



Milton Academy



COMPREHENSIVE ENERGY EFFICIENCY TREATMENT

Milton Academy, an independent college preparatory boarding and day school, located just south of Boston, sought an increased level of efficiency in its mechanical, controls, and lighting systems.

THE PARTNERSHIP

ENGIE Services U.S. (ENGIE) performed a comprehensive energy analysis, working closely with the facility managers, identifying the issues with the Academy's existing, pneumatic controls system, which was outdated, inefficient, and expensive to operate. The existing lighting throughout campus was predominantly T8 lamps with electronic ballasts.

Much of the HVAC equipment throughout the campus was not controlled efficiently during unoccupied hours and school holidays. ENGIE installed appropriate digital building automation system (BAS) controls to the HVAC system including pumps, valves, air handling units (AHU), chiller and heat exchangers, allowing scheduling strategies to be implemented on a zone basis, saving energy and eliminating the need for expensive compressed air to operate the pneumatic controls. ENGIE also installed variable frequency drives (VFD) on the AHU and water circulation pumps, further reducing the Academy's energy consumption. These VFDs were programmed to reduce motor speed or turn motors off entirely in response to system pressure or during unoccupied hours. Milton Academy is achieving over 600,000 kWh in energy savings annually from these energy upgrades.

The existing lighting throughout Milton's campus was predominantly T8 lamps with electronic ballasts. Over 5,000 fixtures were retrofitted to high performance T8 technology. Dual technology sensors installed throughout the campus allow for lights to

Program Summary

- Installation Cost: \$873,354
- Total Electric Savings: 1,134,078 kWh
- Total Utility Incentives: \$385,000
- Annual Gas Savings: 31,555 Therms
- Simple Payback: 2.13 Years

Energy Efficiency Measures

- Lighting
- Controls
- HVAC

switch off in unoccupied areas, further increasing energy savings. ENGIE also converted over 250 exterior metal halide and high pressure sodium fixtures to more efficient LED technology. Through these measures, ENGIE was able to reduce Milton's annual lighting costs by nearly \$66,000.

3 DIMENSIONS OF IMPACT

ENGIE is committed to building three dimensions of impact in every customer's future:



Supporting People

- In addition to the main goal of energy savings, ENGIE's design also focused on standardizing lighting technologies and color temperature, to create a brighter learning environment.



Saving Money

- Energy efficiency measures designed and implemented by ENGIE reduced Milton's electricity usage by over 20 percent (\$66,000 annually) and qualified for nearly \$385,000 in incentives from NSTAR and National Grid, yielding a 2-year simple payback.



Protecting the Environment

- Energy efficiency measures resulted in annual electricity savings of over 1,134,000 kWh, and annual gas savings of more than 31,500 therms, the equivalent to the carbon emissions of 99 residential homes for one year.

