



Energy Efficiency Case Study

Brought to you by Eversource

Dick MacDonough Air Source Heat Pump Case Study

Background

Dick MacDonough of Arlington, Massachusetts sought to replace his central air conditioner unit after it stopped working. This central air conditioner had previously provided cooling to the hottest areas in his two-family home – the second and third floor. Rather than replace the broken unit with another central air conditioner, the homeowner wanted to explore upgrading to a high-efficiency alternative that could lower his energy use and increase the comfort of his living space. After doing some research, Dick determined that a ducted air source heat pump would be the best fit for his multigenerational 1920s home.

Upon identifying Net Zero Heating & Air Conditioning of Billerica, MA (a contractor participating in the Mass Save® Heat Pump Installer Network) and learning of the heat pump rebates offered offered by Eversource, a Sponsor of Mass Save, Dick decided to move forward with the project.

Goal

Dick’s goal was to efficiently cool his second and third floor, which is approximately 2,000 square feet, and to lower energy use while ensuring the comfort of his family. In addition to the heat pump, Net Zero Heating & Air Conditioning installed an air handler and a Wi-Fi thermostat, maximizing the family’s return on their investment.

Highlights

Incentive Amount:
\$3,500

Square Feet Electrified:
2,000

Average home oil conversion results:
5.1 Metric Tons CO₂ annual reduction, the approximate equivalent of removing a vehicle from the road for a year.

About Mass Save:

Together, we make good happen for Massachusetts. Your local electric and natural gas utilities and energy efficiency service provider are taking strides in energy efficiency: Berkshire Gas, Cape Light Compact, 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.

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The Outcome

After deciding on the Bosch Split System heat pump and Bosch multi-speed air handler, Dick worked with Net Zero Heating & Air Conditioning to complete the installation.

During the installation process, the contractor utilized some of the existing ductwork, but parts of it were upgraded to accommodate the new system. An Ecobee Wi-Fi thermostat was also installed to provide the homeowners with the ability to change the thermostat remotely.

Initially, Dick's family planned to use the heat pump system primarily for cooling, but with the harsh New England winters and rising cost of delivered fuels the family decided to put the system's high efficiency heating to the test. Almost two years after installation, the homeowner got rid of the oil tank and disconnected the radiators for the second and third floor.

The MacDonough family received a \$3,500 rebate from Eversource, a Sponsor of Mass Save, to help offset the cost of this decarbonization project. The average U.S. home uses 500 gallons of oil per year. Eliminating this fuel results in an average annual reduction of 5.1 Metric Tons carbon dioxide emissions. These emissions are the environmental equivalent of removing approximately one vehicle driven for a year.

“I think it’s great that Eversource has implemented these programs to help homeowners make their homes more efficient and save money and energy at the same time,” said Dick MacDonough, homeowner. **“Net Zero Heating and Air Conditioning were efficient and extremely thorough. I could not have been more pleased with their work and really appreciated their help with the Mass Save rebate process.”**

The information in this case study is an accurate representation of this customer's experience at the time of publication. Results, including cost savings, from heat pump installation and/or other energy efficiency measures can vary based on each individual customer's situation.

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