



A cleaner, more efficient advanced wood boiler warms this Adirondack home



Mark Bomba adds cordwood to his father's new advanced cordwood boiler. Photo credit: NYSERDA

Equipment
70,000-Btu/hour
Advanced cordwood boiler

Type of Fuel
Wood

Installation Date
2015

Installer
The Radiant Store
Troy, NY

Background

John Bomba used to stay bundled up in a hat and overcoat during the winter months, even when he was home. He kept them on all day because his house in Edinburgh, NY, was cold even with the heat on. He used 10 full cords of wood per year in an outdoor wood boiler with no additional oil or electric heat.

But with the benefit of new high-efficiency, low-emission wood heat technology available on the market, and support from Renewable Heat NY, John was able to install an advanced cordwood boiler. Now he has reduced wood fuel use by nearly 80%—and is more comfortable in his home.

Next-generation heating technology

John bought his Saratoga County home more than three decades ago. Originally built as an A-frame during the 1960s, he added to it in the 1980s. “Adirondack contemporary” is how his son, Mark, describes the now 3,500-square-foot home.

John does not have access to natural gas. He likes using a locally available source of fuel, but his 34-year-old, inefficient outdoor boiler was failing. He needed a more efficient, cost-effective, and healthier way to heat his home.

John's son, Mark, learned about the Renewable Heat NY program and had his father apply. John recycled his old outdoor boiler and qualified for the maximum amount of support toward the installation of an advanced cordwood boiler.

According to U.S. Census data:

Wood heating increased in New York State from 2000 to 2010.

This increase occurred as the price of home heating oil, the major heating fuel in rural New York outside of the natural gas distribution system, rose.

John has the first residential advanced cordwood boiler installed with support from Renewable Heat NY. Both the homeowner and the installer were surprised at how little wood the advanced boiler technology uses to keep the house warm even in exceedingly cold weather.

“That boiler surpasses even our wildest estimate of how good a wood boiler could be,” said Terry Moag of The Radiant Store in Troy, NY who designed and installed the heating system for John’s home. An approved installer for Renewable Heat NY, Terry determined the right size for the advanced cordwood boiler to properly heat the house. He also carefully selected radiators to distribute heat to each room and accommodate the home’s unique architectural nooks.

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— Terry Moag, *The Radiant Store*

Success at 17 °F below zero

Terry and his crew overcame some challenges during the week in February 2015 when they installed the advanced cordwood boiler and three thermal storage tanks. Because the home is set in a hillside, a local tree surgeon used his crane to swing the 70,000-Btu/hour boiler from the road onto the property. The water storage tanks (totaling 750 gallons) were delivered and unloaded from a truck during a blizzard. And they fired up the new boiler on one of the coldest days of the season. The temperature was 17 °F below zero. Yet within hours, warmth filled John’s home.

Mark, who works in the solar electric industry, says the next phase for his father will include installing solar thermal panels and connecting them to solar hot water-enabled storage tanks. Then, the sun can heat the water in the storage tanks and John should be able to cut out the need for wood during the spring and fall.

Mark says he “can’t speak highly enough of the advanced cordwood boiler system.” As for John, he now only wears a hat and overcoat to go outside on winter days.

Get started

Visit nyscrda.ny.gov/renewable-heat-ny or call **1-866-NYSERDA** to learn how you can reduce your energy consumption and costs.

Renewable Heat NY is a statewide program that targets areas without access to natural gas and is helping to increase the efficiency of advanced heating technologies that use wood; develop infrastructure surrounding the industry; cut consumer costs; and reduce wood smoke and carbon monoxide emissions.

NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975. To learn more about NYSERDA’s programs, visit nyscrda.ny.gov or follow us on Twitter, Facebook, YouTube, or Instagram.