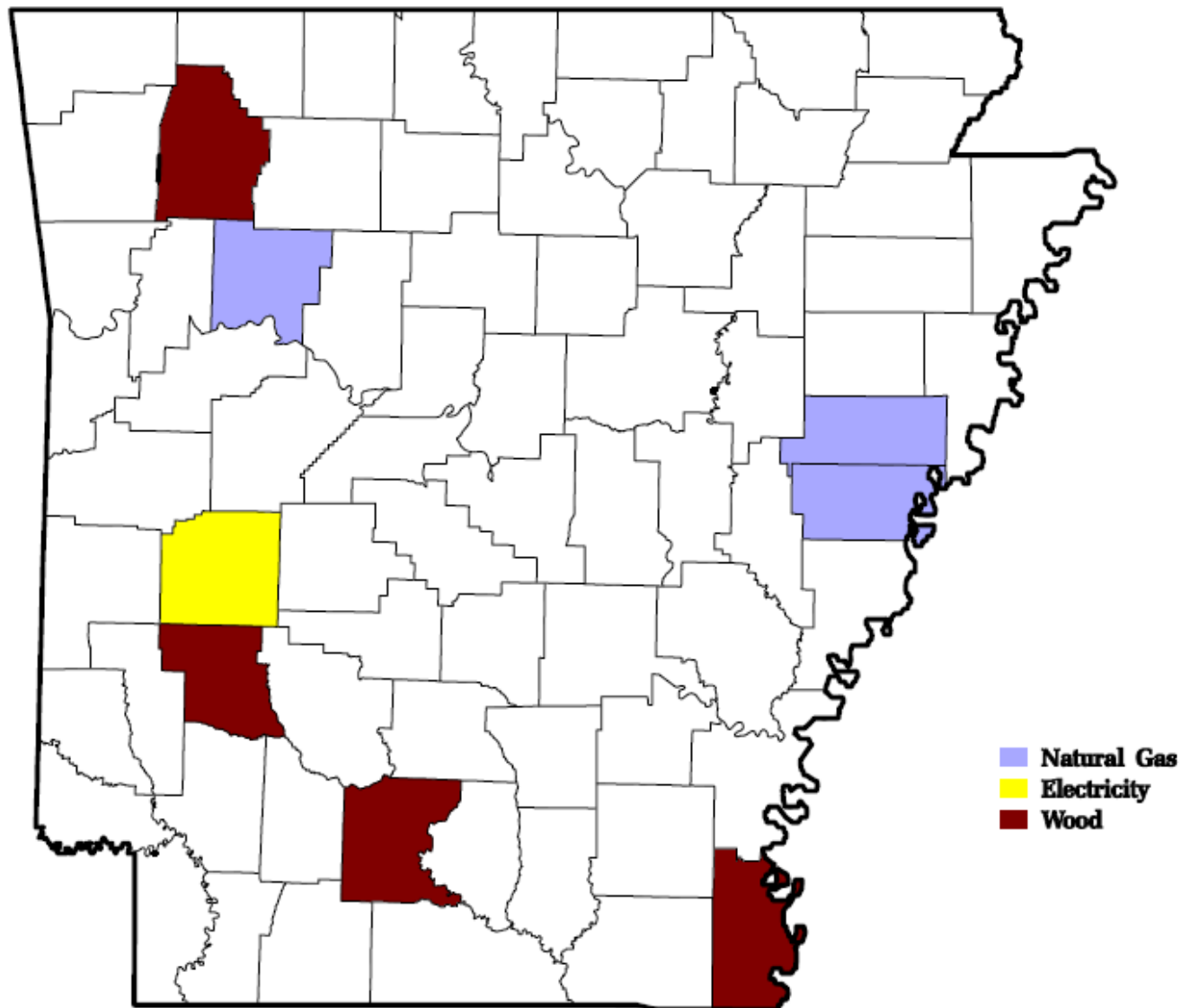
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Fuel with Largest Market Share Gain where Propane Declined between 2010 & 2014

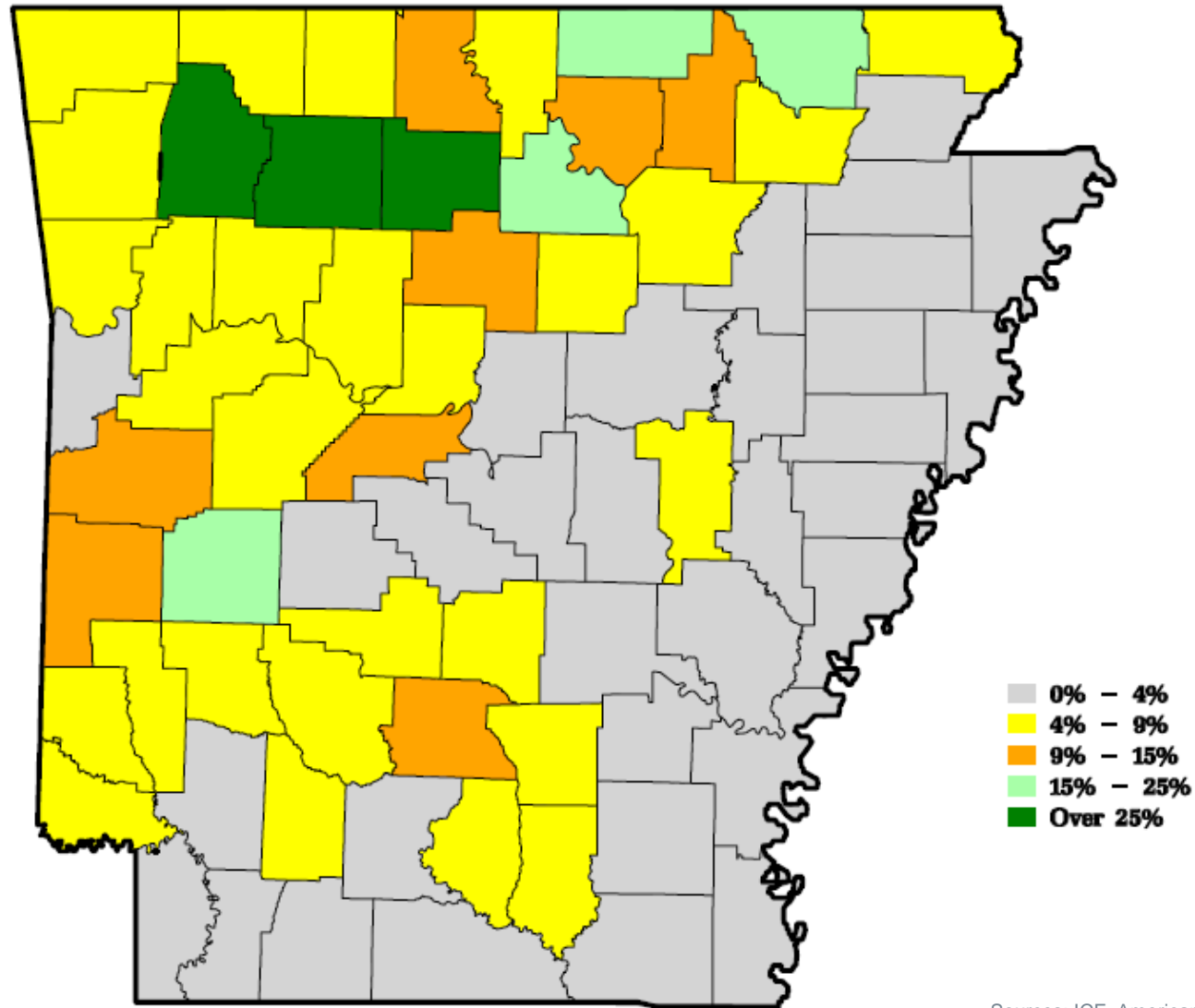


Sources: ICF, American Community Survey

Fuel with Largest Market Share Loss where Propane Increased between 2010 & 2014



2014 Market Share of Fuel Oil + Wood



Propane Load Growth Opportunities

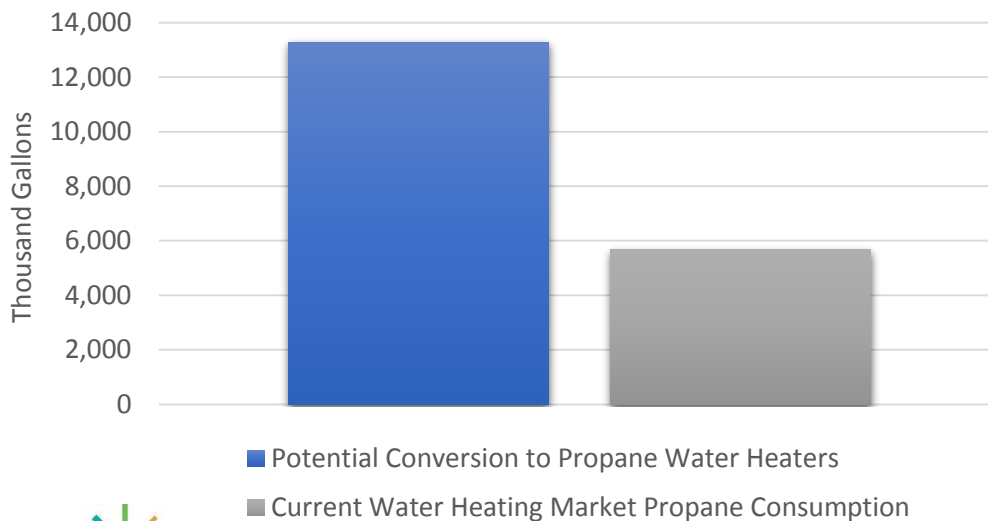
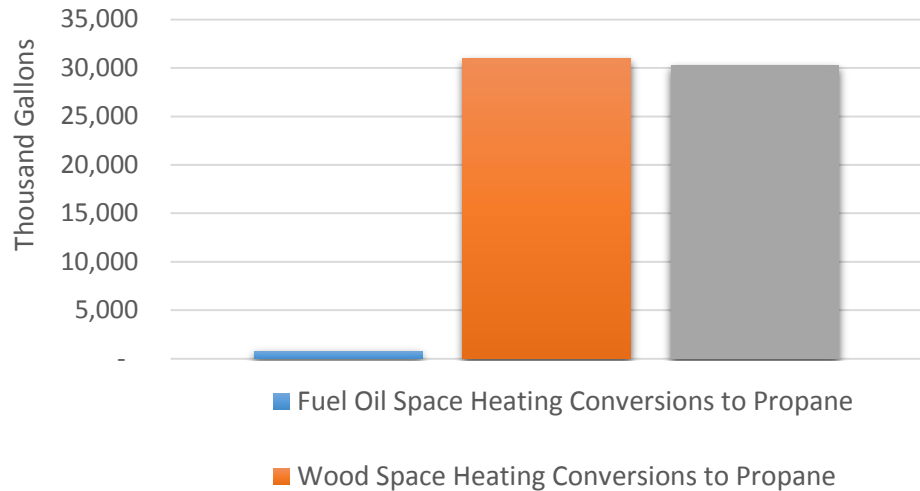


Residential Propane Load Growth Opportunities by Application



Space Heating

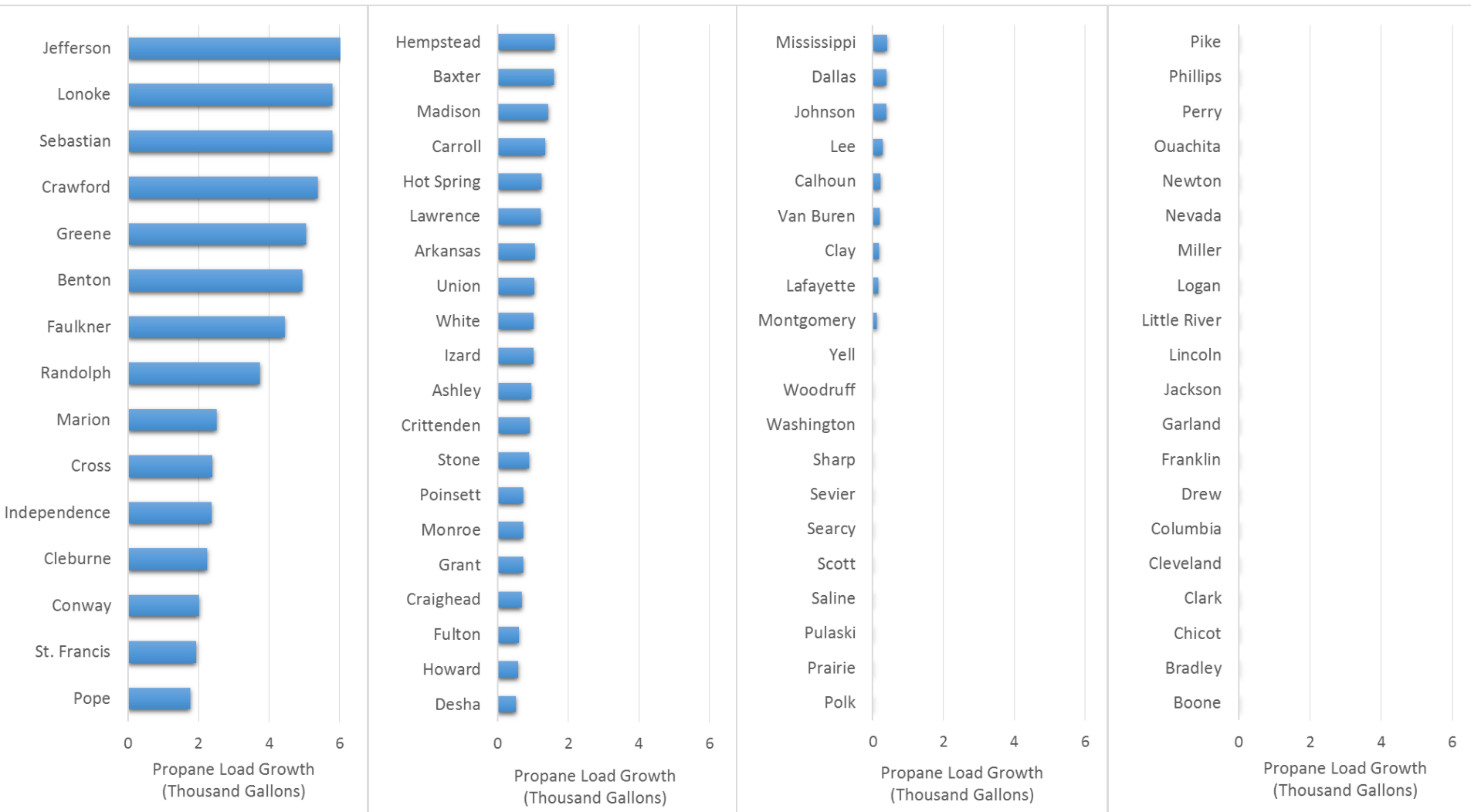
- Propane's opportunity for load growth in the Residential Sector is greatest from Wood Household Conversions.
- In 2015, space heating applications consumed over 30 million gallons of propane (gray bar).
- Potential conversions to propane space heating from fuel oil and wood could increase the size of the propane space heating market.
 - Fuel oil = 790,000 gallons (blue bar)
 - Wood = 31 million gallons (orange bar)



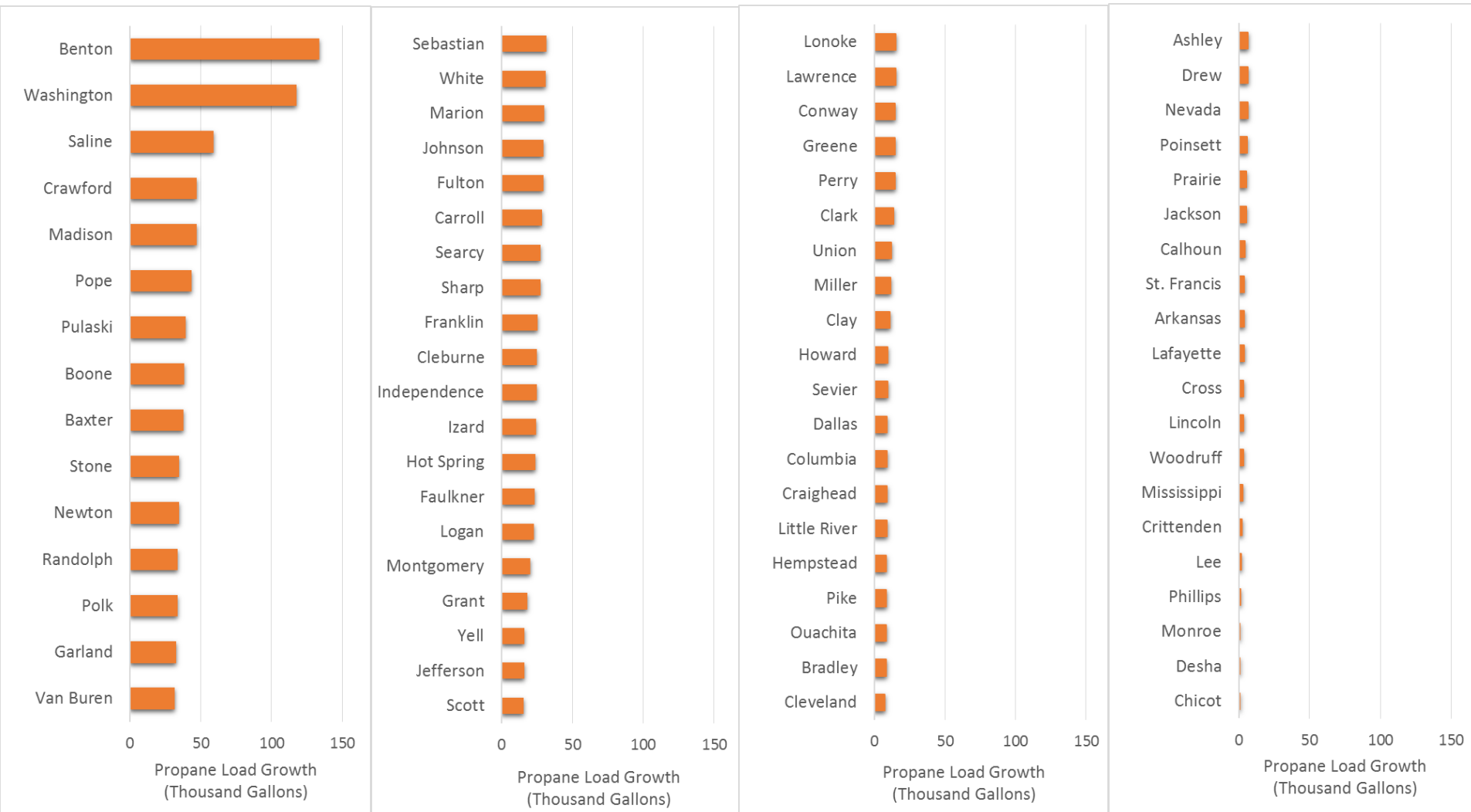
Water Heating

- In 2015, water heating applications consumed 5.5 million gallons of propane (gray bar).
- Conversions of water heaters to propane presents 13 million gallons of load growth potential.

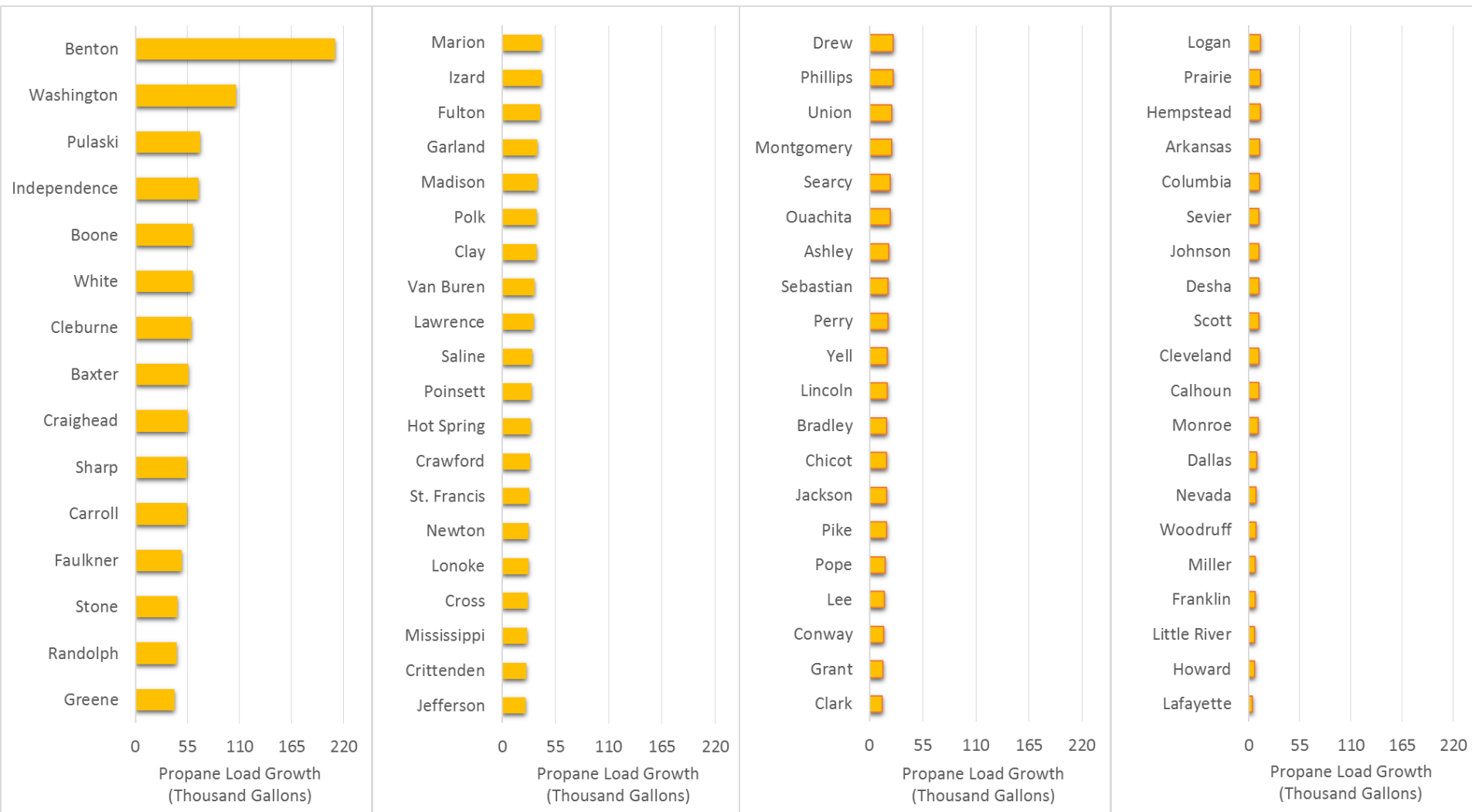
Annual Propane Load Growth Potential from Conversions of Fuel Oil Space Heated Households



Annual Propane Load Growth Potential from Conversions of Wood Space Heated Households



Propane Load Growth Potential from Conversion of Electric Water Heaters in Propane Heated Homes



Arkansas State Propane Profile

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