

SIEMENS

Ingenuity for life

Performance Contracting

Project References

SIEMENS INDUSTRY, INC.

*2 International Drive, Suite 350
Portsmouth, NH*



HILLSBORO-DEERING SCHOOL DISTRICT, NH
WHITE MOUNTAINS REGIONAL SCHOOL DISTRICT, NH
BARRINGTON SCHOOL DISTRICT, NH
RSU 13, ROCKLAND/THOMASTON, ME
MSAD 52, TURNER SCHOOLS, ME
MSAD 11, GARDINER SCHOOLS, ME
AUBURN SCHOOL DEPARTMENT, ME
RSU 40, UNION, ME
BRUNSWICK SCHOOL DEPARTMENT, ME
MSAD 51, CUMBERLAND/NORTH YARMOUTH, ME
LISBON SCHOOL DEPARTMENT, ME
RSU 12, SHEEPSHOT VALLEY, ME
ELLIOTT HOSPITAL, MANCHESTER, NH
WENTWORTH-DOUGLASS HOSPITAL, DOVER, NH



Ingenuity for life

The Hillsboro-Deering School District realized multiple benefits from their energy efficiency project with Siemens. Due to a significant reduction in their energy consumption, they were able to stop spending money on wasted energy and instead, use it for some much needed capital improvements! Hillsboro-Deering aims for excellence in their teachers, students, and community. This drive for achieving the best is what brought them together with Siemens to create energy cost savings for the town and provide a better learning environment for their students. Due to energy efficient lighting, building envelope improvements, building automation, and mechanical system upgrades, the district will now continue to save money as they grow to

| | |
|---------------------------------|------------------------|
| <i>Contract Amount</i> | <i>\$2,459,560</i> |
| <i>Project Size</i> | <i>Three Buildings</i> |
| <i>Source of Funds</i> | <i>Municipal Lease</i> |
| <i>Projected Annual Savings</i> | <i>\$112,149</i> |
| <i>Owner's Representative</i> | <i>James Bailey</i> |
| <i>Contact Info</i> | <i>603-464-1141</i> |

HILLSBORO-DEERING

School District
HILLSBORO, NH



Facility Improvement Measures

- *Lighting Retrofit*
- *Building Envelope*
- *Walk-In Cooler Controls*
- *Building Automation*
- *Variable Frequency Drives*
- *Ventilation Improvements*
- *Mechanical Upgrades*

"The work that Siemens and the PC team have done is greatly appreciated and as we continue to improve our buildings, we will look to Siemens to help us achieve those goals."

James Bailey, Facilities Director



Ingenuity for life

Siemens spent three successful years with The White Mountains Regional School District prior to the start of their energy project. The district values transparency in their financial policies and practices and they hold themselves to a high standard of excellence in their community; both qualities drew them back to Siemens when they sought to develop more energy efficient school buildings. This project employed several building automation and control strategies to reduce the district's energy consumption by a projected \$25,500 each year! Their new LED lights rounded out the annual savings at over \$40,000 and provided optimal light for the students to work under. On top of the monetary savings, the school's CO2 emissions were reduced by the equivalent of over 170,000 fewer pounds of coal burned every year!

| | |
|---------------------------------|------------------------|
| <i>Contract Amount</i> | <i>\$1,938,188</i> |
| <i>Project Size</i> | <i>Three Buildings</i> |
| <i>Source of Funds</i> | <i>Municipal Lease</i> |
| <i>Projected Annual Savings</i> | <i>\$40,617</i> |
| <i>Owner's Representative</i> | <i>Sheila Goulet</i> |
| <i>Contact Info</i> | <i>603-837-9363</i> |

WHITE MOUNTAINS

Regional School District

WHITEFIELD, NH



Facility Improvement Measures

- *Lighting Retrofit*
- *Walk-In Cooler & Freezer Controls*
- *Plug Load Controllers*
- *Building Automation*
- *Demand Control Ventilation –
Occupancy and CO₂ Control*
- *Start/Stop Optimization*
- *Variable Frequency Drives*
- *Peak Demand Shedding*

PROJECTED ANNUAL SAVINGS

4,195 gallons of fuel oil
174,590 kWh of electricity



BARRINGTON

School District
BARRINGTON, NH



Ingenuity for life

Barrington's SAU 74 collaborated with Siemens to develop an energy project that is now saving them over \$115,000 every year in energy costs, which allowed them to replace some of their older mechanical equipment during the project. In addition, the students now have optimal lighting for work and learning, everyone enjoys more thermal comfort throughout the seasons, and the district is no longer wasting money on unused energy. And of course, the reduction in oil and electricity consumption is also great for the environment!

| | |
|---------------------------------|------------------------|
| <i>Contract Amount</i> | <i>\$1,409,835</i> |
| <i>Project Size</i> | <i>Three Buildings</i> |
| <i>Source of Funds</i> | <i>Municipal Lease</i> |
| <i>Projected Annual Savings</i> | <i>\$118,382</i> |
| <i>Owner's Representative</i> | <i>Paul Sanders</i> |
| <i>Contact Info</i> | <i>603-664-2715</i> |

Facility Improvement Measures

- *Lighting Retrofit*
- *Building Automation*
- *Destratification Fans*
- *Walk-In Refrigerator & Freezer Controls*
- *Variable Frequency Drives*
- *Mechanical Upgrades*

PROJECTED ANNUAL SAVINGS

378,817 kWh of electricity...
 the CO2 equivalent of burning 284,086 lbs of coal!



Ingenuity for life

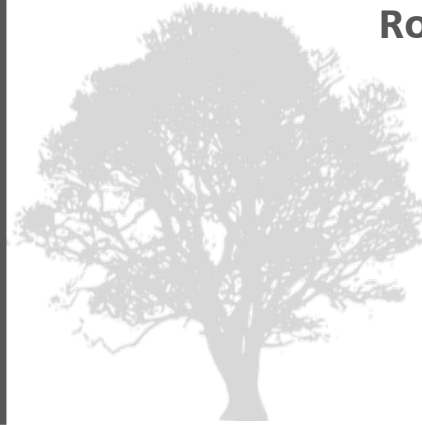
The RSU 13 project has been a long time coming but is ultimately yielding hugely successful results! Siemens worked with the rapidly changing district to give them everything they needed while they adjusted to district transformations and building reassignments. The high school received some badly needed and beautiful new windows that transformed the entire look of the aging school – they make it look brand new! They were also able to install new ventilation (a first for some of the district's schools!) that will provide them with improved air quality for the students and teachers. The efficiency improvements that made these capital improvements possible will save the district \$224,769 in energy costs each year.

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|--------------------------|-----------------|
| Contract Amount | \$8,036,670 |
| Project Size | Five Buildings |
| Source of Funds | Municipal Lease |
| Projected Annual Savings | \$224,769 |
| Owner's Representative | Pete Orne |
| Contact Info | 603-868-5100 |

ROCKLAND/THOMASTON

RSU 13

ROCKLAND, ME



Facility Improvement Measures

- *Lighting & Lighting Controls*
- *Building Envelope Improvements*
- *Window Replacements in HS & MS*
- *Kitchen Refrigeration Controls*
- *Building Automation*
- *Heating System Upgrades*
- *Ventilation System Upgrades*
- *High-Efficiency Air Conditioning*
- *Electrical System Upgrades*

PROJECTED ANNUAL SAVINGS

445,543 kWh of electricity...
the CO2 equivalent of burning 334,126 lbs of coal!



TURNER SCHOOLS

MSAD 52

TURNER, ME



Ingenuity for life

With a completion date of December 2015, this was an enormous success for Siemens and MSAD 52! This project was a classic example of having major capital improvement measures that were on their 5 year plan list finally come to life! Connecting the facilities to a single Biomass boiler plant via 3,000' of underground pipe was something they had been trying to do for many years. This alone was a major expense that they could never seem to get passed through a Bond resolution vote. This measure became a focal point for the Siemens team to find every means possible to get it into our project scope. Siemens was successful in allocating over \$600,000 worth of incentive dollars for this project.

Facility Improvement Measures

- *Lighting Retrofit & Controls*
- *Steam to Hot Water Conversion*
- *New Boiler Plants*
- *Building Automation*
- *Window and Roof Replacement*
- *Building Envelope Improvements*
- *Variable Frequency Drives*
- *AHU Replacement*
- *Biomass Boiler Integration*

| | |
|---------------------------------|------------------------|
| <i>Contract Amount</i> | <i>\$5,474,052</i> |
| <i>Project Size</i> | <i>Eight Buildings</i> |
| <i>Source of Funds</i> | <i>Municipal Lease</i> |
| <i>Projected Annual Savings</i> | <i>\$340,449</i> |
| <i>Owner's Representative</i> | <i>Deb Roberts</i> |
| <i>Contact Info</i> | <i>207-225-1006</i> |

"Tom and Elmer attended many subcommittee and School Board meetings to answer questions related to the project and also helped the district with securing funding for the project. Kerri Conway from Siemens also worked with us to apply for and receive the biggest rebate of any school in the state from Efficiency Maine, totaling over \$550,000."

Deb Roberts, Business Manager



Ingenuity for life

This project has yielded tremendous success for MSAD 11. Almost every one of the MSAD 11 schools had a single boiler, leaving each heating season very risky. For years the board tried to allocate funds to start the replacement and add boilers for redundancy. Under this project, we were able to engineer not only new boilers at each school, but create redundancy and complete control in every school!

| | |
|--------------------------|-------------------------|
| Contract Amount | \$3,783,238 |
| Project Size | Six Buildings |
| Source of Funds | Municipal Lease & QSCAB |
| Projected Annual Savings | \$275,919 |
| Owner's Representative | Pat Hopkins |
| Contact Info | 207-582-5346 |

GARDINER SCHOOLS

MSAD 11

GARDINER, ME



Facility Improvement Measures

- *Lighting Retrofit*
- *Redundancy in all Boilers*
- *New Boiler Plants*
- *Building Automation*
- *EMS Server and Software*
- *Building Envelope*
- *Variable Frequency Drives*
- *AHU Replacement*
- *Electrical Upgrades*
- *2000 sq ft Kitchen Addition*

PROJECTED ANNUAL SAVINGS

53,841 kWh electricity...
the CO2 equivalent of burning 40,377 lbs of coal!



AUBURN

School Department

AUBURN, ME



Ingenuity for life

In November of 2007, the Auburn School Department entered into a 5-year Performance Contract agreement with Siemens Technology to implement energy efficiency-related improvements to 11 school facilities within the Auburn District. Then in March of 2012, the Performance Contract was extended to 11 school facilities to include the renewal and replacement of a new hot water system and new boiler at Edward Little High School. In addition, they were able to convert five public school facilities from #2 heating oil to natural gas.

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| <i>Contract Amount</i> | <i>\$1,959,673</i> |
| <i>Project Size</i> | <i>Eleven Facilities</i> |
| <i>Source of Funds</i> | <i>Municipal Lease & QZAB</i> |
| <i>Projected Annual Savings</i> | <i>\$169,628</i> |
| <i>Owner's Representative</i> | <i>Jude G. Cyr</i> |
| <i>Contact Info</i> | <i>207-233-6600 x1204</i> |

Facility Improvement Measures

- *Lighting and Lighting Controls*
- *Boiler Upgrades*
- *Energy Management System*
- *VFD for HW Pumps*
- *Building Envelope*
- *Plug Load Controller*
- *Install Electric Summer DHW Heater*
- *Attic Insulation*
- *AHU Replacement*
- *Complete HS Boiler Room Conversion*
- *Domestic High Efficiency Boilers*
- *Pneumatic to DDC Conversions*
- *Ventilation Upgrades*
- *System Wide Automation Software Improvements*

"The quality and experience of Siemens' team of technicians is paramount in fostering creative energy management solutions, realistic project timelines, and accurate budget estimating, with quality installation."

Jude G. Cyr, Business Manager



RSU 40/MSAD 40

Union, Friendship, Warren
UNION, ME



Ingenuity for life

This project included Medomak Valley High School, Medomak Middle School, Prescott Memorial School, Miller School, Union Elementary School, Warren Community School, and Friendship Village School. The projected annual reduction in electricity consumption is 56,560 kWh, the CO2 equivalent of burning 42,416 fewer pounds of coal each year! In addition to the environmental benefits, the district is saving over \$250,000 each year in energy costs, which allowed them to implement some badly needed capital improvements! The district reached out to Siemens again in 2016 to install ventilation in Prescott School, creating a healthier indoor environment for their students and teachers.

| | |
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| <i>Contract Amount</i> | <i>\$2,274,052</i> |
| <i>Project Size</i> | <i>Seven Buildings</i> |
| <i>Source of Funds</i> | <i>Municipal Lease/QECB/QZAB</i> |
| <i>Projected Annual Savings</i> | <i>\$282,804</i> |
| <i>Owner's Representative</i> | <i>Karla Miller</i> |
| <i>Contact Info</i> | <i>207-785-2277</i> |

Facility Improvement Measures

- *Lighting Retrofit & Controls*
- *Competitor DDC integration*
- *New Boiler Plant*
- *Building Automation*
- *EMS Server and Software*
- *Building Envelope*
- *Variable Frequency Drives*
- *Ventilation Enhancements*
- *Electrical Upgrades*
- *Roof Replacement*

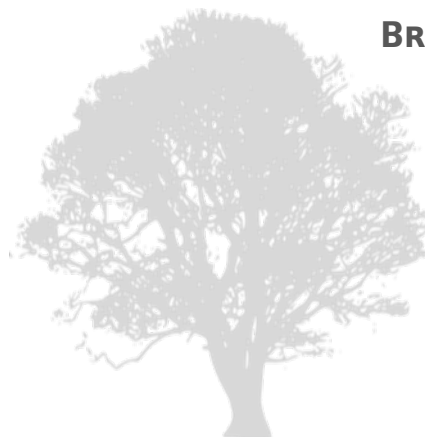
"During the project, Tom and Charlie have both been available for questions and concerns that we have had and have gone above expectations to ensure that we are completely satisfied with the work being completed. The quality and experience of Siemens technicians is very evident in their realistic project timelines and accurate budget estimating with quality installation."

Karla Miller, Business Manager



BRUNSWICK

School Department
BRUNSWICK, ME



Ingenuity for life

In February 1999, Siemens entered into their first Performance Contract with the Brunswick School Department to upgrade the facilities in which Siemens had been previously involved. In 2011, Brunswick School Department selected Siemens to perform a second Energy Performance Contract, this time taking over the entire Brunswick campus, which had previously been maintained by another ESCO.

| | |
|---------------------------------|-------------------------|
| <i>Contract Amount</i> | <i>\$1,004,556</i> |
| <i>Project Size</i> | <i>Seven Facilities</i> |
| <i>Source of Funds</i> | <i>Municipal Lease</i> |
| <i>Projected Annual Savings</i> | <i>\$126,864</i> |
| <i>Owner's Representative</i> | <i>James Oikle</i> |
| <i>Contact Info</i> | <i>207-319-1900</i> |

Facility Improvement Measures

- *Lighting Retrofit & Controls*
- *Energy Management System*
- *VFDs and Pumps*
- *Computer Network Controls*
- *Plug Load Controller*
- *Building Envelope*
- *Propane to Natural Gas Conversions*
- *Boiler Upgrades*
- *Walk-In Cooler Retrofit*

"The energy performance contracts that we have done with Siemens have always met their projected goals each year over the term of the contract, and there have been no surprises."

James F. Oikle, Business Manager

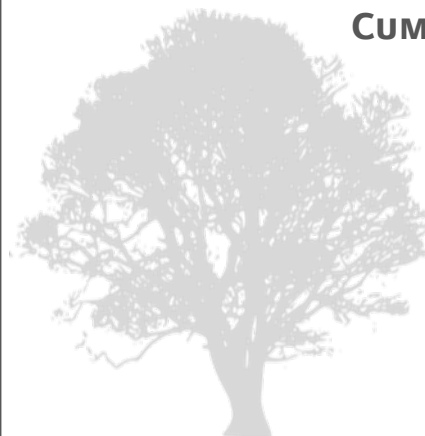


Ingenuity for life

This project developed out of an MSAD 51 School District discussion on what the smartest move would be to take advantage of the natural gas savings they would yield once they switched over their boiler plants. They decided to utilize the savings by entering into a performance contract with a 15-year lease purchase. Their project goals included things like a badly needed new boiler room at the elementary school and a large dehumidification unit for the community pool. The project was completed in November 2015 and was successful in accomplishing these infrastructure improvements and then some!

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|--------------------------|------------------------|
| Contract Amount | \$1,513,463 |
| Project Size | Four Buildings |
| Source of Funds | Municipal Lease & QECB |
| Projected Annual Savings | \$147,100 |
| Owner's Representative | Scott Poulin |
| Contact Info | 207-829-4800 |

CUMBERLAND/NORTH YARMOUTH MSAD 51 CUMBERLAND, ME



Facility Improvement Measures

- Lighting and Lighting Controls
- HS Boiler plant NG Conversion
- MS Boiler plant NG Conversion
- Completely new Elementary High Efficiency Boiler Plant
- Energy Management System upgrades
- Refrigeration Improvements
- Building Envelope
- EMS server & software
- Pool Dehumidification replacement
- AC in several locations
- Green house boiler
- Facilities building heating upgrades

PROJECTED ANNUAL SAVINGS

114,453 kWh of electricity...
the CO2 equivalent of burning 85,832 lbs of coal!



Ingenuity for life

The Lisbon project was completed in January of 2016. The school had many improvements in mind, but operational funds for capital improvements were limited. Because both the town and the schools had been satisfied service customers for many years, they trusted Siemens to help them realize their improvement goals. This project enabled them to accomplish many of their infrastructure improvements thanks to a QECB award, Efficiency Maine incentive dollars, and of course, their newfound energy savings!

| | |
|--------------------------|-----------------------|
| Contract Amount | \$1,684,480 |
| Project Size | Four Buildings |
| Source of Funds | Municipal Lease, QECB |
| Projected Annual Savings | \$94,389 |
| Owner's Representative | Rick Green |
| Contact Info | 207-353-6711 |

LISBON

School Department

LISBON, ME



Facility Improvement Measures

- Lighting and Lighting Controls
- Classroom Ventilation Replacement
- New HS Boiler Plant
- Steam to HW Conversions
- Natural Gas Conversion
- New Energy Management System
- VFD for HW pumps
- Window Replacement
- Building Envelope
- Refrigeration Improvements
- EMS Server & Software
- Water Fixture Replacement

"The Lisbon School Department has realized a tremendous amount of energy savings and operational improvements since partnering with Siemens and would be happy to recommend Siemens as a quality Energy Service Company to partner with."

Catherine Messmer, Business Manager



SHEEPSCOT VALLEY

RSU 12

SOMERVILLE, ME



Ingenuity for life

With a completion date of March, 2016 this is a true testament to our organizations commitment to sticking with our customers. There were many financial hurdles after this project was developed, mostly stemming from the emancipation from the initial school regionalization. After a year of several refusals of financing the project from banks, bond writing for a lower rate, several attempts at various incentives, we were able to commence a project with a great financial package! Initializing the project with one of 8 QECB's given in the State of Maine and over \$150,000 in incentives, this project was still able to solve many operational deficiencies within RSU 12.

| | |
|--------------------------|-----------------------|
| Contract Amount | \$1,699,712 |
| Project Size | Five Buildings |
| Source of Funds | Municipal Lease, QECB |
| Projected Annual Savings | \$87,218 |
| Owner's Representative | Howie Tuttle |
| Contact Info | 207-549-3261 |

Facility Improvement Measures

- *Lighting and Lighting Controls*
- *New High efficiency Boiler plant*
- *Solar Wall*
- *Pneumatic retrofits with electronic controls*
- *VFD for HW pumps*
- *Building Envelope*
- *Retro-commissioning*
- *EMS server & software*
- *AHU replacement*
- *Refrigeration Improvements*

PROJECTED ANNUAL SAVINGS

22,302 gallons of fuel oil
 291,290 kWh of electricity



Ingenuity for life

Elliot Hospital worked with Siemens to reduce their energy consumption across five buildings in Londonderry and Manchester, NH. The project cut costs—just by making their building and operations run more efficiently—by such a significant amount that they were also able to replace outdated mechanical and health care equipment. Of course, there are also environmental benefits – the electricity saved resulted in a reduction of CO2 emissions equal to burning two million fewer pounds of coal each year!

ELLIOTT Hospital MANCHESTER, NH



Facility Improvement Measures

- *Lighting & lighting controls*
- *Kitchen equipment upgrades*
- *Energy management systems*
- *Sterilizer efficiency*
- *Variable frequency drives for hot water pumps*
- *Building envelope improvements*
- *Computer network controls*
- *Retro-commissioning*
- *Demand flow chiller optimization*
- *Chiller replacement*
- *Motor replacements*

| | |
|---------------------------------|-------------------------------------------|
| <i>Contract Amount</i> | <i>\$8,102,476</i> |
| <i>Project Size</i> | <i>Five Buildings</i> |
| <i>Source of Funds</i> | <i>Capital Funds & Lease Purchase</i> |
| <i>Projected Annual Savings</i> | <i>\$620,959</i> |
| <i>Owner's Representative</i> | <i>Rick Elwell & Brad Smith</i> |
| <i>Contact Info</i> | <i>603-669-5300</i> |

"Installing new energy-efficient lighting or upgrading existing lighting systems can result in lower operation and maintenance costs while providing the type of lighting required by clinicians and preferred by patients."

-Environmental Sustainability in Hospitals:
The Value of Efficiency

WENTWORTH DOUGLASS

Hospital

DOVER, NH



Ingenuity for life

Wentworth-Douglass Hospital is a 178-bed medical center in Dover, NH. Through this performance contract, Siemens optimized the hospital's energy management system, installed energy efficient lighting, and installed low-flow fixtures, among many other measures. The result is approximately \$500,000 in energy and water savings each year!

| | |
|---------------------------------|-------------------------------------------|
| <i>Contract Amount</i> | <i>\$2,558,065</i> |
| <i>Project Size</i> | <i>Two Buildings</i> |
| <i>Source of Funds</i> | <i>Capital Funds & Lease Purchase</i> |
| <i>Projected Annual Savings</i> | <i>\$516,128</i> |
| <i>Owner's Representative</i> | <i>Peter Walek</i> |
| <i>Contact Info</i> | <i>603-742-5252</i> |



Facility Improvement Measures

- *Lighting & lighting controls*
- *Energy management system optimization*
- *Steam trap replacements*
- *Water conservation*
- *Cooling tower water meter installation*
- *Kitchen hood controller*
- *Motor replacements*
- *Variable frequency drive balancing*
- *Demand control ventilation*
- *Network controllers*
- *Boiler stack economizers*
- *Air handling unit replacement*
- *Retro-commissioning*
- *Hub room air conditioning retrofit*
- *Power factor correction*
- *Cleaver-Brooks Hawk boiler control*

"Installing new energy-efficient lighting or upgrading existing lighting systems can result in lower operation and maintenance costs while providing the type of lighting required by clinicians and preferred by patients."

-Environmental Sustainability in Hospitals:
The Value of Efficiency