



## Case Study

### Windham Public Schools Willimantic and Windham, CT



#### PROJECT HIGHLIGHTS

##### Environmental Benefits

1,731,189 gallons of fresh water saved annually  
2,619 tons of harmful greenhouse gas emission reduced annually

##### Equivalent to:

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

##### Capital Costs

\$5,239,145

##### Utility Rebates

\$390,000

##### Ongoing Annual Savings

\$528,510

##### Schedule Compliance

On time and on budget

Started: June, 2007

Completed: March 2009

\*Sources:

- Leonardo Academy's Cleaner & Greener<sup>SM</sup> Emissions Reduction Calculator  
[http://www.cleanerandgreener.org/resources/emission\\_reductions.htm](http://www.cleanerandgreener.org/resources/emission_reductions.htm)
- U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator  
<http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

#### PROJECT DESCRIPTION Energy Savings Performance Contract

**Challenge:** Windham Public School 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 SCOPE

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

#### ENERGY CONSERVATION MEASURES

##### HVAC controls upgrades

Upgrade and expansion of NOVAR Logic One energy management control system (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

##### 150 kW cogeneration system

Installation of a 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
- Insulation 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 controls

##### Energy curriculum

Program funded and developed for the students

## Clients: K-12 Schools



<b>Baker County Schools,</b> Macclenny, FL	<b>Foster-Glocester Regional School District and Ponaganset Middle &amp; High School (2 schools),</b> Foster, RI	<b>Manatee County Schools,</b> Bradenton, FL	<b>Piper Unified School District #203,</b> Kansas City, KS
<b>Ballston Spa School District,</b> Ballston Spa, NY	<b>Franklin County School Board,</b> Apalachicola, FL	<b>Maries County School District,</b> Belle, MO	<b>Polk County Schools,</b> Bartow, FL
<b>Bay County Schools,</b> Panama City, FL	<b>Greece Central School District,</b> Greece, NY	<b>Martin County Schools,</b> Stuart, FL	<b>Putnam County Schools,</b> Palatoka, FL
<b>Bradford County Schools,</b> Starke, FL	<b>Hadley-Luzerne Central School District,</b> Lake Luzerne, NY	<b>Monroe County Schools,</b> Key West, FL	<b>Raymore-Peculiar School District,</b> Peculiar, MO
<b>Bluestem Unified School District #205,</b> Leon, KS	<b>Hardee County Schools,</b> Wauchula, FL	<b>Montgomery County Public Schools,</b> Rockville, MD	<b>Santa Rosa County Schools,</b> Milton, FL
<b>Buhler Unified School District #313,</b> Buhler, KS	<b>Harrisonville Cass R-IX School District,</b> Harrisonville, MO	<b>Nassau County Schools,</b> Fernandina, FL	<b>Sarasota County Schools,</b> Sarasota, FL
<b>Calhoun County Schools,</b> Blountstown, FL	<b>Haven Unified School District #312,</b> Haven, KS	<b>Nevada R-5 School District,</b> Nevada, MO	<b>School Board of Pinellas County,</b> Largo, FL
<b>Canandaigua City School District,</b> Canandaigua, NY	<b>Hendry County Schools,</b> Labelle, FL	<b>New Berlin Community Unit School District #16,</b> New Berlin, IL	<b>Scott County Unified School District #466,</b> Scott City, KS
<b>Caroline County Public Schools,</b> Denton, MD	<b>Hickman Mills C-1 School District,</b> Kansas City, MO	<b>N. Colonie Central School District,</b> Latham, NY	<b>Smithville R-11 School District,</b> Smithville, MO
<b>Charlotte County Public Schools,</b> Port Charlotte, FL	<b>Highland County Schools,</b> Sebring, FL	<b>N. Jackson Unified School District #335,</b> Holton, KS	<b>South Fork School District,</b> Kincaid, IL
<b>Clay County Schools,</b> Keystone Heights, FL	<b>Hillsborough County Public Schools (10 schools),</b> Tampa, FL	<b>N. Kansas City School District,</b> Kansas City, KS	<b>Springfield Public Schools,</b> Springfield, MO
<b>Cleveland Hill School District,</b> Cheektowag, NY	<b>Humboldt Unified School District #258,</b> Humboldt, KS	<b>N. Plainfield School District #368,</b> North Plainfield, NJ	<b>St. John's County Schools,</b> St. Augustine, FL
<b>Collier County Schools,</b> Naples, FL	<b>Ichabod Crane Central School District,</b> Valatie, NY	<b>Okaloosa County Schools,</b> Fort Walton Beach, FL	<b>Suwannee County Schools,</b> Live Oak, FL
<b>Columbia County Schools,</b> Lake City, FL	<b>Indian River Schools,</b> Vero Beach, FL	<b>Okeechobee County Schools,</b> Okeechobee, FL	<b>Walton County Schools,</b> DeFuniak Springs, FL
<b>Columbia Public Schools,</b> Columbia, MO	<b>Jackson County Schools,</b> Marianna, FL	<b>Osceola School District,</b> Kissimmee, FL	<b>Washington County Schools,</b> Chipley, FL
<b>Corning-Painted Post Area School District,</b> Painted Post, NY	<b>Lee County School District,</b> Ft. Myers, FL	<b>Owego Apalachin Central School District,</b> Owego, NY	<b>Windham Public Schools (6 schools),</b> Windham, CT
<b>Dade County Schools,</b> Miami, FL	<b>Leon County Schools,</b> Tallahassee, FL	<b>Palm Beach County Schools,</b> West Palm Beach	<b>Vernon Township School District,</b> Vernon, NJ
<b>Desoto County Schools,</b> Arcadia, FL	<b>Louisburg School District,</b> Louisburg, KS	<b>Paola Unified School District #368,</b> Paola, KS	<b>Voorheesville Central School District,</b> Voorheesville, NY
<b>Elizabethtown-Lewis Central School District,</b> Elizabethtown, NY	<b>Mahopac Central School District,</b> Mahopac, NY	<b>Park Hill School District,</b> Kansas City, MO	
<b>Escambia County School District (65 schools),</b> Pensacola, FL		<b>Penfield Central School District,</b> Penfield, NY	

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