

Putnam Valley Central School District

Energy Savings Performance Contract (ESPC)



The rooftop solar array (left) and educational solar photovoltaic and wind harvesting station (right) installed at Putnam Valley Central School District's Elementary, Middle, and High School campuses.

Putnam Valley Central School District, located in Putnam County, New York, serves more than 2,000 students in grades K-12. District administrators wanted to complete improvements and modernize their facilities. To do so, administrators employed an innovative contract vehicle called an Energy Savings Performance Contract (ESPC) to leverage on-going energy savings and offset the costs of their critical facility upgrades.

Con Edison Solutions, with decades of experience providing energy efficiency services to educational institutions, was formally selected as the prime contractor through a competitive process, by offering a complete solution to revitalize the District's building infrastructure and substantially reduce energy costs.

The Con Edison Solutions team of K-12 energy experts performed facility audits, completed design documents, procured equipment, and managed subcontractors to provide a turnkey system-wide solution.

Con Edison Solutions' services on this project included engineering design, construction management, document control, and the securing of all environmental, health, safety, and quality approvals. The Con Edison Solutions team will continue to provide measurement and verification services following the International Measurement and Verification Protocol (IPMVP[®]). Continuous commissioning will be provided for three years to ensure energy savings targets are met.

These collective energy conservation measures are projected to reduce energy consumption by 9,800 MMBTU and save the District \$384,900 annually.



PROJECT DATA

SIZE

277,500 sq. ft. across three buildings

Putnam Valley Elementary School

Three-story building, constructed in 1935, 67,300 SF

Putnam Valley Middle School

Two-story building, built in the 1970s, 60,200 SF

Putnam Valley High School

constructed in 2000, 150,000 SF

CONSTRUCTION DATES

April 2018 to October 2019

PROJECT VALUE

\$7,163,000

FINANCING

Third-party lease purchase, 15-year term.

Annual savings guaranteed to exceed annual lease payments in every year.

ANNUAL SAVINGS

\$384,900 in energy costs

9,880 MMBTU reduction in energy use comprising the following:

- 1,561,700 kWh in energy conservation
- 30,600 gallons of fuel oil saved

ENVIRONMENTAL BENEFITS

Energy savings equate to the following annual environmental impact:

- Eliminating 1,187 metric tons of CO₂ emissions into the atmosphere
- Removing 413 cars from the road
- Avoiding 727 tons of landfill
- 16 acres of forests preserved from deforestation

Project Background

Technologies selected included: Upgrading LED lighting and lighting controls, installing geothermal heat pumps, high efficiency motors and variable frequency drives, upgrading the building management system and installing demand controlled ventilation, replacing end-of-life windows and doors, improving air sealing and building weatherization, and providing solar electricity via a custom-built, on-site photovoltaic system.

To meet Putnam Valley CSD administrator's educational goals, informational kiosks were also provided at each school to interactively report on the District's sustainable energy production. The kiosks provide students with access to information and applications for education, designed to showcase solar panel performance, consumption data, and how the energy investment is benefiting the environment.

Educational solar and wind demonstration stations were also installed at two of the campuses and offer additional learning opportunities for the students of Putnam Valley Central School District.



PROJECT DATA

ENERGY CONSERVATION MEASURES/IMPROVEMENTS

- 500kW rooftop solar PV
- Educational energy kiosks
- Solar and wind demonstration stations
- Geothermal heat pump system
- LED lighting controls
- Variable frequency drives
- Building management system
- Demand control ventilation
- Window and door replacements
- Building Envelope Replacements

