

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: \$100,000

Period of Performance: Program Year 2018 (December 2018 to June 2019)

Location: Jennie D. Blake Elementary School in Hill, NH

Project/Grantee Goals: To implement cost-effective energy efficiency improvements at Jennie D. Blake Elementary School.

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) created the School Energy Efficiency Development (SEED) Grant Program in 2018. The program is a competitive matching grant program that offers a one-time grant to New Hampshire's public schools to advance energy efficiency projects. The program was designed for public schools in small communities with a simple, streamlined application process. The program's funding has 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 the fall of 2018, OSI received eleven applications for one grant of \$100,000 through the SEED Grant Program. The Jennie D. Blake Elementary School in Hill, NH was selected as the recipient for the first SEED Grant. The school is the only public school in the Hill community, which has a population of a little more than 1,000 people. The school serves 62 students from kindergarten to sixth grade. The building is more than just a school to the town; it hosts community gatherings, after school programs, and acts as the town's designated warming center and disaster recovery shelter.

Involvement from the school was crucial to the project's success. The school's principal, along with two students from the school's "Green Team," attended a meeting of the Governor and Executive Council to advocate for the approval of their \$100,000 SEED Grant. Governor Chris Sununu and the Executive Council heard testimony from the school students on the project's merits. Following the student's testimony, the Governor and the Executive Council unanimously approved the school's SEED Grant.

The school sought creative ways to reduce their energy costs and upgrade their aging energy equipment and systems. While confronting funding challenges, the school was committed to implement a comprehensive energy efficiency project that reduced energy costs in a cost-effective manner. The school worked with Energy Efficient Investments, Inc. (EEI) as their project manager. EEI conducted an investment grade energy audit in October 2018 that outlined several energy conservation measures. The SEED grant targeted three major areas to achieve energy efficiency at Jennie D. Blake Elementary School: weatherization, lighting, and HVAC control upgrades. In efforts to reduce heat loss and further prevent ice dams during the winter months, cracks were sealed, and a foam insulation was installed in the attic areas of the building.

The lighting project was extensive. Existing fluorescent, incandescent, and high-pressure sodium fixtures were replaced with new, energy efficiency LED fixtures. Occupancy sensors and daylight controls were also installed. In addition to the lighting replacement, push-button light switches were installed, a major improvement from the previous control systems. The new technology is operable via smartphone, allowing for better access to the school's control system. The project is expected to result in 34,157 kWh of electricity savings, a 57% savings over existing electricity usage at the school.

EEI developed an energy usage webpage for Jennie D. Blake Elementary School. Utilizing the webpage, the school can track, record, and monitor usage well as savings throughout the building. With access to data, the school can make necessary adjustments in the future to maximize energy efficiency while reducing overall energy use.

Estimated savings in the first year following the completion of the school's improvements are upward of \$10,782. The school is also expected to save roughly 2,222 in fuel oil. With these savings, the school can reinvest those funds directly back into the school or into other energy efficiency projects in the future.

In addition to the SEED Grant received by the Jennie D. Blake Elementary School, an anonymous donor provided \$50,000 for upgrades to the school's computer network system. The donation funded the installation of new wiring throughout the school, as well as new computers in each classroom. Apple iPads were provided to students in kindergarten through second grade. Third to sixth grade students received Chrome Book laptops.

OSI marked the accomplishment of the SEED Grant project through a ribbon cutting ceremony alongside Governor Christopher Sununu, as well as students and parents. Dr. Brian Connelly, principal of Jennie D. Blake Elementary School stated, "[the SEED Grant] has also led to some great lessons on reducing, reusing, and recycling, and thinking about different ways to be greener in the future. We may be a small rural school, but we are making a difference in the lives of our students, their families and in our charming community."



Left: Governor Christopher Sununu, alongside State Senator Bob Giuda, with all the Jennie D. Blake Elementary School students cutting the ribbon to celebrate the completion of the school's energy efficiency projects.



Left: Governor Christopher Sununu celebrates the completion of the energy efficiency upgrades done at the Jennie D. Blake Elementary School; with the principal, Dr. Brian Connelly (far left), project manager Keith McBrien (far right), and two students from the school's Green Team.

Pre – SEED Grant Lighting



Post – SEED Grant Lighting



Pre- SEED Grant Controls



Above: Old, inefficient thermostat.

Right: New thermostat manages the temperature and monitors the amount of CO2 in a room.

Post – SEED Grant Controls



Above: Old control panel that was only partially functioning.

Right: New BACnet devices installed that are controlled from a smartphone.



Pre – SEED Grant Weatherization



Above: Shows minimal air sealing that has been done in the attic.

Top Right: Depicts air sealing and insulation that has been added in the attic of Jennie D. Blake Elementary School.

Center Right: show the new weather stripping on the doors in the school.

Post – SEED Grant Weatherization

