

## Contract Details

### Contract Type:

Energy Savings Performance Contract;  
Energy Efficiency; Guaranteed Energy  
Savings; Water Conservation

### Facility Size:

13 buildings;  
Over 270,000 square feet

### Energy Project Size:

\$2,708,368

### Energy Savings:

\$190,824

## Summary

The City of Olympia's ESPC serves as a model for other municipal governments: energy systems and infrastructure were upgraded with more efficient alternatives offering long-term savings; and the guaranteed savings will pay for the financed portion of the project cost in less than 9 years. The project was funded with \$644,243 in incentives from Puget Sound Energy and the LOTT Clean Water Alliance, an Energy Efficiency and Conservation Block Grant of \$130,000, City Capital Repair & Replacement Funds of \$320,000, and a low interest \$1,614,125 loan from the Washington State Treasurer.



In 2011 Ameresco completed a comprehensive \$2.7 million Energy Savings Performance Contract (ESPC) for the City of Olympia, which updated aging infrastructure to reduce energy and water consumption.

## Customer Benefits

In a time of constrained budgets, City of Olympia officials were faced with funding long overdue upgrades to 13 municipal buildings, some erected as far back as the mid-1960s. The City has a long-standing commitment to sustainability, having first adopted a resolution to mitigate global warming in 1991, and is the first United States member of the Plus Network and a founding member of ICLEI (International Council for Local Environmental Initiatives). The City needed a way to both improve their building infrastructure and reduce the amount of energy and water these facilities consume.

Washington State's Department of General Administration (GA) has established a state-wide program that helps public agencies make energy-related infrastructure upgrades through an energy savings performance contract or ESPC. City administrators learned that with an ESPC they could make needed infrastructure improvements and use the cost savings from reduced consumption of electricity, gas, and water to pay for the project.

Working with the GA Energy Team, the City chose Ameresco Quantum from the GA's list of pre-qualified energy services companies (ESCOs). Ameresco Quantum undertook audits of City facilities and designed energy and water conservation measures that both increased efficiency and improved occupancy comfort. The measures included the installation of the new boilers, chillers, lighting and plumbing fixtures. In the end, the City was able to both make needed infrastructure improvements and continue its commitment to sustainability by reducing its carbon footprint.

## Accolades

*"One of the most exciting aspects of this project was the cost and financing structure. Energy savings guaranteed by Ameresco were bundled with funding support through utility incentives, a Federal grant, and low-interest loans. This financial package resulted in a project that was cash flow positive immediately—and will continue to become more profitable for the City as energy costs rise."*

*- Debbie Sullivan*

*Director of Technical Services*

*City of Olympia, Department of Public Works*

## Environmental Benefits

Through the City's partnership with Ameresco, Olympia dramatically reduced energy and water use, including:

- ▶ an annual reduction of 833,566, kWh and 2,081 kW
- ▶ an annual reduction of over 20 million gallons of water

The project also reduced the City's carbon footprint by 1,300,000 lbs. of CO<sub>2</sub> per year.

## Services Provided

Ameresco's services included auditing City facilities, design and engineering of resource conservation measures, permitting and construction management, commissioning, and measurement and verification of savings.

Using their proprietary Total System Evaluation Ameresco Quantum performed extensive measure-

## About the City of Olympia

Founded in 1850, Olympia is home to 44,800 residents. Located at the head of Budd Inlet in the northern part of Puget Sound, it is the capital of the State of Washington. Olympia is the first United States member of the Plus Network, a peer learning network of over 30 cities that share their experiences, expertise, and tools to undertake long-term (50 to 100 year) urban sustainability planning, and is a founding member of ICLEI (International Council for Local Environmental Initiatives).

Learn more at  
[www.ci.olympia.wa.us](http://www.ci.olympia.wa.us).

## 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 <http://www.ameresco.com> and <http://quantum.ameresco.com>.



*Aerial view of the City of Olympia.*

## Services Provided (cont.)

ment and monitoring of lighting and HVAC systems to establish an accurate energy use baseline, then designed and engineered cost-effective conservation measures.

The project modernized the City's energy management system (EMS) and direct digital control (DDC) systems, replaced failing hot water boilers at three buildings, installed a new chiller at City Hall, retrofitted or replaced lighting, and installed water conservation measures City-wide.

The lighting retrofit replaced the T-12 lighting with T-8 lamps and electronic ballasts, resulting in enhanced light levels in areas that had been inadequately lit, reduced maintenance costs, and dramatic reductions in energy use. Many high intensity discharge (HID) and incandescent fixtures were retrofitted or replaced with fluorescent or LED technology. Additionally, Ameresco carried out City-wide plumbing retrofits and replacements.

The existing pneumatic building controls at City Hall were replaced with new direct digital control (DDC) systems which were integrated with the City-wide Energy Management System (EMS). The new controls enabled the implementation appropriate runtime schedules and enhanced control sequences to allow the HVAC system to better respond to occupant needs and save energy. A new air cooled chiller replaced City Hall's single-pass water cooled

unit, reducing water use – and associated water and sewer fees – by more than 20 million gallons per year. The boiler at City Hall was replaced with two high-efficiency condensing boilers, a variable frequency drive (VFD) was installed on the existing hot water circulation pump and the hot water circulating systems were re-piped to reduce friction losses.

At the Library Building, the hybrid digital/pneumatic control system was inefficient, out of calibration and no longer supported by the manufacturer. Ameresco installed a DDC system to monitor the building's conditions more efficiently, schedule equipment startup and night set-back, and implement demand control ventilation with CO<sub>2</sub> occupancy sensors.

Additional upgrades included control upgrades at the Smith Building, the Washington Center, and the Olympia Center. The Olympia Center also received a new high-efficiency boiler, control dampers and VFDs, and CO<sub>2</sub> occupancy sensors to relax temperatures and reduce outside air during unoccupied times.

The project included work on a variety of different facilities, including: Olympia City Hall, Municipal Court Services, Police Annex, Smith Building, Timberland Regional Library, Washington Center for the Performing Arts, Olympia Center, Family Support Center, Maintenance Center, West Side Police Station, three fire stations, Command Training Center and the Police Firing Range.



*Ameresco upgraded HVAC systems and failing equipment, such as these.*