

As Seen in Sustainable Facility Web Exclusive

A Win-Win for New York Schools

SCHOOL DISTRICTS ARE BUILDING MAJOR INFRASTRUCTURE PROJECTS WITHOUT DIPPING INTO CAPITAL BUDGETS THROUGH ENERGY SAVINGS PERFORMANCE CONTRACTING (ESPC).

>> BY DAVID J. ANDERSON

In today's global community, pressure is on every economy to compete for limited jobs. America needs to provide its students and teachers with the appropriate learning environments they need to be competitive. Unfortunately, the current economic landscape has impeded communities from making the necessary investment in their schools to underwrite critical facility infrastructure upgrades. Budgets are stressed and, in many cases, require cuts for communities to survive. Meanwhile, America's inventory of aging school buildings is further adding to that hefty price tag for districts. According to the U.S. Department of Energy (DOE), the cost of heating and cooling America's primary and secondary schools hovers around the \$6 billion mark. A critical piece of the solution, then, includes making school buildings more energy efficient. In fact, DOE says energy-efficient systems can lower a school district's annual operating costs by as much as 30 percent.

Facility managers can attest that keeping technologies and controls up to date is critical to maintaining a safe and healthy environment. But tragically, many schools have cancelled programs and even cut staff rather than explore the options available to them to make necessary capital improvements. One option that is gaining traction, even in the midst of this financial reality is the energy savings performance contract (ESPC). An ESPC is aimed at eliminating the fiscal constraints that can kill a project before it is even conceptualized. With an ESPC, customers can renew facilities and reduce energy costs without the need for capital expenditures and the political complications that arise during the budgeting process. An infrastructure improvement strategy predicated on an ESPC can unlock a myriad of ways to modernize facilities at no incremental cost to schools.

Many K-12 school districts have made substantial capital improvements by partnering with an energy services company through an ESPC program. With oversight from state agencies, school districts have found new ways to finance these big renovation projects. In an ESPC program, an energy services company guarantees energy savings over the course of a project's lifetime which are realized from automated building controls, electrical equipment enhancements, lighting system upgrades, and heating and cooling system modernization, etc. Those guaranteed savings, coupled with available state programs and utility rebates, replace the unpopular tactic of taking on taxpayer supported debt.

The state of New York has been a leader in promoting ESPCs as a way to implement large scale facility improvements in public school districts. From the tip of Long Island to Niagara Falls, New York schools have implemented in excess of \$600 million in energy performance contracts in the last 10 years alone. Superintendents and administrators have recognized the opportunity for a "win-win" scenario by upgrading aging facilities without dipping into capital budgets. Many schools have even earned EPA ENERGY STAR status through these energy conservation programs. According to ENERGY STAR, top performing ENERGY STAR labeled schools cost forty cents per square foot less to operate than the average performers.

The New York State Education Department (SED) has been a proponent of the ESPC program and works closely with local districts



Clarkstown Central School District

Facility Size: 17 buildings, 1.5 million square feet

Energy Project Size: \$7.2 million

Energy Savings: \$463,000 per year

Summary: Ameresco began a comprehensive ESPC with the district representing over \$7 million of building improvements. Many of the improvements implemented were originally contemplated under a debt supported capital project. By moving these items to an ESPC, the district provided funding from guaranteed energy savings instead of increased taxes.

Measures: The measures included lighting improvements, energy management systems, motors, new boilers, a fuel conversion, doors, roofs, cogeneration facility at the district's Natatorium and a photovoltaic array. Vending machine controls and lighting sensors respond to usage levels and power-down when not in use. Problematic and unsound roofs and doors were replaced to prevent drafts and leaks from disrupting the schools. Part of this project included a significant upgrade and renovation to the exiting HVAC system at an elementary school.

Accolades: After construction, Ameresco assisted the District in obtaining ENERGY STAR Certification. Two students also received college scholarships as part of the Ameresco Better Schools Program.

to implement upgrades. New York State has a unique approach to infrastructure projects by providing building aid to eligible school districts in the state (up to 93 percent of project costs in some cases). Utilities can play a major role in supporting such projects as well. The Long Island Power Authority, for example, has been instrumental in assisting the development of these projects through rebate and incentive programs, demonstrating its position as a staunch supporter of energy efficiency.



Hyde Park Central School District

Facility Size: 444,807 square feet

Energy Project Size: \$4,885,002

Energy Savings: \$233,230

Summary: Ameresco was selected through a competitive RFP process and signed an energy services agreement to implement an energy savings performance contract for the Hyde Park Central School District. This contract includes an energy education program within the school to build the staff and students' commitment to energy efficiency. Additionally, this program includes a student training program to encourage mutual understanding of the project and student participation in energy conservation. This project is complete and operational. Project performance was never compromised during any part of construction or on-going services. The project was completed on schedule.

Measures: Capital improvements included new energy efficient windows, lighting, DHW heaters, kitchen appliances, a boiler plant, an energy management system and steam traps.

Accolades: As a part of this program one graduating senior received a scholarship through the Better Schools Partnership. Additional services were provided an augmented Student Training Curriculum developed with the support of the various Science and Math Departments.

Ameresco Inc., an energy services company, has helped many school districts in New York by managing construction and implementation, and by helping arrange financing. Ameresco enables schools to take on an interesting and diverse array of energy efficiency and renewable energy projects. Comprehensive energy audits are conducted first and the most effective upgrades are identified, such as: state-of-the-art lighting; replacing outdated fixtures; insulating pipes to prevent heat loss; integrating computerized energy management tools into existing systems; replacing obsolete boilers; reclaiming waste oil; installing energy efficient roofs and windows; and utilizing renewable energy solutions like solar and wind energy.

Equally important, Ameresco's Better Schools Program is changing



Monticello School District

Facility Size: 533,024 square feet

Energy Project Size: \$ 4,355,805

Energy Savings: \$261,394

Summary: Ameresco and Monticello School District teamed up on a 15 year ESPC program and even installed a wind turbine on property between Monticello High School and Rutherford Elementary. In addition they have instituted an energy education program to prepare students for "green-collar" jobs.

Measures: Besides the wind turbine installation, measures include lighting system improvements, lighting controls, integrated and new energy management systems, boiler plant improvements, domestic hot water improvements, exterior door replacements, vending machine controls, computer load management, pipe and tank insulation, bus heater controls and unit ventilator replacements.

Accolades: The wind turbine will produce 11,000 kW hours per year, enough electricity to power two New York homes for a year. The power will be used to offset energy consumption at Monticello High School. It is the first wind-powered turbine at a public school in the region.

ing the way administrators look at conservation. Through this research-based initiative, Ameresco collaborates with school boards, administrators and staff to monitor and reduce energy use, change behavior and introduce environmentally sound practices that are simple and effective. And many times broader initiatives with students, like recycling programs, are created in concert with ESPC work.

In addition to offering long-term operations and utility cost savings, energy efficient schools help to decrease a district's overall energy consumption and provide students with a valuable lesson in conservation, ultimately creating a healthier environment in which to teach, learn, work and play. In a time when superintendents and administrators, facility managers and operations staff are doing their best to maintain high quality buildings with limited resources, an ESPC is a great option. **SF**

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For more information about Ameresco and our full-range of energy efficiency and renewable energy solutions, please contact 1-866-AMERESCO or visit ameresco.com.

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