



# Energy Efficiency Case Study

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## Fitchburg Art Museum makes major energy improvements.

### About Fitchburg Art Museum

Founded in 1925, the Fitchburg Art Museum is a leading cultural institution. The mission of the Fitchburg Art Museum is to inspire creativity and learning, and to contribute to the well-being of the diverse communities in Fitchburg, North Central Massachusetts, and New England.

### Project Summary

It was improving the overall patron experience, including comfort, that prompted Fitchburg Art Museum to embark on a major heating and cooling upgrade of its facility.

The museum worked closely with Unitil to identify which heating and cooling equipment needed upgrades. "These projects are so important, they help our customers use energy more efficiently, reducing greenhouse gas emissions," Unitil's External Affairs Manager Alec O'Meara said.

According to Unitil, the heat pumps function as the first stage primary heating with oil and gas boilers coming online as outdoor temperatures drop. "Operating the buildings with multiple fuels allows for potential economic optimization as well, switching from heat pumps to legacy fuels when it is cost effective to do so," added Unitil's Senior Energy Efficiency Program Coordinator Joe Van Gombos.

### Solution

The Elm Street and Merriam Parkway buildings received extensive upgrades that include the installation of a building management HVAC software system to optimize the new 14 high efficiency heat pump installed. In addition, a heat pump water heater and two high efficiency natural gas boilers were added to complement the heat pumps.

While its electric usage will increase, the new heating and cooling systems reduces natural gas usage by 288.6 MMBtu and oil by 97.87 MMBtu annually. The project received a \$93,925 energy efficiency rebate from Unitil for achieving a carbon emissions reduction of approximately 20 metric tons, which over the lifetime of the equipment is equivalent to the emissions 43 homes produce annually.

"We strive to give our patrons a wonderful experience, which also includes compelling pieces of art, but an exceptional facility too. Not only we will be using less energy, which is great for the environment, but these improvements will vastly improve the comfort for our patrons and employees," said Nick Capasso, director of the Fitchburg Art Museum. "This project was a major undertaking that will pay dividends for years to come."



### Annual Energy Savings

386.5 MMBtus

### Carbon Emissions Reduction:

20 metric tons

### Unitil Incentive

\$93,925

### About Mass Save:

Together, we make good happen for Massachusetts: 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 energy, leading our state to a clean and energy efficient future.

WE ARE MASS SAVE\*:

