



## National Grid Incentives Make Lighting Retrofit Project Possible for Private School



LIGHTING



OCCUPANCY  
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National Grid incentives helped cover almost 80% of the costs for a nearly \$90,000 lighting retrofit project at the Berkshire Country Day School, a private school for preschool to eighth-grade students located in Stockbridge, Mass.

Once a working farm in the 1800s and early 1900s, the Berkshire Country Day School has owned the seven-building property spread across 27 acres since 1950. The small business serves approximately 150 students and employs 35 faculty and support staff.

“We knew we needed to improve the lighting in all the buildings on the property and we had a desire as an organization to be energy efficient,” said Chris Perilli, the director of facilities at Berkshire Country Day School. “A board member gave us a tip to call National Grid. I’m glad we did because there is no way we could have paid for this lighting retrofit project without the incentives that National Grid offered.”

The process started with an energy assessment conducted by National Grid’s energy partner, Energy Source. During the assessment, Energy Source’s Walt Pazderski looked closely at the lighting in every building to determine, together with Perilli, the right lighting solution for each classroom and space.

“The way a room is used tells you what you want and need to do with the lighting,” said Pazderski, a senior energy efficiency consultant at Energy Source. “For example, in the classroom for three-year-olds, indirect light is better for naps, but bright enough to do crafts and finger painting, while the science room really needs direct lighting so dissections can be more precise and done safely.”

The gym’s use of older mercury vapor lamps left it relatively dark while also using 450 watts per fixture. It was also important to recognize that balls fly into the ceiling regularly, so the lights needed to be protected. Energy Source recommended 80-watt COB LED lights. Not only would the illumination improve dramatically while using less energy, but the lamps could also be installed in hanging lights that could be hit by stray kickballs without any concerns for damage.

*“After the retrofit was done during a vacation week, I had many teachers ask if I had painted the rooms. They could tell there was a big difference in the learning environment. The whole process was seamless—a really great experience.”*

— Chris Perilli, director of facilities at Berkshire Country Day School



Berkshire Country Day School’s Chris Perilli (right) talks about indirect lighting in the preschool classroom with Energy Source’s Walt Pazderski (left).

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The art room brings a unique aura to the school with retro pipes and beams reminiscent of a cow barn, but the four-foot shop lights were unwieldy and didn't generate the light output that was needed. Energy Source recommended a curved fin with LED lights to fit with the aura of the space.

The recommendations included sensors to turn off lights in bathrooms and other locations that were not used as frequently.

Tim Gore, a science and geography teacher at Berkshire Country Day School, specifically made requests to the school administrators to do something about the lighting in his classroom. The lights were aimed upward, leaving unnecessary shadows on the table. He even brought in shop lights from his home to help kids see better when working with small things.



*Direct LED lighting in the science rooms enhanced the learning environment and improved safety when students dissected owl pellets.*

"A project I always like to do with the kids is dissecting owl pellets," Gore said. "These pellets are quite small and contain fur and bones of the things it eats. The bones are so small, so it was really hard to see and manipulate them during the dissections."

Energy Source recommended a change from indirect lighting to direct lighting, replacing fluorescent bulbs with LEDs.

"I couldn't believe it when I walked in," Gore said. "I thought they were just changing the light bulbs, but I knew immediately that something was different. It was so much easier to see. I thought I was in the wrong building. It is amazing how lighting can help create a positive and better learning environment."

"No stone was unturned during the assessment," Perilli said. "They evaluated every room. In some ways, it was like buying a car and learning about all the bells and whistles that come with it, but I was nervous about the cost."

"When we do these assessments, we want to be thorough and get it right," Pazderski said. "I could tell Chris was worried about costs and kept trying to talk me down, but I assured him that we should look at the whole project and see what National Grid would be willing to contribute and then take it from there."



*The switch from sodium hydride bulbs to LED lighting in the gym at the Berkshire Country Day School made a big difference in illumination and energy usage.*

The project design that was delivered to the Berkshire Country Day School would result in 528 LED lights/fixtures replacing fluorescent lights, at a total cost of \$89,950. National Grid offered \$70,520 in incentives to offset the cost of the project, meaning Berkshire Country Day School would only pay \$19,430. The project would also save the school 106,364 kWh annually—a savings of \$15,316.

"When we presented the full scope of the project to the board, you could tell they were getting scared about the cost. They definitely saw the meter running," Perilli said. "Once we showed them the numbers and their own investment, they said 'That's it?' It was a business no-brainer."

A variety of other intangible benefits came with the project, from safety to a better learning environment.



The switch to LEDs from fluorescent lighting meant a big savings in maintenance costs. Not just a savings on replacement lamps and ballasts, but a significant savings on labor. Further, fluorescent lights buzzed, which led to frequent complaints about headaches. LED lighting eliminated that buzz and led to fewer reported headaches.

"After the retrofit was done during a vacation week, I had many teachers ask if I had painted the rooms," Perilli said. "They could tell there was a big difference in the learning environment. The whole process was seamless—a really great experience. We're grateful for the work that Energy Source, Walt Pazderski and National Grid brought to our school."

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