



Energy Efficiency Case Study

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Smile Works Family Dentistry, Pittsfield, Massachusetts

Background

Located in a converted family home in a leafy residential area, Smile Works Family Dentistry has a reputation for providing anxiety-free dental care for patients in Berkshire County, Massachusetts. The dental practice balances the old-school charm of its location with a willingness to upgrade the building with modern energy efficiency solutions.

After a successful partnership with Eversource to improve their office building's energy efficiency, Smile Works has been able to reduce its energy usage and costs, while improving the look and feel of the office for their patients.

The Challenge

The lighting, insulation, heating and cooling systems of the Smile Works building were all in need of updating or replacement in early 2023 when Sinu Mudumba began looking for a cost-efficient way to upgrade. Sinu and his wife, Dr. Divya Mudumba, are co-owners of Smile Works and they are big proponents of energy efficiency technology. They were aware that their inefficient systems were likely contributing to higher energy bills for the practice, and they also had a strong desire to reduce Smile Works' carbon footprint.

The Solution

Working with Advanced Energy Group (AEG), an approved Eversource contractor, they began implementing a range of energy efficiency solutions. The first phase of the project was upgrading to LED lighting, with outstanding results. LEDs use at least 75 percent less energy than incandescent lighting and last up to 25 times longer. Installing them throughout the Smile Works office will save



By the Numbers: Annual Savings

Insulation: **4.66 MBtu**

Lighting: **4,118 kWh**

Incentive secured: **\$7,500.00**

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“We’ve been very happy with Eversource and the outcome of this entire energy efficiency project.”

— Sinu Mudumba, Smile Works Co-Owner

approximately 4,118 kWh annually - which is the equivalent of avoiding the CO2 emissions that would come from burning over three thousand pounds of coal.

In addition to saving energy and lasting longer, the building occupants also noticed that the LED bulbs offered better quality lighting overall, improving the aesthetic of the office. “Before, everything looked very dull,” said Sinu. “Now everything is much brighter, including the reception area. Our patients tell us they can finally see the color of the rooms.”

The second phase began with a combination of sealing leaks and adding more insulation. These two measures combined help to make sure that less energy is required

to heat the building during the winter or to keep it cool during the summer, which also means lower energy bills. No matter how good the heating and cooling system, if air is still escaping through cracks or subpar insulation, you won’t get to enjoy the full benefits.

The next part of this phase was to install a heat pump with four wall evaporator units throughout the building, augmenting their old oil-powered heating system. This more environmentally friendly system is up to three times more energy efficient than a conventional boiler or furnace. Eversource’s support made it possible for Smile Works to install this measure, providing a rebate of \$7,500 (100 percent of the total cost) through their heat pump incentive program.

The Results

Thanks to the new heating and cooling system, Smile Works now uses oil heat for only two months each winter. For the rest of the year, according to Sinu, their oil bill is essentially down to zero. In the summer months the system’s more efficient cooling has resulted in additional savings. Plus, it has further improved the office’s aesthetics by allowing them to remove their noisy, unsightly AC units.

Overall, Sinu said, upgrading Smile Works’ energy efficiency and reducing its carbon footprint in conjunction with Eversource has been “an excellent experience. We’re loving the change.”

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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