

State Energy Program (SEP)

State of New Hampshire Success Story

School Energy Efficiency Development (SEED) Grant Program – Final Report

SEP Funding Mechanism: State Energy Program Formula Grant

Total SEP Investment: \$80,000

Period of Performance: PY20 (October 2020 to February 2021)

Location: New Boston Central School in New Boston, NH

Project/Grantee Goals: To reduce New Boston Central School's energy costs and implement Phase II of a Siemens energy audit.

Success Summary:

With annual funding from the U.S. Department of Energy's (DOE) State Energy Program, the former New Hampshire Office of Strategic Initiatives (OSI) continued to fund its School Energy Efficiency Development (SEED) Grant Program that was started in 2018. The program is an annual competitive matching grant program aimed at achieving energy efficiency in New Hampshire's public schools. These projects have the dual benefit of lowering a school's energy costs to provide a direct financial benefit for school budgets and local property taxpayers, as well as providing a safer, healthier learning environment for students and staff.

DOE's State Energy Program (SEP) provides funding and technical assistance to states, territories, and the District of Columbia to enhance energy security, advance state-led energy initiatives, and maximize the benefits of decreasing energy waste. SEP emphasizes the state's role as the decision maker and administrator for program activities within the state that are tailored to their unique resources, delivery capacity, and energy goals.

In 2018, the New Boston School District engaged the services of Siemens to conduct a comprehensive energy audit to identify areas of energy savings in New Boston Central School that could be realized based on the school's current conditions. The district sought to implement the audit's recommendations through a multi-phased approach. The district applied to the SEED Grant Program in 2019 for funding to begin work on Phase I by upgrading its building controls and other mechanical control systems. Due to the competitive nature of SEED Grant Program applications in 2019, the New Boston Central School was not awarded funding. The district continued to pursue funding to implement Phase I projects to replace heating controls, windows, and updating HVAC units. The district successfully reapplied to the SEED Grant Program in 2020 with a revamped application to complete Phase II of its energy efficiency plan to convert interior and exterior lighting to LEDs.

OSI awarded \$80,000 through the SEED Grant Program to help New Boston Central School implement energy efficiency improvements. The school also leveraged financial incentives through the NHSaves program to help fund the project. Upon receipt of SEED Grant Program funding, the school contracted with Energy Management Consultants, Inc. (EMC) to upgrade the

lighting throughout the school, including portable classrooms and the White Building, which is owned by the school and used by the town’s recreation department. The school’s existing lighting were fluorescent and incandescent, which have short lifespans and are energy inefficient. Lighting is a significant end-use for school facilities and reducing their power and runtime can reduce the school’s energy usage. With this funding, New Boston Central School successfully replaced or retrofitted more than 700 interior and exterior lighting fixtures with LEDs, including wireless nLight AIR occupancy sensors that reduce light levels and ultimately shut off the light when no students or staff are present.

EMC hosted a training session for school personnel to learn how to program the light fixtures. The fixtures can receive messages from wireless devices that allows the user to pre-program the light levels and change the timing of the occupancy sensors.

GDS Associates served as OSI’s technical monitor on the project. In this role, GDS Associates conducted pre- and post-installation visits and used their robust knowledge of energy efficiency projects and construction processes to report on project progression. GDS Associates was a vital partner in providing ongoing, in-person monitoring to ensure that the project was following the program’s parameters.

New Boston Central School successfully completed this project amid the COVID-19 pandemic. Within the first year of operation, these improvements will save more than 110,812 kWh of electricity, \$17,000 in energy cost savings, and \$4,000 in maintenance costs. These savings can be reinvested into other educational initiatives for students or other energy efficiency improvements.

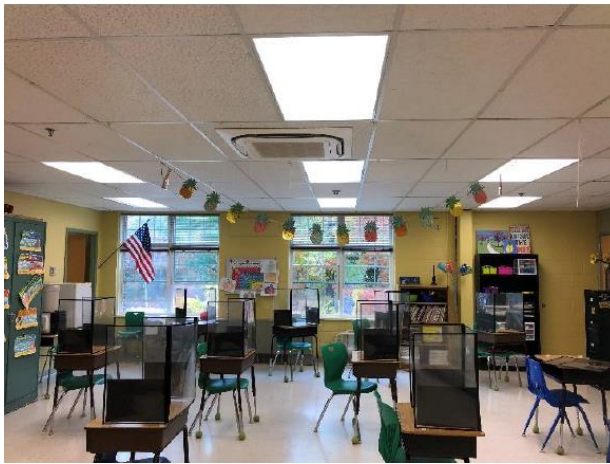
Photos:



Above: Before (left) and After (right) Gymnasium Lighting



Above: Before (left) and After (Right) Library Lighting



Above: Before (left) and After (right) Classroom Lighting