



NYSERDA

Renewable Heat New York

Matt McQuinn, Project Manager
May 11, 2017

Renewable Heat New York



John Rhodes, President and CEO, NYSERDA announcing Renewable Heat NY July 29th, 2014. Photo credit: Pyramid Energy EES.

Announced in Governor Cuomo's 2014 State of the State Address

Built upon NYSERDA's biomass heating R&D program to bring advanced technologies into the NYS heating market

Retirement of outdoor wood boilers, indoor wood boilers and wood stoves

Commercial pellet boiler heating systems

Residential pellet boiler heating systems and stoves

Residential/small commercial advanced cordwood boilers with full thermal storage

Continued R&D

Workforce development for proper system design, sizing and quality installations



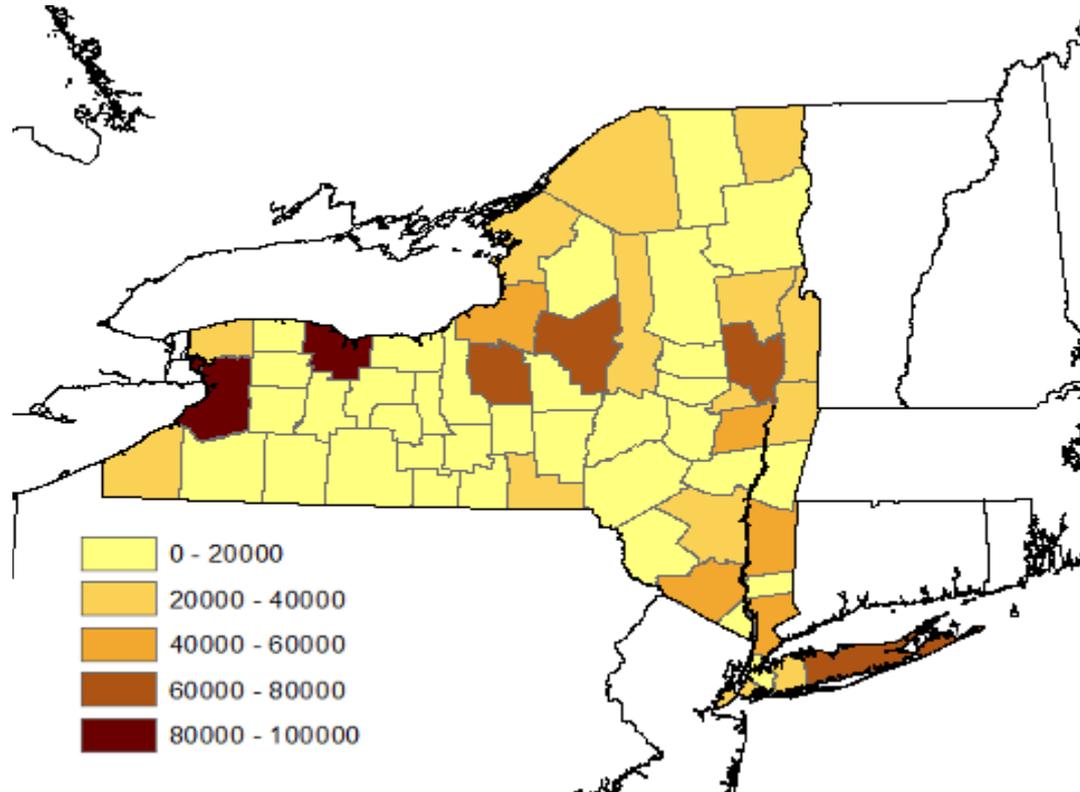
SUNY CANTON



Northeast Forest LLC

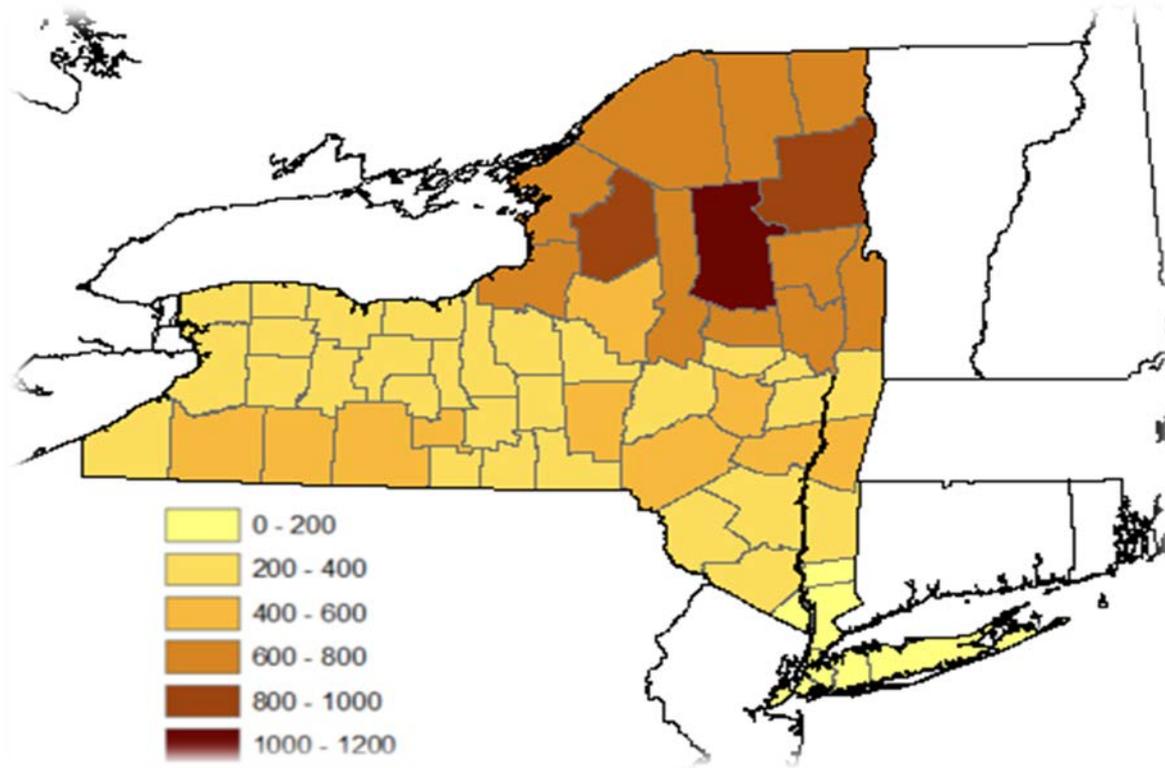


Residential Wood Combustion by County (tons) in 2011



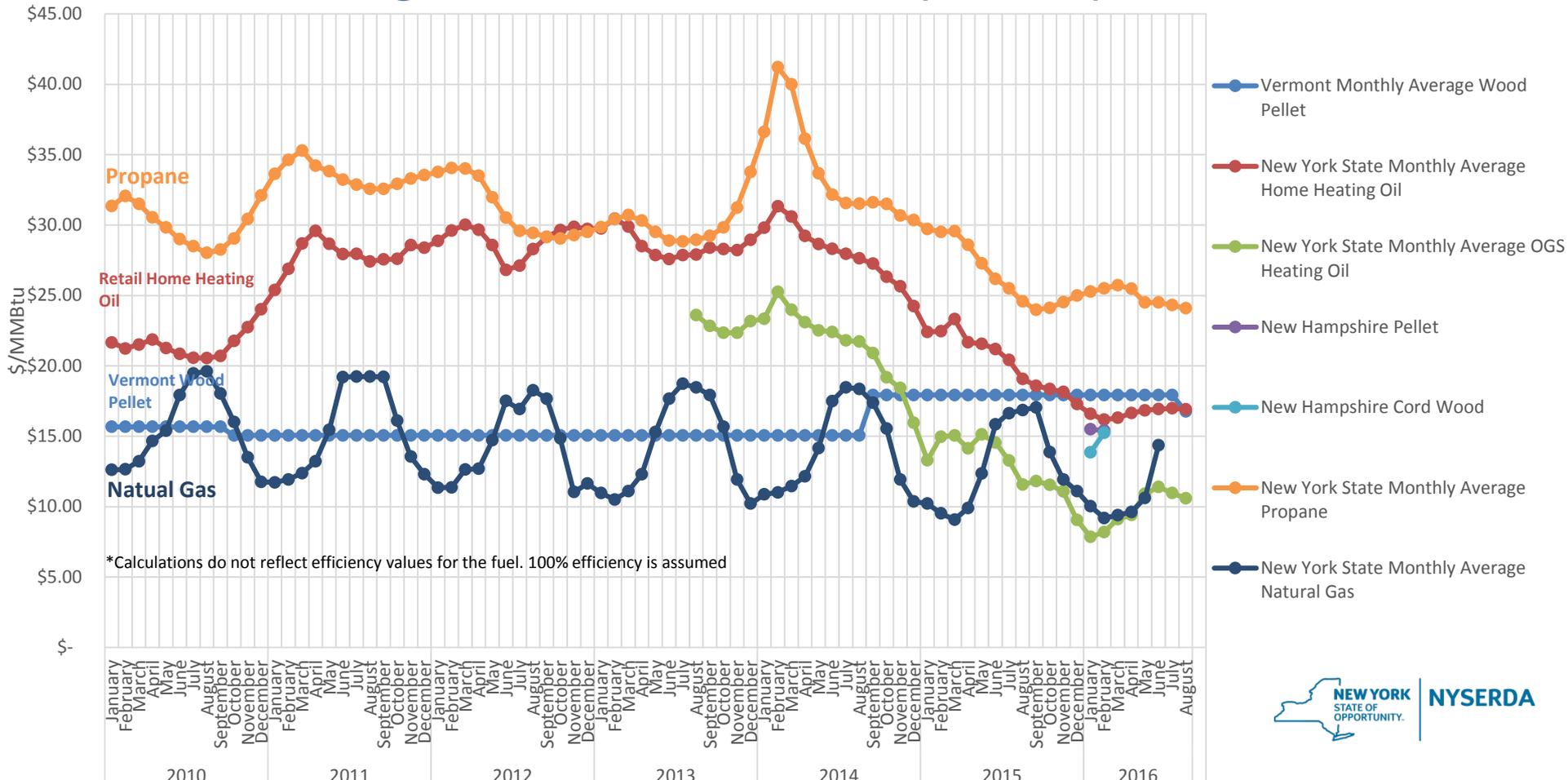
Source: Wood Heat Report

Per Capita Residential Wood Combustion (pounds) by County in 2011



Source: Wood Heat Report

Heating Oil Prices vs. Other Fuels (\$/MMBtu) 2010-2015



Qualified Advanced Cordwood Boiler Technologies



Must be $\geq 60\%$ annual efficiency by BNL PTS and be accepted by NYSDEC.
PM ≤ 0.32 lb/MMBtu, report CO

Advanced cordwood boiler in outbuilding



Advanced cordwood boiler

Seasoned wood is kept dry

Thermal storage tank in basement of farmhouse

Qualified Pellet Boiler Technologies



Must be $\geq 85\%$ thermal efficiency, $PM_{2.5} \leq 0.080$ lb/MMBtu, and $CO < 270$ ppm at 7% O_2

Bulk Pellet Storage



Maximizing performance with thermal storage



1250 Gallons
Unpressurized



528 Gallons
Pressurized

Residential / Small Commercial Boilers

System Type / Technology	Incentive amount
Advanced Cordwood Boiler with Full Thermal Storage	25% of installed cost up to \$5,000
Small Pellet Boiler with Thermal Storage	45% of installed costs up to \$36,000

An additional \$5,000 for the recycling of old outdoor/indoor wood boiler or \$2,500 for recycling a whole house wood furnace

Large Commercial Boilers (>300,000 Btu/h)

System Type / Technology	Incentive amount
Large Pellet Boiler with Thermal Storage	40% of total installed cost up to \$200,000
Tandem Pellet Boiler with Thermal Storage	45% of total installed cost up to \$270,000

Sizing \leq 60% design day load, thermal storage, careful system integration with existing heating system and heat distribution system and controls.

Technical assistance for energy study, and review of commissioning and first year of Measurement and Verification.

Qualified Pellet Stove Technologies



At or below 2.0 grams per hour particulate matter emissions on the 'EPA List of Certified Wood Heaters'

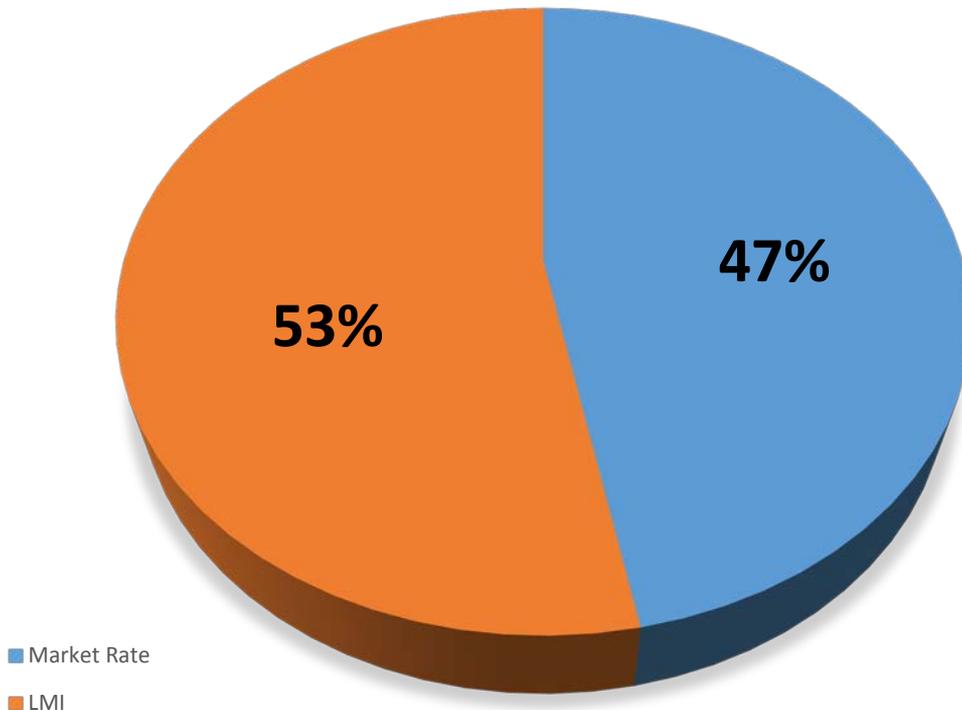
Residential Pellet Stoves

The following incentives are available toward the purchase of a new pellet stove for use in a primary residence, without natural gas service:

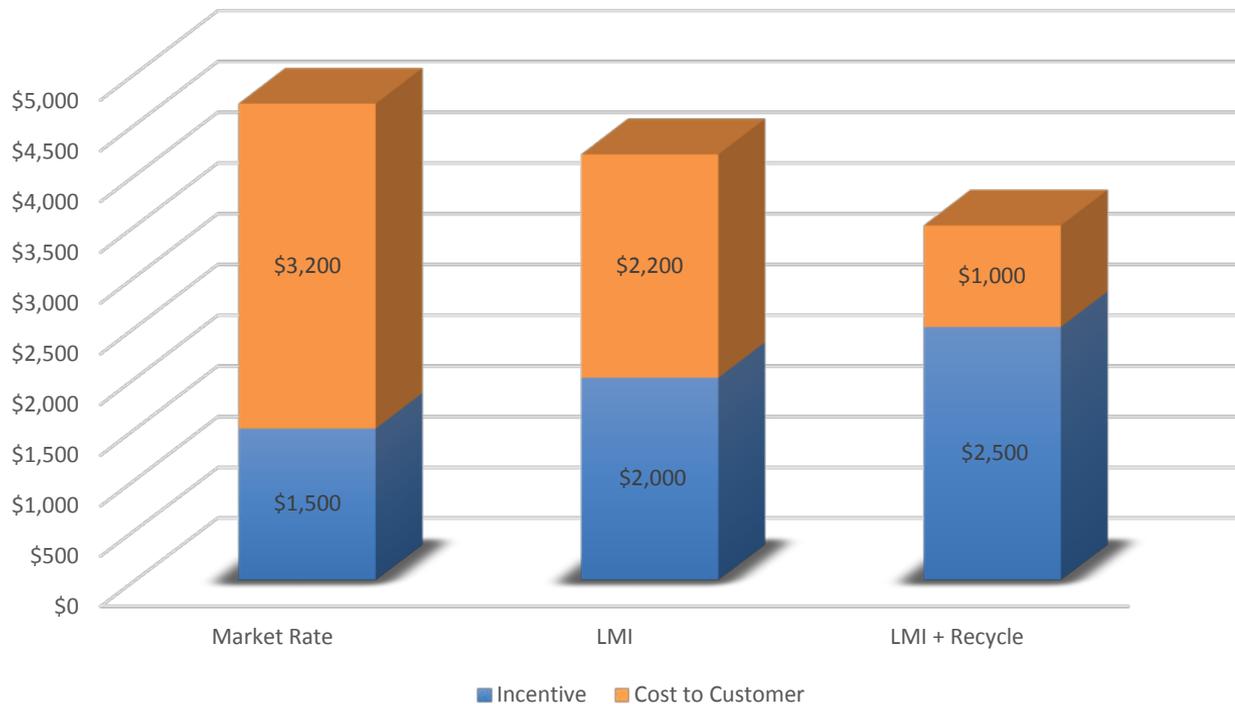
Qualification	Incentive Amount
Market Rate with Recycling	\$1,500
Income Qualified (No Recycling)	\$2,000
Income Qualified, add optional Recycling	\$2,500

The new stove can provide either primary or supplemental heating and must be at or below 2.0 grams per hour particulate matter emissions on the 'EPA List of Certified Wood Heaters'

Residential Pellet Stove Program Participation Market Rate vs. Low-Moderate Income



Cost Breakout per Customer Type



Thank you

Matt McQuinn

866-NYSERDA, ext.3053

matt.mcquinn@nysesda.ny.gov

www.nysesda.ny.gov/renewableheatny