CITY OF LOWELL, MA

AMERESCO
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Contract Details

Contract Type:
Budget Neutral; Energy Savings Performance Contract; Power Purchase Agreement

Technology Type:
Energy Efficiency; Photovoltaic System; Renewable Energy

Facility Size:
47 Buildings, 2,864,730 sq. ft.

Energy Project Size:
ESPC: $21.1 million

Energy Savings:
$1,522,679 annually

Capacity:
2.2 MW

Summary

The City of Lowell is the fourth largest city in the Commonwealth of Massachusetts and is located northwest of the City of Boston. Lowell's National Park is known as one of the greatest tributes to the Industrial Revolution and the textile industry that boomed in New England in the nineteenth century. The 3,200-seat Lowell Auditorium hosts many of the country's best performers. The City partnered with Ameresco to improve aging infrastructure and capture significant energy and operational savings through energy efficiency and renewable energy projects.

The rooftop solar photovoltaic (PV) installation at the Reilly Elementary School. The PV installations Ameresco will complete across the City will total 2.2 MW.

Customer Benefits

Due to on-going budget constraints and increasing operational costs, the City of Lowell was facing needed infrastructure upgrades with limited funding. Additionally, the City was keen on improving services with a focus towards environmental sustainability, stewardship and carbon footprint reduction. Through its partnership with Ameresco, the City of Lowell was able to replace defunct and aging equipment. The City schools will have improved comfort and educational environment. The City will have an improved working environment for its staff and greater marketability for its public gathering venues. All measures are installed on a budget neutral basis. Additionally, the new City Energy Manager position is partially funded by the savings produced through this ESPC. In 2010, the City of Lowell garnered the Green Community designation from the Massachusetts Department of Energy Resources. In 2011, the City of Lowell received the Municipal Leading by Example Award presented by the Massachusetts Leading by Example Program.

Environmental Benefits

Through the City's partnership with Ameresco, Lowell is expected to save the equivalent of 6,158 tons of CO_2 per year. The green benefit from this carbon reduction is roughly equal to:

- ► 1,270 acres of pine forest absorbing carbon
- ► 1,023 cars taken off the road for one year
- ► 775 households powered for one year

Accolades

"By using the performance contract approach with Ameresco, we are able to address several important city priorities of improving our facilities, saving money and being environmentally proactive in reducing the use of energy. The benefit of this approach is that these can be achieved without our direct expenditure of funds. Ameresco assisted in securing financing for the project, which will be repaid through energy-cost savings, and we get their vast experience."

–Bernie Lynch, City Manager
City of Lowell

Services Provided

City of Lowell is located in eastern Massachusetts, northwest of Boston, and is comprised of schools, fire and police stations, the department of public works, waste water facilities, parking facilities, Lowell Memorial Auditorium, the Pollard Library, the JFK Civic Center, and City Hall. These

The Butler School with the solar photovoltaic (PV) array installed on the rooftop.

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About the City of Lowell, MA

The City of Lowell is the fourth largest city in the Commonwealth of Massachusetts. Its strategic location at the intersections of Routes 495, 93 and 3, provides excellent access to all points of interest in Massachusetts as well as New Hampshire and Maine. This planned urban community is built around the Merrimack River and its diverse canal system, which provided power to the early manufacturers. Today these water amenities add to the character of the city.

Learn more at www.lowellma.gov.

About Ameresco

Ameresco, Inc. (NYSE:AMRC) is one of the leading energy efficiency and renewable energy services providers. Our energy experts deliver long-term customer value, environmental stewardship, and sustainability through energy efficiency services, alternative energy, supply management, and innovative facility renewal all with practical financial solutions. Ameresco and its predecessors have constructed billions in projects throughout North America.

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

Ameresco installed new windows at the Reilly Elementary School.

Services Provided (cont.)

encompass twenty-eight (28) schools and nineteen (19) city facilities. Ameresco is currently designing and installing over 23 energy conservation measures that include electrical, mechanical, weatherization, water and operational savings. The traditional electrical energy conservation measures being implemented include lighting system improvements, lighting controls, integrated and new energy management systems, demand control ventilation, vending machine controls, PC load management, variable frequency drives for pumps and fans and energy efficient motors.

Mechanical measures include steam trap replacements, new thermostatic radiator valves, stack-draft reducer, fan coil replacements, energy recovery units, gas furnace repair or replacement and air handling unit replacement. The most significant replacements include both boiler and chiller replacements throughout the City. The existing boilers in City Hall, JFK Civic Center, and Lowell Memorial Library were either defunct or in poor operating shape requiring significant maintenance. At the JFK Civic Center, the existing absorption chillers and cooling tower are defunct and the City currently uses a rental chiller to cool the building during the cooling season. By replacing the aging and defunct equipment, the City will realize significant savings, improved comfort and marketability of the Civic Center.

Weatherization measures include pipe insulation, swimming pool covers, new roofs and windows, attic insulation and other infiltration reductions. Five of the building's roofs have no insulation and frequent leaks, which require significant maintenance. By replacing the aging and failing roofs, the City will realize both energy and operational cost savings, as well as increased marketability of the Civic Center.

As part of this project, Ameresco is installing a new Voice Over Internet Protocol (VOIP) telephone system for the City resulting in annual operational cost savings. This comprehensive $21M project is budget neutral and includes initially nearly $1M of utility rebates, as well as leveraging $250,000 of the City's ARRA - EECBG (American Recovery and Reinvestment Act - Energy Efficiency and Conservation Block Grant) Program. The net cost will be repaid over a 20-year term with guaranteed-savings.

When fully implemented, this robust combination of measures is expected to initially yield in excess of $1.5M of annual savings to the City. This represents approximately a 25% savings overall. And as utility rates rise, so will the value of the savings. Originally evaluated under the energy saving performance contract, Ameresco identified significant additional opportunities for photovoltaic power generation. It was determined that a Power Purchase Agreement (PPA) gave the City greater capacity and energy cost stability.

The PPA format is ideal for the City of Lowell because the City obtains the environmental and green community benefits of renewable energy and, at the same time, receives electricity cost savings and defined electricity prices for 20 years, rather than volatile and budget-busting commodity, as well as transmission and distribution, prices. These green community and financial benefits accrue to the City without the City's capital funds or bonds. Ameresco designed, installed, commissioned, owns, operates, and maintains five roof-top mounted solar PV systems totaling 341.9 kW at three elementary schools, a middle school and the Lowell Memorial Auditorium. The City of Lowell incurs no capital costs and will pay Ameresco an expected 20-year discounted electricity rate compared to anticipated National Grid rates plus the commodity cost of electricity. Currently, Ameresco is designing the Phase 2 PPA project, which is a 1.9 MW ground-mounted system on a capped landfill.

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