



**Massachusetts SHOPP &
Wood Pellet Survey
U.S. EIA SHOPP Conference
July 13, 2016**

Why Wood Pellets

Added Wood Pellet Survey in Fall 2014

- Expansion of Renewable Thermal programs touting conversion to and use of wood pellets for heating
 - Pellets emissions profile more favorable than cord (fire) wood; can assist in reaching states emission reduction goals under Mass. Global Warming Solutions Act.
- Requests from consumers and wood heating organizations for pricing data
- More households using wood as central heating source in addition to those using as secondary source

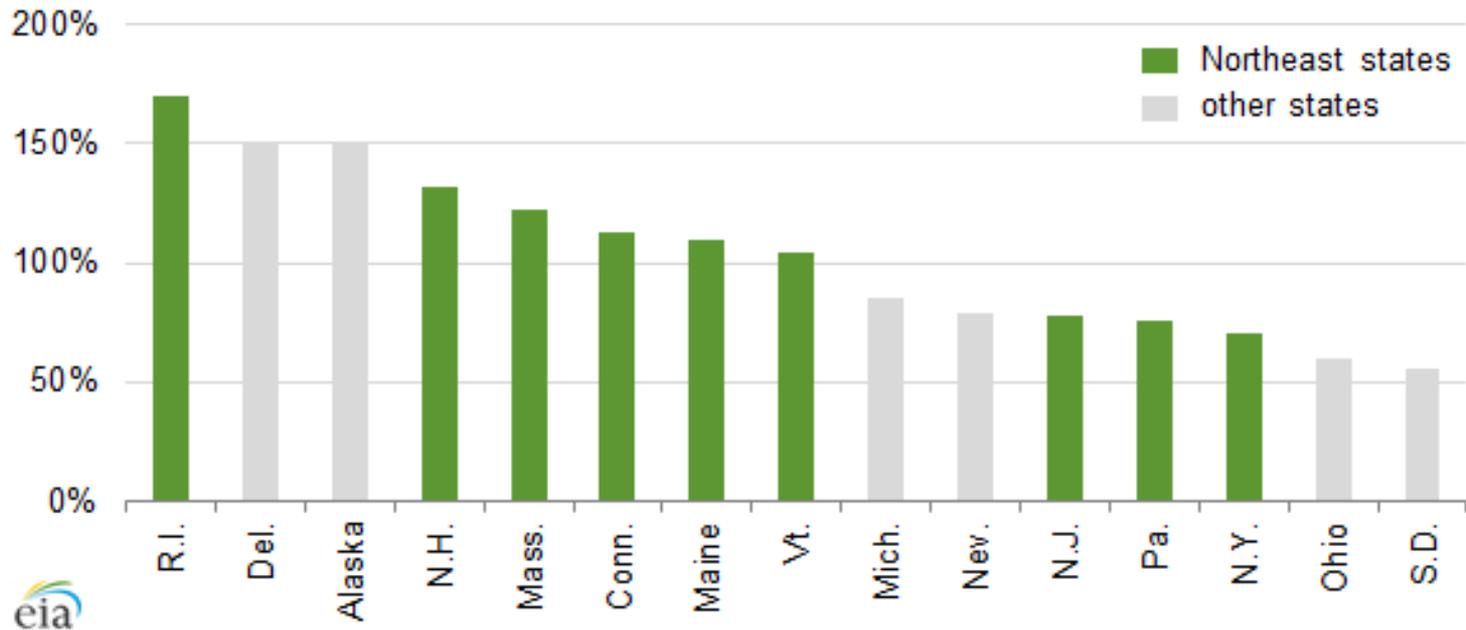
EIA's June 2016 STEO

Wood

- The use of cord wood and wood pellets as the primary residential space heating fuel has increased by 33% since 2005, to about 2.6 million households in 2014.
 - About 8% of households use wood as a secondary source of heat, making wood second only to electricity as a supplemental heating fuel.
- About 20% of homes in New England (1.1 million) used wood for space heating, water heating, or cooking in 2009 (EIA, [Residential Energy Consumption Survey 2009](#)), which is nearly twice the national rate.
 - Almost half of all rural households in New England used wood, compared with only 12% of the region's urban households.
- EIA will collect additional wood consumption data in the 2015 [Residential Energy Consumption Survey](#). (October 6, 2015: Today in Energy)

Wood Heated Household on the Rise

States with highest percentage increase in homes using wood as main heating source (2005-12)
percent



Wood Heated Households U.S. Census Numbers 2012-2015

Massachusetts Household Heating		
Fuel Type	# of Households	%
utility gas	1,210,137	48%
bottled, tank, LP	63,594	2.5%
electricity	340,128	13.5%
fuel oil, kerosene	851,319	33.8%
coal or coke	2,770	0.1%
wood	35,379	1%
solar	762	0.03%
other fuel	12,601	0.47%
no fuel	5,719	0.23%
total	2,522,409	

[Source: U.S. Census Bureau, Dec 2012, 2007-2011, American Community Survey 5-year estimates](#)

Massachusetts Household Heating		
Fuel Type	# of Households	%
utility gas	1,261,561	49.7%
bottled, tank, LP	72,705	2.9%
electricity	361,114	14.2%
fuel oil, kerosene	770,791	30.4%
coal or coke	3,226	0.1%
wood	42,814	1.7%
solar	888	0.04%
other fuel	16,570	0.7%
no fuel	8,816	0.3%
total	2,538,485	

[Source: U.S. Census Bureau, Dec 2015, 2010-2014,](#)

2014/15 Heating Season Began Surveys

Wood Pellet Survey Prices						
Type of Pellet	Fall 2014	Fall 2015	Winter 2015	Winter 2016	Spring 2015	Spring 2016
Bulk	\$297/ton	N/A	\$269/ton	\$260	\$257/ton	\$269/ton
Bagged/ton	\$297/ton	\$311/ton	\$294/ton	\$297/ton	\$300/ton	\$294/ton
Bag	\$6.69/bag	\$6.91/bag	\$6.75/bag	\$6.73/bag	\$6.85/bag	\$6.75/bag

- Survey includes local dealers and big box store realtors from across the state.
- Prices remained steady despite markedly different winter weather
 - 2014/15 Winter (aka Snowpocalypse) set record for snowfall in Boston area at 108.6 inches
 - 2015/16 was second warmest winter though there was a snowstorm on April 3rd

Winter Heating Cost Comparison 2015/16

Winter Heating Cost Comparison 2015/16			
Heating Fuel	Average Price	Consumption Range	Total Heating Cost
Heating Oil	\$2.24/gallon	714-928 gallons	\$1599-\$2079
Propane	\$2.84/gallon	657-814 gallons	\$1866-\$2312
**Wood	\$304/bagged ton	6-9 tons	\$1824-\$2736
*Electric	18.36 ¢/kWh	3814 kWh	\$697
*Natural Gas	\$1.19/therm	741 therms	\$879
<i>*Data based on utility filings with the Mass. Dept. of Public Utilities (DPU)</i>			
<i>**2-3 Deliveries for season; 3 tons per delivery for central heating</i>			

Note: Consumption estimates for Wood may change as more data becomes available

Additional Survey Uses

- Reliability issues: surveys in 2015 made DOER aware of a pellet storage in some areas of New England due to high usage that winter and throughout the Midwest due to prolonged colder than normal weather
- Comparison in prices and total heating cost to other heating fuels for households; hoping to get a sense of consumption for an average winter (average uses 2-3 tons a winter)
 - DOER plans to add wood to its Annual Winter Heating Forecast
- Provide Consumers with prices making it easier for them to calculate costs and identify benefits of converting to wood via state programs

Related Programs and Incentives

- Mass Clean Energy Center's (CEC) Central Wood Pellet Heating Program offers up to \$16,000 in rebates (up to \$10,000 base rebate with thermal storage adder up to \$2000-additional rebates for income eligible households).
- DOER partners with Mass CEC on Wood Stove Change Out Program replacing old wood stoves with newer pellet ones-more than 1100 households served since 2012
- Wood Pellets part of Woody Bio-Mass included in new Alternative Portfolio Standard (APS) regulations promoting Renewable Thermal Heating options

Related Websites & Contact Info

- Mass Dept. of Energy Resources
 - www.mass.gov/doer
- Mass Clean Energy Center
 - www.masscec.com
- Mass Executive Office of Environmental Affairs
 - www.mass.gov/eea
- Contact Info:
 - Karin Pisiewski, SHOPP & Consumer Affairs
 - Karin.pisiewski@state.ma.us or 617-626-7334