

## Windham Public Schools

### Energy Savings Performance Contract (ESPC)



The Windham Public School District wanted to make district-wide energy efficient upgrades to improve the learning environments throughout its facilities. The district is located in Eastern Connecticut and consists of six (6) separate facilities: Windham High School, Windham Middle School, North Windham School, Natchaug School, Sweeney School, and Windham Center School. In total, these six facilities encompass 576,276 square feet and include classrooms, offices, auditoriums, gymnasiums, kitchens, and libraries.



#### PROJECT DATA

##### LOCATION

Willimantic and Windham, CT

##### CONSTRUCTION DATES

June 2007 to March 2009

##### CAPITAL COSTS

\$5,239,145

##### ANNUAL SAVINGS

Energy Savings: \$528,510  
Utility Rebates: \$390,000

##### ENVIRONMENTAL BENEFITS

1,731,189 gallons of fresh water saved annually.  
2,619 tons of harmful green house emission reduced annually.

Equivalent to:

- Preserving 17.6 acres of forest from deforestation\* or
- Conserving 5,013 barrels of oil\*

\*Sources:

- Leonardo Academy's Cleaner & Greener<sup>SM</sup> Emissions Reduction Calculator: <http://www.cleanerandgreener.org/resources/pollutioncalculator.html>
- U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator: <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

RWE Clean Energy implemented a wide variety of energy saving projects for Windham Public Schools under an Energy Savings Performance Contract (ESPC). RWE Clean Energy procured and installed, on a turnkey basis, equipment including dual-fuel boilers, a new synchronous cogeneration system, high-efficiency lighting and windows.

RWE Clean Energy also created a comprehensive energy curriculum for all grade levels to enhance the students' awareness of energy conservation and the specific energy improvements implemented through the ESPC contract.



## PROJECT DATA

### ENERGY CONSERVATION MEASURES

#### HVAC Controls Upgrades

- Upgrades and expansion of NOVAR Logic One energy management control systems (EMCS) to improve energy efficiency, temperature control and monitoring.

#### Lighting Upgrades

- Retrofit of all T8 lamps/ballasts, HID lighting and incandescent lighting with Super T8 and compact fluorescent components.

#### Energy Security

- Installation of synchronous cogeneration system with black start capability and ability to participate in ISO New England Load
- Reduction Programs

#### Building Shell

- Installation of new high-efficiency windows
- Installation of the school attic

#### Domestic Water Upgrades

- Upgrade of original faucet, shower and toilet fixtures with low-flow fixtures

#### Boiler and Heating Upgrades

- Replacement of boilers with dual fuel, high-efficiency boilers with modulating burners
- Buildings retrofitted with modulating boiler controllers

#### Energy Curriculum

- Program funded and developed for the students