



Energy Efficiency Case Study

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Using Air Source Heat Pumps to Add 1,000 Comfortable Square Feet to a Home

Project Summary:

Paul Gustavson and his partner, Kelly Fitzgerald, have been working hard to make their Hopkinton, MA home as energy efficient – and comfortable – as possible. The home has three floors total, but the top floor was unusable. In the winter the rooms were frigid, and in the summer, sweltering. When Fitzgerald learned about the Mass Save® Home Energy Assessment, offered by Eversource, a Mass Save Sponsor, she saw the potential to turn her third floor into a livable space – a premium with two adults working from home and children looking for space to play.

During the no-cost assessment, air source heat pumps were identified as a key step to making the third floor comfortable. In addition to providing heating and cooling, the heat pump system would decrease the home’s carbon footprint, reduce energy bills, and decrease energy consumption overall. While the home already had solar panels installed on the roof, these additional measures would go a long way to making the home more energy efficient.

Solution:

Gustavson worked with a contractor participating in the Mass Save Heat Pump Installer Network to add two ducted heat pumps to the first and second floor, and a ductless heat pump to the third floor of the home. The project qualified for an Eversource rebate of \$9,705. Now that the third floor has appropriate heating and cooling, the home has an additional 1,000 square feet of space in which Gustavson has set up a home office and a playroom.

Beyond accessing previously unusable space in the home, the entire heat pump system has been saving the couple on home heating and cooling bills. In the winter, while electrical costs for the home have gone up because the heat source has switched to electricity, oil requirements have been halved. In the summer, with the window air conditioning units removed, cooling has become quieter and more consistent, and costs have been reduced by about \$100/month.

In addition to the heating system, Gustavson also installed two smart thermostats, which qualified for rebates. Installation was quick and seamless, and submitting documentation for rebates was simple. Gustavson coupled these rebates with the Mass Save HEAT Loan, which offers zero percent financing for home energy efficiency measures. “We have a brand-new central heating and cooling system, and it costs less than \$300 a month,” Gustavson shared. “By increasing the useable square footage of our home, and improving the year-round comfort, we know this investment has dramatically increased the value of our home. We have a rental property and plan to install heat pumps there as well.”

Annual Cost Savings:

\$600-\$800/year

Total Project Cost: \$27,596

Eversource

Incentive: \$9,075

Net Cost to the

Customer: \$17,891

Benefit to the customer:

- Extended useable space by 1,000 square feet
- Increased home comfort
- Decreased heating and cooling bills

About Mass Save:

Together, we make good happen for Massachusetts: Berkshire Gas, Blackstone Gas Company, Cape Light Compact, Columbia Gas, Eversource, Liberty Utilities, National Grid and Unitil. As one, we form Mass Save®, with the common goal of helping residents and businesses across Massachusetts save money and energy, leading our state to a clean and energy efficient future.

WE ARE MASS SAVE®:

