

Energy Service Provider Qualifications to  
Provide ESPC Services

RFP 12PSX0153

*Prepared for*

**Connecticut Department of  
Administrative Services**

*September 14, 2012*



**AMERESCO**   
Green • Clean • Sustainable



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**Presented by**

Ameresco Inc.

111 Speen Street, Suite 410

Framingham, MA 01701

T: (508) 661.2200 • F: (508) 661.2201

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## Section 1: Overview of Approach

Ameresco has a long and successful track record in the specialized area of energy conservation and facility renewal, having provided comprehensive engineering services for mechanical/electrical/water upgrades nationwide. We have a wealth of experience in analyzing, designing, and optimizing building systems. Our corporate focus is to optimize energy efficiency and system performance while managing implementation costs and ensuring efficient, high-quality installations. Our clients value our understanding of complex systems, our accurate cost and savings projections, our ability to coordinate efforts with other ongoing site activities (to minimize disruptions and integrate solutions), and our emphasis on customer service. These characteristics will translate into Ameresco's ability to deliver each department with a best-value project from which each agency and community can benefit and from which they can take great pride.

Ameresco technical staff has been recognized for their excellence in large-scale mechanical/electrical system retrofits and replacements – particularly with HVAC and lighting systems – by the Department of Energy, ASHRAE, Association of Energy Engineers, Illuminating Engineering Society, Federal Energy Management Program, Rebuild America, Energy Star and Energy User News.



Ameresco presents herein a definitive ability to accomplish all varied aspects required to implement a performance contract of this undertaking across any department. The capabilities of our nearby corporate office in Framingham, MA, as well as those of our local technical offices in Middletown, CT and Windsor Locks, CT, are unsurpassed in carrying out the tasks involved, with absolutely no disruption to the department's staff, students, and faculty.

Ameresco's projects have addressed a wide range of systems and equipment, including, but not limited to:

- |  |                                      |
|--|--------------------------------------|
| HVAC and Geothermal Systems                | Building Envelope Renovations        |
| Lighting Systems                           | Lighting Controls                    |
| Renewable Energy Systems                   | Pool Systems                         |
| Kitchen/Dining Facilities                  | Energy Management Systems            |
| Water and Sewer Systems                    | Motors and Variable Frequency Drives |
| LED technologies                           | Sustainability Planning              |
| Miscellaneous lighting systems             | Retro-Commissioning Services         |
| IT Systems Upgrade / IT Systems Management | Power Factor Correction              |

Energy Efficiency	Energy Supply	Integrated Services	Renewable Energy	Energy Information
Energy Savings Performance Contracting	Utility Budgeting	Asset Monetization	Landfill Gas	Utility Bill Analysis, Processing & Payment
Demand Side Management	Commodity Procurement	Plant Rehabilitation	Biogas	ENERGY STAR Reporting
Demand Response	Rate Analysis Negotiation	Facilities Management	Biomass	Green House Gas Reporting
Turnkey Design/Build	Price Risk Mitigation	On-site Cogeneration	Solar Photovoltaic	Automated Demand Response
Facility Renewal	Green House Gas Management	Distributed Generation	Solar Thermal	xChangePoint®
LEED Construction			Geothermal	AXIS®
Power Quality & Reliability			Wind	MyEnergyPro™
				Asset Planner™

## Ameresco's Approach to ESPCP

### Preliminary Audits (PA) / Cost-Effective Feasibility Analysis

The **Preliminary Audit (PA)** can be simply defined as the process of collecting raw data, interviewing facility staff, reviewing existing documents, developing an energy project, and presenting the findings to the client. However, the Preliminary Audit is perhaps one of the more important aspects of an energy savings performance project since it provides the basis for the Investment Grade Audit (IGA) and the decisions to move forward with an implementation contract. This initial methodology will be followed in preparing the Cost-Effective Feasibility Analysis.

The first step during the PA is to conduct a kick-off meeting with the Department and to collect utility and site data. The kick-off meeting involves the introduction of team members, establishing the purpose of the site visits, gaining insight into the areas to be reviewed, advising Department staff of the planned duration of site visits, and the discussion of support requirements and scheduling concerns and discussion of any areas of concern the Department staff would like to have reviewed during the initial phase of the audit. It is at this time, that the discussion can feature additional capital contributions by the Department to “buy down” the project and / or include for energy savings consideration pending capital projects already funded and scheduled for procurement. The advantages and benefits of contributing additional capital to a performance contract can be vetted.

Next, a preliminary screening evaluation will be performed to determine the potential Energy Conservation Measures (ECMs) and Facility Improvement Measures (FIMs) that can be implemented at the facilities. The energy savings will then be compared to the actual energy consumption (as a percentage) so that the Department staff can determine the reasonableness of the projected savings.

The PA will also include the budget costs for the proposed ECMs and FIMs. Ameresco's estimators will utilize Mean's cost estimates, an internal costing database, and the experience of internal construction and project

management team to arrive at the budget costs. A preliminary report will be then prepared that will present the analysis and results of the preliminary audit.

## Investment Grade Energy Audit (IGEA)

The **Investment Grade Energy Audit** is defined as the process of refining the preliminary audit with the Department and developing and documenting the final scope of work for the energy savings performance contract. This step is the last critical step before the contract is finalized.

Once the PA has been developed and approved, the next step is to have a meeting with the Department to review and discuss the options the Department wants included in the final scope of work. This is an important final element of the IGEA. It is an all-hands meeting to review each ECM in detail. This interactive process will prompt discussion and allow the fiscal impacts of including or eliminating each ECM to be seen in real time. The results will be finalized as further described below.

Then the Ameresco team goes back to the preliminary audit and conducts due diligence on the measures and options selected and finalizes the economic viability of the project under the criteria set forth under this contract, any additional criteria set forth by the Department after the PA and applicable statutes.

All costs and savings are reviewed and finalized. This includes the review and finalization of the baseline data and the development of a measurement and verification plan in accordance with the IPMVP. During these studies each type of energy use (fuel oil, gas, electricity, etc.), and the water consumed at the facilities will be reviewed and comprehensive energy end-use analyses performed.

As mentioned, review and acceptance of the project baseline data and the measurement and verification plan is created during the IGEA. Ameresco believes that these components are at the heart of any successful project as they will be the lasting guidelines by which each party measures success. We will collaboratively explore the four options of M&V described by IPMVP and associated costs.

## Project Financing

Ameresco staffs an internal financing group to support our customer's projects. This internal resource is unique to the industry and is offered at no cost to our customers. Ameresco's financing team can help a customer understand and evaluate the various financing mechanisms and choose the financial solution that is most appropriate for their particular needs. It is important to note that Ameresco remains financially independent in these transactions and holds no financial position or derives no income from financing. All financial solutions are based solely on the customer's credit rating. Additionally, Ameresco can coordinate the solicitation for project financing on the customer's behalf. In Connecticut, Ameresco understands the important role that CEFIA can play now in this process as well as their potentially larger role moving forward. As CEFIA continues to mature, Ameresco will seek CEFIA's guidance and input on appropriate financial solutions.

## Design Specifications

After the investment grade audit is completed, Ameresco will finalize the negotiations and execute an Energy Services Agreement with the Department. As the Designer/Builder, Ameresco will be responsible for the

successful engineering and development of construction documents for review and approval by the Department. Ameresco's in-house engineers will perform the conceptual and final engineering and design of the majority of the ECMs and FIMs for this project. This will also include the development of all construction drawings using the latest CAD (computer aided design) software for the measure to be implemented. Following are some of the major tasks that will be undertaken during this phase:

- Detailed ECM Design
- Submittals and Construction Schedule
- Equipment Specification
- Department Approval

All engineering and design will conform to applicable code and regulations. The means to assure compliance to applicable codes and standards will be a Design Basis Report (DBR) which Ameresco will prepare as the first deliverable of every project. The DBR will summarize the design criteria, including identification of the specific standards and editions that will determine the minimum requirements. Design features needed for specific ECMs that may not meet the letter of code requirements will be identified, and alternative measures that are equivalent, or better, than code requirements will be proposed.

## Construction/Construction Management

Ameresco has extensive experience in managing project implementation in occupied facilities, including successful conservation programs in numerous state agencies, academic facilities, correctional facilities, towns, and cities. Ameresco has assembled a project management group that includes construction and project managers, project engineers, superintendents, estimators, and schedulers. For the Department, the benefits of Ameresco's design/build capabilities are simple: a single point of contact and continuity from pre-design through construction and commissioning. This enhanced continuity ultimately helps keep the project on schedule and minimizes the possibility of change orders.

The onsite day-to-day construction management of a project during the construction phase is a critical task that Ameresco takes very seriously. Ameresco's comprehensive approach to managing an energy project is designed to ensure that we deliver to the Department the maximum value for the lowest possible cost. Ameresco's commitment to implement a high quality and successful energy project that will meet the Department's expectations is evident in its construction management approach in the following four components of the project:

- Quality Control
- Communication
- Project Cost – Development and Control
- Project Timeline – Development and Control

Customers who select Ameresco can be confident they are dealing with a company that recognizes the importance of delivering high-quality products, systems, and services. All Ameresco projects receive the same level of commitment to quality and dedication to delivering a solution resulting in 100% customer satisfaction.

## Commissioning

Commissioning is a very important part of the construction phase. For all energy projects implemented by Ameresco, the commissioning has been performed under Ameresco's supervision and responsibility. For the majority of projects, Ameresco personnel do the commissioning internally. However, from time to time,

Ameresco hires independent qualified firms to perform this task and consultants with the manufactures and their representatives.

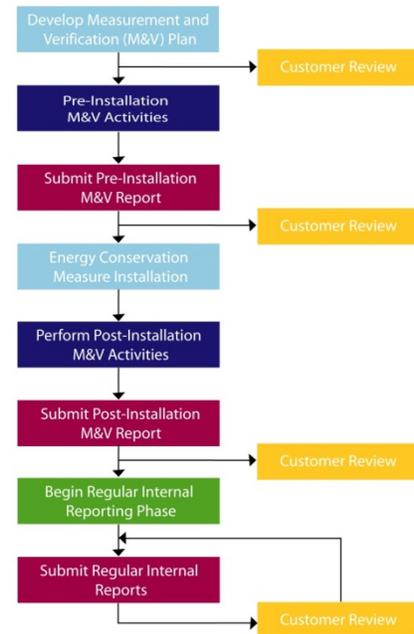
For the Department’s project, Ameresco personnel and the installing contractor(s) will commission and test the systems at start-up with support from the Department’s staff. The operation, performance and efficiency of the equipment/systems will also be proven at this time. Prior notification of these tests will be provided, and they will be scheduled jointly with the Town’s staff. Results of the commissioning procedures will be documented and a written report will be provided to the Town for approval. Any deficiencies in the system will be noted in the report and corrected immediately.

## Operations, Maintenance, Training and Measurement and Verification

Departments should feel confident in Ameresco’s ability to support this project post-installation. Specifically, Ameresco staffs and outfits a complete Performance Period Services Group based in Framingham, Massachusetts and Middletown, Connecticut. This group of 45 technicians and compliment of vehicles, lifts and associated equipment is capable of providing a full spectrum of support post-installation on lighting, controls, equipment and systems. Like most of Ameresco’s team, our Services Group is comprised of educated, trained and credentialed staff that have been recognized for their excellence in large-scale mechanical/electrical system retrofits and replacements -- particularly with HVAC and lighting systems -- by the Department of Energy, ASHRAE, Association of Energy Engineers, Illuminating Engineering Society, Federal Energy Management Program, Rebuild America, Energy Star and Energy User News, and the local Engineering and Licensing Boards. Key services areas are:

- Scheduled Preventive Maintenance
- Emergency Service
- Monitoring and Verification (M&V)
- Service Coordination
- Training Services
- Educational and Learning Seminars

Delivering Performance Period Services is a core competency of Ameresco. However, it is not a distinct business unit or profit center at Ameresco. Our Performance Period Services are custom designed for each client to meet specific needs, tasks or concerns at very specific points during the performance period. These range from fully dedicated on-site teams to serve as your internal operations and maintenance professionals to staff training (referenced above) to acting as your owner representative managing and renegotiating your existing service contracts with preferred vendors. This dynamic approach to service and maintenance affords clients the best value for future assignments and often secures “better” value with existing assignments.



## Section 2: Project History

### 2.1 Related Experience

*Describe your company's experience with each of the following:*

#### *2.1.1 Design, engineering, installation, maintenance and repairs associated with energy-savings performance contracts*

Ameresco has under contract over \$2.2 billion of ESPC projects. Ameresco's responsibilities include design, engineering, and installation. For all projects, Ameresco does offer repair and maintenance services, but are not necessarily included at the customers request. Each project is specifically designed to achieve each unique customers needs.

#### *2.1.2 Conversions to a different energy or fuel source, associated with a comprehensive energy efficiency retrofit*

Ameresco personnel manage and perform all activities in this category including: existing equipment assessments, project scoping, savings calculations, engineering analysis and design, construction management, commissioning, training, O&M, and M&V activities. Examples of Ameresco's experience in fuel switching including both renewable fuel sources and traditional can be found in Ameresco's response to both central plants and renewable energies. Additionally Ameresco has a dedicated group to identify issues with utility and supply management. Samples are summarized below.

Project Example	Highlights of Experience
Fort McPherson and Fort Gillem Atlanta, GA  Army ESPC Contract	The combined 555 Mbtu/hr propane-air mixing plants at the two sites provide an alternate fuel supply that is injected into the on-site natural gas distribution systems. The propane-air mix serves existing gas-fired equipment during periods of service interruptions. The switch from an uninterruptible (firm) gas rate to an interruptible rate has provided more than <b>\$1 million</b> in annual savings since 1994.
Hill Air Force Base, Layton, Utah  DOE ESPC Contract	<b>\$4.5 million</b> landfill gas-to-energy plant provides <b>\$650k</b> in annual savings, through a negotiated Qualifying Facility (QF) power purchase agreement with the local electrical utility. The rate provides for the utility to purchase the "green power" at a unit cost higher than the Base's normal purchase price of electricity.
US DOD facilities, World-wide locations. IDIQ Contract	Energy Awareness auditing and training for more than <b>200 DOD installations</b> worldwide, including optimized utility rate analyses, market analysis of alternate energy supplies and utility metering options.

#### *2.1.3 Post-installation project monitoring, data collection and reporting of savings*

Measurement and verification (M&V) is an integral part of any contract that involves guaranteed or shared savings. Our approach to M&V for cost reduction measures applies proven engineering principles coupled with equitable risk-management strategies. The M&V plans we develop are tailored to agency needs and the

specific project(s). Ameresco has provided post installation project monitoring for its \$2.2 billion in ESPC projects.

Ameresco offers a range of proprietary energy information services to give its customers control over energy monitoring and relevant reporting for utility bill payments, integrated energy strategies, reduction opportunity identification, compliance, carbon credits, public education and outreach. Accurate and relevant energy information is the foundation of any energy efficiency, renewable energy or integrated energy management plan. When complete energy information is available, public and private enterprises can make decisions that deliver meaningful savings and environmental benefits. Ameresco’s services encompass a complete suite of tools that go beyond the standard energy data to provide continual information about energy use. Organizations can utilize it to pay invoices, negotiate energy contracts, maintain carbon compliance, apply for national certifications (i.e., ENERGY STAR™ or LEED) or isolate poorly performing energy systems that can deliver measurable return on investment with energy efficiency or renewable energy upgrades. Ameresco backs these services with an expert team of dedicated energy analysts to assist each customer to understand and to act on the data provided.

- xChangePoint® delivers real-time energy information through an integrated monitoring, reporting and communication tool that continually monitors energy flow and helps enterprises identify outdated systems that will generate the greatest return and communicate opportunities to the decision makers to make informed, impactful decisions.
- MyEnergyPro™ provides continuous energy information monitoring and reporting through an intuitive and graphical representation of real-time and historical energy data through a customizable web interface for private and public use. This service makes it easy for customers, employees or the general public to see energy management and carbon reduction practices at work. MyEnergyPro™ can drill down to the performance of a specific piece of the customers’ energy infrastructure, allow monitoring of a single building within a facility and give customers an enterprise-level view of energy management.

#### *2.1.4 Overall project management and qualifications*

Ameresco's staff of seasoned project managers will ensure successful on time and on-budget delivery with a high level of customer satisfaction. We have a thorough knowledge of the duties involved and coordinate closely with all trades, vendors, and managers. From project kick-off to commissioning, we keep agencies informed and are readily accessible to answer questions and handle issues. Our work practices, safety, and security track record will stand up to the closest scrutiny.

#### *2.1.5 Securing long-term financing*

Finally, Ameresco has sourced and raised more than \$1.5 billion of project financing over the past 10 years, from various lending sources including John Hancock, Bayerische Landesbank, Bank of America, Capital One, Chase Bank, Crews and Associates and several other financial institutions. Using existing cash resources, cash flows from Company’s operating activities, and access to credit through multiple lending relationships, Ameresco has the resources necessary to develop, implement, and finance the customer’s potential energy projects.

Ameresco's finance professionals have years of experience assisting our customers in identifying the most cost effective financing mechanisms for performance contract projects. They will work with the State to provide assistance and work cooperatively with all parties to get the financing completed. Our finance professionals are well connected in the lending market, and are able to provide an independent and transparent bidding process to determine the right financing partner. We work with lenders every day that provide interest rate locks, low interest rates and have a high level of understanding of energy conservation measure projects. For illustration purposes only, Ameresco has secured tax-exempt financing for clients on similar transactions with a 10-year term at rates below 3.00%.

In addition, Ameresco's finance team has been successful in identifying and implementing financial incentives often available from local, state, and federal sources for energy-efficiency and renewable energy projects. We also have experience in marketing Renewable Energy Credits or "green tags" in states where a Renewable Portfolio Standard is established.

Examples demonstrating Ameresco's financing capabilities include:

- \$22.8 million municipal advanced refunding of two separate outstanding series of Certificates of Participation ("COPs") for a Virginia school district in which Ameresco served as lessor.
- \$13 million financing for a city in TN (private label) in which Ameresco served as lessor.
- \$24.6 million financing of two separate series of COPs, one of which was rated AA- by S&P, for a school district in the Commonwealth of Virginia.
- \$6.8 million TELP financing for a housing authority located in the organized territory of the U.S. Virgin Islands.
- \$14.5 million TELP financing for a university in South Carolina.
- \$13.9 million TELP financing for a housing authority in the Commonwealth of Massachusetts.
- Sale and assignment of receivables totaling approximately \$515 million over the past 5 years from 27 Federal Energy Savings Performance Contracts ("ESPC"), including projects for military installations, federal prisons, research laboratories, and VA hospitals.
- Structuring and securing financing for the single largest Federal ESPC to date (\$195 million)
- Non-recourse project financing of \$58 million landfill gas to energy facilities throughout the country.
- \$59 million COPs financing for a housing authority in the Commonwealth of Massachusetts.
- \$10 million capital lease for the Commonwealth of Kentucky.

### *2.1.6 Financial stability*

With 2011 revenues of over \$728.2 million and a construction backlog exceeding \$1.22 billion, Ameresco is one of the largest independent energy services companies in United States. At the end of 2011, Ameresco had total assets of more than \$390 million, cash in excess of \$31 million, a current ratio of 1.50. In addition, we maintain a \$1 billion surety credit facility through two corporate providers, both with an AM Best Rating of "A Excellent". Using its significant resources, Ameresco has the financial fortitude to be a long-term partner with the EcoUrbis, ensuring a successful development execution, project implementation, and operations.

### *2.1.7 Projects of similar size and scope*

Ameresco's ESPC project range in size and complexity to include a \$795 million ESPC project for the DOE that the basis of the project is a biomass cogeneration facility to projects that have multiple technologies from lighting to pool covers for customers such as the City of Revere, MA. Please see Ameresco's experience in the following sections. Whatever the size, Ameresco is able to meet and exceed the State agency's goals.

### *2.1.8 In-state projects and Connecticut-based subcontractors*

Ameresco has a long and active history developing successful energy efficiency projects in Connecticut and we remain extremely active in Connecticut to this day. Offered below are relevant examples of our current Connecticut energy efficiency activity. These projects are in various stages of development and construction. Primary contacts are provided for confirmation of our value and superior service offering. Each utilize CT based contractors. In addition to these projects identified below, Ameresco was notified (on the date of this submission) as the ESCO / QESP of choice for Bloomfield, Simsbury, and West Hartford. Formal authorization and agreements are being actively prepared.

#### ***Town of Farmington, Connecticut***

Farmington has engaged Ameresco to provide comprehensive Energy Performance Contracting Services. As such, Ameresco and Farmington have executed an Energy Savings Performance Contract. Farmington's goals, like those of Bloomfield, West Hartford, and Simsbury, are to identify opportunities for energy savings to promote facility renewal, capital upgrade, environmental stewardship, and overall energy cost savings. Ameresco and Farmington developed a comprehensive \$3.75 million project that encompass 42 facilities and approximately 850,000 sf. Key energy conservation measures include facility wide lighting upgrades and controls, energy management systems and various load controls, renewable energy projects, and several heating and cooling upgrades and conversions. It is anticipated that Ameresco will help Farmington realize several hundred thousand dollars a year in annual cost savings that can be redeployed into their facilities over a fifteen year period.

Timothy C. Harris  
Director of School Facilities  
Farmington Public Schools  
Town Hall  
1 Monteith Drive  
Farmington, CT 06032  
860.673.8276  
harrist@fpsct.org

Kathleen A. Eagen  
Town Manager  
Town of Farmington  
Town Hall  
1 Monteith Drive  
Farmington, CT 06032  
860.675.2340  
eagenk@farmington-ct.org

#### ***Town of Cheshire, Connecticut***

Cheshire has partnered with Ameresco to begin the Energy Performance Contracting process by commencing with an Investment Grade Audit of all municipal facilities. Cheshire's decision follows a 2011 interview from which an ad hoc committee of Town of Cheshire stakeholders recommended that Ameresco be engaged to conduct an portfolio wide Investment Grade Audit. The Cheshire Town Council followed that recommendation and authorized Ameresco to move ahead with an Investment Grade Audit. To date, Ameresco has conducted a full audit of all municipal facilities that encompassed approximately 1,000,000 sf. Moreover, Ameresco Preliminary Energy Audit identified and defined \$9 mm worth of energy savings

improvements that will totally self-fund over a fifteen year period. Ameresco is continuing to work with stakeholders to define a specific list of Energy Conservation Measures and develop construction level pricing and scopes for each measure. Key energy conservation measures contained in the initial sampling include facility wide lighting upgrades and controls, energy management systems and various load controls, renewable energy projects, and several heating and cooling upgrades and conversions. It is anticipated that Ameresco will help Cheshire realize several hundred thousand dollars a year in annual cost savings that can be redeployed into their facilities.

Michael Milone  
Town of Manager  
Town of Cheshire  
Town Hall  
84 South Main Street  
Cheshire, CT 06410  
203-271-6650  
mmilone@cheshirect.org

George Noewatne  
Assistant Public Works Director  
Town of Cheshire  
Town Hall  
84 South Main Street  
Cheshire, CT 06410  
203-271-6650  
gnoewatne@cheshirect.org

### ***Town of Newtown, Connecticut***

Ameresco has been unanimously selected by a review committee comprised of members from the Public Works Department, Board of Education, Sustainable Energy Commission, and the Building and Site Committee and to conduct an Investment Grade Audit of all municipal facilities. Ameresco's sample audit prepared as part of the RFP identified over \$4M in capital improvements in three facilities constituting approximately 265,000 sf. Ameresco and Newtown are currently gathering additional data, scheduling next steps for the Investment Grade Audit, and reviewing contractual agreements.

Fredrick W. Hurley, Jr.  
Public Works Director  
Town of Newtown  
4 Turkey Hill Road  
Newtown, CT 06470  
203-270-4300  
fred.hurley@newtown-ct.gov

### ***Housing Authority of the City of New Haven (HANH), Connecticut***

Ameresco has been unanimously authorized by the Board of Directors to conduct an Investment Grade Audit of the Authority's full housing portfolio. Key aspects of this facility renewal program will feature new heating and cooling plants, building envelope systems, lighting and controls, and varied renewable energy systems including potential wind, solar, and geothermal applications. Ameresco and HANH are currently working with HUD to develop an implementation schedule.

Gary Hogan  
Executive Project Director  
Housing Authority of the City of New Haven  
360 Orange Street  
New Haven, CT 06510  
203-498-8800 x 1040  
ghogan@newhavenhousing.org

### ***Bradley Airport, Windsor Locks Connecticut***

The State of Connecticut expressed interest in providing highly reliable power to the newly expanded Bradley International Airport in Windsor Locks, CT (near Hartford). In addition, they were looking for ways to reduce operating costs. Ameresco developed a unique contract proposal to design, build, and maintain a freestanding energy plant to accomplish these goals.

Ameresco designed and built a cogeneration energy plant to serve the electric and thermal (heating and cooling) needs of the expanded airport. Ameresco is also operating and maintaining the plant under a 20 year agreement, with an option to renew for an additional 10 years. The energy plant generates 3.8 MW using: Three natural gas reciprocating engines (two at 1,200 kW, one at 1,400 kW), 13,000 MBtu/hr of engine heat recovery (230°F hot water), One 500-ton hot water absorption chiller, two electric centrifugal chillers with a combined capacity of 1,500 tons, and two 12,000 MBtu/hr dual-fuel hot water boilers. All improvements were constructed for a total Project Cost of \$10,900,000 million.

#### *2.1.9 United States Department of Energy programs*

Ameresco is an active participant of a wide variety of DOE programs. From being an Energy Star Partner to multiple contracting vehicles, rebate programs and government awards, Ameresco has a very active relationship with the DOE.

Ameresco is recognized by both the Department of Defense and the Department of Energy as a federally qualified ESCO; Ameresco has held this designation each year that the federal agencies have pre-qualified candidate firms. These qualifications are based on independent evaluations, which included review of our experience and demonstrated technical capability, energy baseline and savings calculation capability, organization and management capability, and financial condition and resources.

Ameresco holds multiple Super ESPC IDIQ contracts under both the DOE and DOD programs.

Ameresco is not only familiar with Energy Star, we pride ourselves in having extensive, in-house expertise in working with these programs. Customer's include New Castle County, the State of Delaware and the Clarkston Central School District

As an Energy Star Partner, Ameresco has assisted other clients in applying for and obtaining Energy Star Labeling, and we will work with the State to develop the appropriate process for application for its facilities. As sponsor for the buildings, Ameresco can provide this service.

- Survey facilities to evaluate the operating characteristics of the buildings. The Sponsor must verify that the buildings meet or exceed ASHRAE Standards 55-1992 (Thermal Environmental Conditions for Human Occupancy) and 62-1989 (Ventilation for Acceptable Indoor Air Quality), and that illumination levels meet recommended levels in the



Illuminating Engineering Society of N. America (IESNA) Lighting Handbook, 1999, Lighting Design Guide.

- Set up and enter building data in the EPA's online Energy Star Portfolio Manager application system, including verified energy history, square footage, and other required data.
- Provide Professional Engineer certification (P.E.) on the applications.
- Follow up with the EPA as needed.
- During the project development and implementation process, Ameresco will monitor the benchmark scores of the buildings to ensure qualification following completion of the efficiency upgrades.

#### *2.1.10 Professional certifications*

Nearly 40% of Ameresco's mechanical, electrical, structural and environmental engineers are licensed professional engineers. Ameresco professional engineers also maintain certified energy manager (CEM) certifications and LEED professional designations to name a few.

Ameresco is a NAESCO accredited energy services provider. Encompassing supply and demand-side services, this accreditation validates Ameresco's whole system approach to providing services and gives the State access to a vast array of energy services from which to choose.

Companies seeking NAESCO-Accredited status must apply to a committee of industry experts who are unaffiliated with any particular ESCO or any other company under consideration for accreditation, and undergo a rigorous examination of their core competencies and business practices. The committee carefully reviews the detailed documentation submitted and consults with selected customer references. The NAESCO committee looks at criteria including the following: the precise nature of the applicant's business; the range of measures and services offered to customers; the availability of a performance-based project approach; ethical business practice commitment; project engineering and design, financing, project management, operations, and maintenance capabilities; and the capability of verifying and monitoring energy cost savings.

Additionally, Ameresco is a qualified energy services company in states that pre-qualify ESCOs such as New Hampshire, Rhode Island, Indiana, New York, New Jersey, Hawaii, North Carolina, Louisiana, Washington, Pennsylvania, Tennessee, and California.

These qualifications are based on independent evaluations. The evaluations included review of our experience and demonstrated technical capability, energy baseline and savings calculation capability, organization and management capability, and financial condition and resources. This is important because it demonstrates to the State that Ameresco consistently meets or exceeds stringent federal and state requirements for quality and dependability.

## 2.2 Market Sector Involvement

*Describe your company's expertise in each of the following market sectors and facility types:*

### 2.2.1 State Agencies

Ameresco implemented, or is implementing, energy saving projects at state facilities such as the Pennsylvania Department of General Services buildings in Harrisburg, the Alaska Energy Authority, Kansas State Department of Parks and Wildlife; New Hampshire Liquor Commission; and the Southern Nevada Water Authority.

### 2.2.2 Boards of Education

- *School Districts -Small (1-5 Schools) or Rural Over 2 Hours From Major Metropolitan Area*

Ameresco has worked with school districts across North America. For example, at Morgan County Schools, Tennessee, energy measures included lighting, water, HVAC, controls and plug load controls. For Adair County Schools, Kentucky, Ameresco was selected to complete two phases with energy measures that included lighting, water, controls, geothermal heat pump system, and electrical upgrades. In New York State, Ameresco installed energy saving measure at such small schools as the Catskill Central School District and Haldane Central School District; both having less than five schools. Ameresco implemented lighting improvements, installed lighting controls, energy management systems, vending machine controls, and various other capital improvements at both districts.

- *School Districts – Large*

Ameresco constructed the sixth phase of an ESPC project at Washoe County School District in Reno, Nevada. This project consists of lighting retrofits, transformer replacements, energy management system upgrades and vending machine controls. Earlier, Ameresco completed over \$18 million in energy projects over five phases for the school district. These projects included lighting retrofits, HVAC retrofits, energy management system upgrades and building envelope improvements.

Ameresco has worked with large school districts across North America. For example, at the Clarksville-Montgomery County School System, Tennessee, which includes over 15 schools, Ameresco provided energy measures including lighting, water, and HVAC upgrades. Ameresco completed this project in two phases. At Newport News Public Schools, Virginia, Ameresco completed complete renovation of Denbeigh High School, including new roof, windows, security and fire alarm, total HVAC, controls, water, ceilings, and lighting. For the other schools, Ameresco provided lighting system improvements and controls, energy management system Integration (operation and maintenance provided), domestic water conservation, vending machine controls, equipment/pipe insulation, waste oil heaters, window replacement, HVAC system replacement, roof replacements. For Phase 2, Ameresco installed an 85-mile fiber-optic communication line for the entire district. At Nottaway County Schools, Ameresco completed lighting system improvements, integrated and

new energy management systems, roof replacements, CO<sub>2</sub> control ventilation, chiller replacement, roof remediation, and boiler replacements.

## 2.2.3 Higher Education Institutions – Universities, Colleges and Community Colleges

- *Universities and Major Colleges*

Ameresco's higher education expertise across North America is extensive. Ameresco has completed projects with Western Kentucky University (the first state project), including HVAC, night setbacks, lighting, and controls. Ameresco has also completed projects with Colorado State University, Pueblo, including lighting retrofits and controls, boiler plant decentralization, three new chillers, four new cooling towers, laboratory fume hood exhaust controls, aspirated solar heater, pool cover, vending machine controls, water conservation, cooling tower ionization, and water and gas sub-metering. The project Ameresco completed for Harvard Medical Center included a complete chiller replacement.

At University of Nevada, Las Vegas, Ameresco replaced four centrifugal chillers with new, higher efficiency units with green refrigerants. Electronic variable speed drives were installed on several air handler systems, and several constant volume air systems were modified to variable air volume. Controls and condenser systems to use tower free cooling were installed and upgraded interfacing with the existing campus direct digital control system, and several buildings controls were connected back to the central system. Several chiller pumps were upgraded and replaced. Thirteen buildings upgraded lighting systems to T8 technology and compact fluorescent replacements for incandescent lamps. Exit signs were upgraded to light emitting diode technology.

- *Community Colleges and Small/Rural Colleges*

Ameresco has worked with several community colleges and small/rural colleges across North America. For the Los Angeles Community College District, Ameresco developed over \$6 million in engineering and financial solutions for the West Los Angeles Community College campus to cost effectively meet the cooling and heating needs of the planned growth over the next 20 years. In addition to the centralized cooling plant, Ameresco is also in the process of designing a network of piping system to distribute the chilled water to the various building on campuses.

Ameresco implemented energy savings measures for the Tennessee Board of Regents, East Region, which includes 15 facilities. Projects have included East Tennessee State University, Pellissippi State Technical Community College, Roane State Community College, Walters State Technical Community College, Northeast State Technical Community College. Measures installed include lighting retrofits, water conservation, variable air volume, and HVAC.

For the City Colleges of Chicago, measures included ceiling and lighting system replacement in competition gym, roof replacement at both buildings, skylight installation, replacement of control system, switchgear replacement, replacement of aluminum feeders with copper feeders, replacement of cooling towers and pumps and relocate cooling towers from ground to roof, asbestos abatement, and lighting retrofit. Ameresco's experience in this market includes over 28 projects.

## 2.2.4 Municipalities with population between 100,000 and 150,000

Within the U.S Ameresco has approximately \$300 million with local communities not including schools. Many of these communities has similar populations such is communities such as the City of Lowell, Brockton and Columbus, OH. Ameresco has completed ESPC projects for many large urban cities such as, Miami Beach, FL, Orlando, FL, Cincinnati, OH, Chicago, IL, Reno, NV and Henderson, NV.

## 2.2.5 Municipalities with population under 100,000 population

Within the U.S Ameresco has approximately \$300 million with local communities not including schools. Many of these communities has similar populations such is communities such as Simsbury, CT, Portland, ME and Belpre, OH. As a part of the Merrimack Valley Planning Commission, Metropolitan Area Planning Commission, Bloomfield, Simsbury and West Hartford contracts Ameresco is developing and implementing ESPC projects that range from \$1 million to \$5 million. With smaller municipalities it is just as important to be able to make upgrades even on a smaller scale. Ameresco has no preference to population.

Ameresco has called out additional projects to demonstrate additional experience the Team has working on municipal projects in the Northeast. Select renewable energy projects have been included as well as other projects where Peregrine Energy and Ameresco are working collaboratively on high value energy efficiency projects.

These communities include:

MVPC - Amesbury, MA	MAPC Arlington, MA
MVPC - Boxford, MA	MAPC Ashland, MA
MVPC - Haverhill, MA	MAPC Chelsea, MA
MVPC - Lawrence, MA	MAPC Everett, MA
MVPC - Merrimac, MA	MAPC Framingham, MA
MVPC - Methuen, MA	MAPC Gloucester, MA
MVPC - Newburyport, MA	MAPC Melrose, MA
MVPC - North Andover, MA	MAPC Norwell, MA
MVPC - Salisbury - Muni Only, MA	MAPC Rockport, MA
MVPC - West Newbury - Muni Only, MA	MAPC Sharon, MA
MVPC - Greater Lawrence RVTHS, MA	MAPC Sherborn, MA
MVPC - Pentucket RSD, MA	MAPC Sudbury, MA
MVPC - Groveland Muni Only, MA	MAPC Topsfield, MA
	MAPC Wayland, MA

## 2.2.6 Specific government building types

*K-12 buildings are covered previously. Healthcare is covered in Section 3.*

- **Office Buildings**

Ameresco's experience with office buildings are generally in the city/county/state/federal government sector. Projects such as the Louis L. Redding City/County Building in New Castle County, Delaware; the City of

Miami Beach, Florida; the City of Olympia, Washington; the Architect of the Capitol – Senate Office Buildings; and the City of Lowell, Massachusetts all involved office buildings.

- *State facilities*

Ameresco implemented, or is implementing, energy saving projects at state facilities such as the Pennsylvania Department of General Services buildings in Harrisburg, the Alaska Energy Authority, Kansas State Department of Parks and Wildlife; New Hampshire Liquor Commission; and the Southern Nevada Water Authority.

- *Correctional facilities (prisons, community correctional centers, detention facilities)*

Ameresco is the selected vendor for the Arizona Department of Corrections and the Missouri State Department of Corrections. Additionally, Ameresco holds contracts with Massachusetts Correctional Institutions, a Commonwealth of Pennsylvania State Corrections Institution, the Connecticut Juvenile Training Center, and numerous jails throughout the country.

The first of the Arizona State Prison system project, Ameresco has finished the development of a \$6.2 million ESPC which encompasses 190 buildings and 850,000 sq ft of this security level 2 through 5 facility. Measures include lighting system improvements, lighting controls, motor replacements, energy management systems, water conservation waste oil boiler, air handling unit replacement, and cooling tower replacement

Ameresco has completed a \$18.2 million ESPC for the maximum and super max security facilities called the Norfolk Walpole Correctional Facility and Cedar Junction which encompass 1.4 million sq ft and three complexes. This facility not only has historic buildings, but also houses some of the most notorious criminals in Massachusetts and was in desperate need of infrastructure renewal. Measures included lighting system improvements, lighting controls, motor replacements, energy management systems, water conservation, steam traps, vending machine controllers, window replacements, clothes dryer replacements, dishwasher booster heater replacements, pipe insulation, replace boilers and convert to low-pressure steam, cogeneration, attic insulation, WPCF improvements, water station improvements, electrical system upgrades and kitchen equipment replacement. All installed with no security breaches or compromises.

A unique project that demonstrates Ameresco versatility in successfully implementing broad technology ESPC projects is the project completed at the State of Missouri-Algoa-Jefferson City Correction Facility. This facility includes two correctional facilities and a highway patrol administration building and encompasses 1.1 million sq ft. Ameresco installed and owns a 3 MW landfill gas to energy plant on State property. The electric power is sold to the City of Columbia, Missouri, and the waste heat generated from the plant provides hot water and steam to the Algoa and Jefferson City Correction facilities. Other improvements include lighting, controls, steam traps, and central plant improvements.

- *Transportation facilities (airport, harbor, highways, parking structure, tunnels, transit, etc.)*

Ameresco has implemented projects for various transportation facilities from rail stations to school bus garages to airports. Typically for our municipal customers, K-12 and higher education customers,

transportation facilities such as bus garages, parking structures, LED traffic signals are included in the larger ESPC projects for our City and County customers. Specific transportation projects include the Massachusetts Bay Transportation Authority, which includes both buses and trains, CSX a North American rail distributor and Bradley International Airport.

Ameresco was contracted to develop and implement an ESPC for several of the Massachusetts Bay Transportation Authority (MBTA) facilities. Technologies include: Lighting System Improvements; Lighting Controls; Steam to Hot Water Conversion; Electric Heating Conversion; Steam Boiler Plant Rehab; Replace Overhead Doors; Replace Windows; Domestic Water Conservation; Install Air Curtains at Front Entrances; Steam Trap Replacements; Electric DHW Conversion; Install High Efficiency Low Voltage Transformers; Waste Oil Heaters; Energy Efficient Motors; Vending Machine Controls; Integrated and New Energy Management Systems. This project potentially represents over \$ 1 million in infrastructure renewal projects.

Ameresco has implemented both ESPC and turnkey solutions for airports around the US. These facilities include the City of Dallas Love Field, Logan International Airport (Boston), Bradley International Airport (Hartford) as well as a landfill gas to energy project for the Detroit Municipal Airport to help them reach their goal of being the “greenest” airport in the US. These airports do not include the numerous Air Force Bases that Ameresco has completed large scale facility and distribution overhauls to such as the F22 hangars at Elmendorf AFB and Eielson AFB in Alaska. Additionally, Ameresco has implemented the largest ESPC task order implemented at an Air Force Base. Ameresco not only installed over \$40 million in efficiency improvements, they operate and maintain the new decentralized system at Elmendorf AFB which saves over \$3 million annual in energy costs.

- *Sports complexes, stadiums, arenas, athletic fields, recreational facilities, etc.*

Ameresco’s ESPC was instrumental in turning the sports arena at the University of Las Vegas into a commercially viable location for concerts, professional sporting events, and other entertainment aside from the events held there by UNLV. The retrofits in the chiller plants resolved numerous issues for the University. The need for constant repair of the chiller equipment, the issue of purchasing and storing R-11 refrigerant, and the inconsistency of operation in the related HVAC equipment were resolved. In addition, a reduction of lighting related trouble calls and a reduction in maintenance trouble calls related to the air conditioning systems were seen in each building, allowing the existing maintenance staff to spend more time on other important issues.

The City of Hutchinson Sports Arena is the host of National Junior College Association's Annual Basketball Championship. This City showcase faced an aging heating system and poor lighting. Ameresco implemented \$1.5 million in citywide improvements that included new sports arena lighting and new heating and ventilating systems. In other city facilities, Ameresco installed new windows, roofs, boilers, hot water heaters, VAV conversions, digital controls, and radiate heat. This project saves the City \$ 190,667 annually.

Additionally, Ameresco has implemented [projects for ice rinks around the country. For example, at the Hayden Recreation Center, Ice Rink Ameresco installed a comprehensive lighting upgrade with lighting control system, elimination of high wattage hi bay fixtures replaced with energy efficient T5 2x4 6 lamp fixtures with a new lutron Grafik eye 4000 series light control system and with separate ice area and pedestrian

walkway zoning for lighting control. These were programmable for different light levels, for different scene needs, and maximum energy use and efficiency.

- *Other government facilities, libraries, data/communication centers, laboratories, etc.*

In its projects with various cities and states across the country Ameresco has implemented ESPC projects for customers that included libraries, parks and recreation centers as well as data/communication centers. Ameresco's ESPC for the City of Newport News included a 30 mile fiber optic backbone to connect the entire school district and the city with high speed internet and communications. Many of Ameresco's Midwest customers and western customer include parks and recreation facilities such as pools and parks in their ESPC. Other government entities that Ameresco has completed work for include the New Hampshire Liquor Commission which is a state run commercial venue. New Hampshire is one of a few states that regulate the sales of liquor and spirits and is a source of significant income for the State through sales to tourists.

The NH Liquor Commission ESPC project included 27 Sites throughout New Hampshire encompassing only 297, 000 sq. ft. This \$1.6 million infrastructure project included respective Gas and Electric Utility Companies rebates coordinated by Ameresco on behalf on NHSLC in order to secure financial incentives to reduce the initial capital cost. Measures included new and/or retrofit lighting fixtures, LED exit signs, occupancy sensors, high bay fluorescent lighting fixtures, efficient boiler or furnace, efficient air conditioning, economizer cooling, demand controlled ventilation, outdoor air reset controls, night setback controls, premium efficiency motors and/or variable frequency drives, EMS with remote access, insulated glass or glazing panels, ceiling/roof insulation, and energy efficient kitchen refrigerators.

Ameresco developed a project for the Barre City Recreational Complex that comprises an auditorium; an ice rink; and Alumni Hall, containing offices and meeting space. We identified over a dozen measures to cut energy costs at this multiple-building facility by an estimated 35%. Improvements included installing a brine pump and chiller control system for the ice rink, implementing various lighting upgrades throughout all three buildings, and replacing the ice rink's electric heat and hot water system with a more efficient system.

This Ameresco energy savings performance contract project located in Gallipolis, Ohio is being performed in various public works facilities including the Parks and Recreation facilities. The project consists of two phases totaling \$6 million dollars. Both phases of the project included a comprehensive lighting program including street lights and a swimming pool program to bring the town pool back on-line for the citizen of Gallipolis. The annual savings for the project are \$357,516.

Ameresco as one of the leading ESCOs in Indiana, Ameresco was selected by the Morrison Reeves Library to implement a \$1.3 million infrastructure program which included lighting retrofit, ceiling replacement, water conservation, controls and HVAC.

On a much larger scale, Ameresco completed construction of a new 1,000 ton central cooling plant at the Washington National Records Center (WRNC) in Suitland, Maryland. WNRC is one of several facilities at the Suitland Federal Complex once served by a central chiller plant. Recent government removal of the other facilities from the central system left this National Archives and Records Administration (NARA) facility with a vastly oversized and often unreliable central chiller plant a quarter of a mile away. Ameresco worked to meet

WNRC's needs while generating energy savings within the technical and financial constraints of the energy savings performance contracting (ESPC) program. Originally built in 1965 to serve as storage for NARA, the WNRC facility now serves as a regional storage and archive center for Federal agencies located in the District of Columbia, Maryland, Virginia, and West Virginia, as well as Federal courts located in the District of Columbia and for armed forces worldwide.

- *Multifamily buildings - high-rise or large buildings*

Ameresco is a leader in the multifamily housing market, and has completed over 40 projects since 2000.

Ameresco completed a \$2.2 million ESPC project at the Fort Worth Housing Authority. This project included lighting retrofits, water conservation retrofits, HVAC upgrades, energy management system upgrades and building envelope improvements. The Fort Worth Housing Authority has asked Ameresco to develop a Phase 2 project that would include longer payback infrastructure renewal measures such as roof replacements, boiler and chiller replacements, elevator replacements and security upgrades.

The Housing Authority of the City of Danbury, Connecticut's Eden Drive Apartments, a 60-unit site for family residents, received new efficient windows, wall-mounted low-voltage thermostats, pressure reducing valves (for domestic water supply to site), thermostatic tempering valves on domestic hot water, low-flow showerheads and aerators, lighting improvements.

The Fall River Housing Authority, MA project, involved seven federally funded facilities for the elderly, was the first public housing authority energy performance contract in the U.S. to be funded by a tax-exempt financing. The project involved 850 units and included boiler replacements for heating, domestic hot water, plumbing; controls systems for all sites; conversion from electric resistance and steam; water-saving fixtures at four facilities, and window replacement at the largest high-rise building.

New Bedford Housing Authority, Massachusetts – Westlawn Apartments, 200-unit, 50-building federally subsidized, centrally steam heated, family development. The decentralization project included addition of a boiler shed containing a high-efficiency heating and domestic hot water system to each building. The project also included lighting and refrigerator replacements. The success of this first phase has led to a second phase involving two more 200-unit developments, with a tax-exempt lease of \$4,500,000.

- *Multifamily buildings - smaller scale multi-plex buildings*

Ameresco has worked with several small-scale multifamily housing authorities across North America. For Albuquerque Housing Services, Ameresco provided energy measures that include domestic water conservation, variable air volume conversion, lighting, lighting controls, HVAC controls, chillers, and piping insulation

The Dover Housing Authority, New Hampshire – Phase 1 Project involved an electric to gas conversion of Waldron Towers, an 84-unit federally subsidized "all-electric" for the elderly. The project included a conversion from electric to gas space heat, domestic hot water and laundry to high efficiency gas, the installation of interior storm sliding glass balcony doors, high-efficiency lighting, ventilation controls, and the installation of water-saving measures. A Phase 2 was completed and included seven facilities and related common buildings. Energy measures included water saving fixtures, front-loading washers, electric dryers or

DHW to Gas, common area and apartment lighting, replace heating and DHW systems, replace/add thermostats and timers, and improve attic insulation.

Due to the urgency of addressing the failing heating system at one of eight federally funded sites within the Albany Housing Authority, New York, Ameresco agreed to a \$1,300,000 starting contract, in order to advance the decentralization of the boiler plant at the first site, Steamboat Square, along with water and lighting conservation measures. Ameresco completed the Energy Services Agreement covering \$8,200,000 in scope for the remaining seven sites funded with a combination of interest write-downs to a tax-exempt lease as well as grant funding, resulting in an overall blended rate of roughly 1.5 percent on the financing as a result of the achieved NYSERDA incentives. Measures for Phase 2 include two electric-to-gas conversions, boiler and control upgrades, lighting efficiency upgrades, water conservation, appliances, thermostats, and smaller measures such as motor and pump efficiency upgrades.

The Springfield Housing Authority, Massachusetts – John L. Sullivan Apartments is a 96-unit federally subsidized development consisting of six, three-story gas-heated apartment buildings and a single-story community building. The renovation includes decentralized replacement boiler and domestic hot water systems, attic insulation and water-saving fixtures.

Ameresco installed 21 measures at the Watertown Housing Authority's sites. Some of the measures included the replacement of toilets, showerheads, faucet aerators, common area and apartment lighting, windows, and heating system zone valves. Boiler and DHW replacements with oil to gas conversions were also implemented, as well as decentralization of space heat and DHW systems at the Lexington Gardens site. Packaged cogeneration was installed at the Woodland Towers.

- *Multifamily buildings - mix of building types*

Ameresco has worked with multifamily housing authorities across North America, several projects have included a mix of building types. Most recently, Ameresco is developing an ESPC for the San Francisco Housing Authority, which manages over 10,000 units.

Akron Metropolitan Housing Authority is a public housing and redevelopment authority involving 4,423 housing units in 35 large complexes and 15 scattered sites. The project was phased by utility type to optimize the financing and ramp up implementation. Phase 1 includes Water conservation; including low-volume toilets and fixture devices; efficient lighting in common areas and apartments; Phase 2 includes central boiler and domestic hot water replacements in large complexes; limiting heating thermostats most units; window replacements; community center heat and hot water replacements, and attic and wall insulation in scattered sites.

The Housing Authority of the City of Corpus Christi, Texas, project involves 1,800 units in 16 sites receiving water-saving measures (all sites), front-loading washers (one site), common area and apartment lighting (all sites), stock supply of Energy Star refrigerators, temperature-limiting thermostats, and HVAC and weatherization upgrades at the central office.

The Richmond Redevelopment and Housing Authority, Virginia, project included 26 developments with 4,021 units. Energy measures included refrigerators, lighting, comprehensive water conservation measures including

underground leak detection and repair, boiler and water heater installations, electric to gas conversion of DHW in four elderly sites, RTF check-metering for electricity with new utility allowances, and other measures.

- *Judicial facilities*

Ameresco has implemented ESPC projects for judicial complexes across the US from federal to county owned. Many of Ameresco's city and county project include the local judicial facilities and jails. Many times these are linked buildings. For example, Ameresco implemented a \$2.6 million ESPC for the Jefferson County Hall of Justice is part of the Jefferson County downtown complex. It is a six-story facility that houses courtrooms, administrative offices, a kitchen, laundry facilities, and the county jail. The scope of work included comprehensive lighting retrofits, conversion of the central heating and domestic hot water system from electric to gas, complete chiller plant redesign with a new chiller, new controls, new pumping system, and installing a new 6,000 SF atrium skylight and building automation controls. Please see Ameresco's related experience in cities and counties. Ameresco has installed ESPC projects for over 20 county courthouses throughout the Midwest. We have also completed a significant ESPC for the City of Henderson Justice Facility. This is detailed later in our references and case studies.

## 2.2.7 Other non-buildings

*Including but not limited to wastewater treatment facilities, water meter projects, traffic signals, and street lights*

- *Treatment plants (includes water and wastewater)*

Ameresco's experience at treatment plants includes the digester gas utilization plants at the San Antonio Water System (SAWS) in Texas. This project takes the biogas generated during the sewage treatment process and sells it through a commercial gas pipeline. Another is the City of Dallas Wastewater Treatment Plant in Texas. This plant operates similarly to SAWS, except that rather than selling the biogas commercially, the biogas is used to run three large engines that generate the steam necessary to heat the digesters and to generate electricity for the plant. Both plants are owned and operated by Ameresco. Most recently, Ameresco signed a contract with the City of Philadelphia for a cogeneration facility at the City's Northeast Water Pollution Control Plant. Ameresco will finance, install, maintain, and own the facility.

Ameresco has evaluated pumping stations as part of the energy audits for the City of Portland, Maine; New Castle County, Delaware; and is evaluating opportunities for the City of Methuen, Massachusetts. Equipment replacement and speed control have been analyzed at each of the evaluated locations.

- *Refuse or Solid Waste facilities (includes landfills, resource recover, recycling)*

Ameresco has 27 operational landfill gas to energy (LFGTE) plants in the United States. Ameresco owns and operates most of these plants, which generate steam, electricity, or a combination of both to commercial, industrial, and government entities. Some of the plants simply capture the landfill gas and sell it to various public and private entities. Some of the end uses include alternate-fuel electricity production to cities and towns, steam production for industrial processes and space heating, as well as domestic hot water and air conditioning.

- **Water Meter**

For many communities, there are significant savings and avoided costs that can be captured by the replacement or repair of failed or failing water meters under ESPC. For the City of Gallipolis, OH, their ESPC project consists of two phases totaling \$6 million dollars; \$4,381,403 (Phase 1, completed); \$1,618,597 (Phase 2, completed). The Water Meter replacement program entailed 3,200 residential meter replacements, 191 Industrial meters Replacements (1”-8”), new vaults, replacement or repair of leaking meter pipes, and re-landscaping of effected areas. The City of Belpre, Ohio is saving annually \$307,536 from this \$8,538,158 energy savings performance contract project. The Water Meter Replacement program consisted of 3,240 residential meter replacements, 260 industrial meter replacements (1”-6”), New Meter Pits, Replacements or repair of leaking meter pipes and New FixNet AMR System.

- **Street Lights**

Whether the need is for traffic signals, public parking lots or new street lights, Ameresco has implemented ESPC projects for communities such as Anchorage Alaska, The City of Englewood CO, the City of Henderson, NV and the City of Phoenix, AZ. Particularly for municipalities, significant savings can be found within the upgrade of streetlights to energy efficient types.

## City of Reno, NV



One of the more notable projects included entirely re-lighting the famous Reno Arch with energy efficient LED bulbs. This project included the replacement of over 2,000 incandescent 11 watt light bulbs with 2 watt LED light bulbs.

Ameresco replaced 2,817 lamps in the Sternberg street lights. The existing 120 watt incandescent bulbs were replaced with 42 watt CFLs. Please note that only 2,300 lamps out the total 2,817 are on City meters so the savings only account for the 2,300. Ameresco

also replaced a combination of 5’, 6’ and 8’ street signs totaling 676 separate signs. The existing T-12 fluorescent tubes were replaced with LED bulbs.

*Scott Jones, Facilities Maintenance Manager*

*jonessc@ci.reno.nv.us*

*(775) 657-4586*

*1640 East Commercial Row*

*Reno, Nevada 89505*

*Energy Dashboard: <http://greenenergy.reno.gov/energy/>*

## 2.3 Project List

*Using the format of the table below, list all energy-savings performance contract projects developed and implemented by your company within the past five years. Include only projects where work was directly performed by your company. If it is relevant to list projects performed under contract to another company, clearly identify the company with overall responsibility for that project and the project's relevance to this item 2.3.*

Project Name	Facility Type	City, State	Project Size (Dollars)	Project Amount (Square Feet)	Year Completed	Term of ESPC
New Britain Housing Authority	Public Housing	New Britain, CT	2,971,000	643,200	2007	12
Nyack Union Free School District	K-12 Public Schools	Nyack, NY	3,283,308	636,483	2007	18
Catskill Central School District	K-12 Public Schools	Catskill, NY	776,634	137,778	2007	18
Corpus Christi Housing Authority	Public Housing	Corpus Christi, TX	1,733,966	1,468,800	2007	12
Adair County Schools, Phases 1 and 2	K-12 Public Schools	Columbia, KY	2,213,746	N/A	2007	N/A
Donovan Community Unit 3 School District	K-12 Public Schools	Donovan, IL	1,562,492	N/A	2007	N/A
City Colleges of Chicago - Malcolm X College	Higher Education	Chicago, IL	12,199,563	541,000	2007	N/A
Herscher Community Unit #2 School District	K-12 Public Schools	Herscher, IL	2,761,531	N/A	2007	N/A
Wayne County School District	K-12 Public Schools	Monticello, KY	1,400,149	N/A	2007	N/A
Morrison Reeves Library	State Facilities	Richmond, IN	1,304,554	N/A	2007	N/A
Scioto County MR-DD	County Facilities	Portsmouth, OH	835,543	N/A	2007	N/A
Spencer County, Indiana	County Facilities	Rockport, IN	382,298	N/A	2007	N/A
City of Gallipolis	Municipal Facilities	Gallipolis, OH	4,381,403	1,000,000	2007	9.3
City of Henderson (Phase 1)	Municipal Facilities	Henderson, NV	2,855,089	487,307	2007	10
Big Spring School District	K-12 School District	Newville, PA	5,356,753	669,400	2007	10
University of Windsor	Higher Education	Windsor, ON, Canada	3,688,382	N/A	2007	N/A
Massachusetts Bay Transportation Authority	State Facilities	Lynn, MA	876,737	184,000	2008	10
Nottoway County Schools	K-12 Public Schools	Nottoway, VA	5,921,060	368,626	2008	20
Washington and Lee University	Higher Education	Lexington, VA	5,065,248	1,582,806	2008	12
California State University Channel Islands	Higher Education	Camarillo, CA	350,000	150,000	2008	1
City of Dallas – Love Field	Airport	Dallas, TX	5,303,061	629,000	2008	11
Fort Worth Housing Authority	Public Housing	Fort Worth, TX	2,164,105	1,885,205	2008	12
City of Austin – Phase 1	Municipal Facilities	Austin, TX	367,000	N/A	2008	10
Vigo County	County Facilities	Terre Haute, IN	4,582,838	92,335	2008	10

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City of Belpre	Municipal Facilities	Belpre, OH	8,479,839	750,000	2008	11
Gavin School District	K-12 Public Schools	Ingleside, IL	1,670,463	N/A	2008	N/A
Earlville School District	K-12 Public Schools	Earlville, IL	1,343,952	N/A	2008	N/A
Cameron School District (Phase 4)	K-12 Public Schools	Cameron, MO	1,476,250	183,000	2008	10
Hazelwood School District (Phase 3)	K-12 Public Schools	Florissant, MO	3,282,234	N/A	2008	N/A
Saginaw Housing Commission	Public Housing	Saginaw, MI	862,920	680,000	2008	12
Eielson Air Force Base	Government Facilities	Fairbanks, AK	4,606,188	N/A	2008	N/A
Hill Air Force Base (Phase 2)	Government Facilities	Northern Utah		N/A	2008	N/A
Pennsylvania Department of Military and Veterans Affairs	State Facilities	Various locations throughout Pennsylvania	5,831,443	N/A	2008	15
Lowell Housing Authority	Public Housing	Lowell, MA	9,051,746	1,310,400	2009	12
Albany Housing Authority (Phase 2)	Public Housing	Albany, NY	7,939,322	1,360,000	2009	12
Virginia Beach City Schools	K-12 Public Schools	Virginia Beach, VA	649,692	N/A	2009	N/A
Bloomington Housing Authority	Public Housing	Bloomington, IN	854,547	248,000	2009	12
Scott County Schools	K-12 Public Schools	Huntsville, TN	2,442,680	N/A	2009	N/A
National Archives and Records Administration	Government Facilities	College Park, MD	7,384,852	N/A	2009	N/A
University of Windsor (Residence – Phase 2)	Government Facilities	Toronto, ON, Canada	2,450,590	N/A	2009	N/A
Southeastern Regional School District	9-12 Public School	South Easton, MA	3,259,747	321,757	2009	18
Pennsylvania Department of General Services – Harrisburg Regional Office Buildings	State Facilities	Harrisburg, PA	1,566,063	N/A	2009	13
Bethlehem Housing Authority	Public Housing	Bethlehem, PA	7,141,075	1,144,800	2009	15
Austin Bergstrom International Airport	Airport	Austin, TX	2,239,000	981,692	2009	10
Douglas County School District (Phase 2)	K-12 Public Schools	Minden, NV	10,772,336 (all phases)	788,808	2009	10
Douglas County School District (Phase 3)	K-12 Public Schools	Minden, NV	10,772,336 (all phases)	788,808	2010	10
Providence Housing Authority	Public Housing	Providence, RI	12,161,936	1,889,600	2010	20
Freeport Union Free School District	K-12 Public Schools	Freeport, NY	8,606,545	897,432	2010	18
Fayette County Housing Authority	Public Housing	Uniontown, PA	908,332	932,800	2010	12
City of Greenville, SC	Municipal Facilities	Greenville, SC	978,122	N/A	2010	N/A
City of Columbia, SC	Municipal Facilities	Columbia, SC	1,179,865	N/A	2010	N/A
City of Henderson (Phase 2)	Municipal Facilities	Henderson, NV	1,998,296	31,543	2010	10
City of Henderson (Phase 3)	Municipal Facilities	Henderson, NV	20,117,648	1,586,213	2010	10
Norton Healthcare	Medical Facilities	Louisville, KY	3,418,544	1,585,752	2010	1
City of Hattiesburg	Municipal/Water	Hattiesburg, MS	2,761,900	N/A	2010	N/A

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Meters						
New Albany Housing Authority	Public Housing	New Albany, IN	1,676,414	866,400	2010	12
Sherrard Community Unit School District	K-12 Public Schools	Sherrard, IL	2,180,608	N/A	2010	15
Belleville Township High School District #201	K-12 Public Schools	Belleville, IL	36,139,000	250,000	2010	20
Auburn Community Unit School District 10	K-12 Public Schools	Auburn, IL	2,071,469	N/A	2010	N/A
University of Windsor	Higher Education	Windsor, ON, Canada	4,220,347	N/A	2010	N/A
Toronto Community Housing Authority	Public Housing	Toronto, ON, Canada	50,113,133	2,720,000	2010	N/A
City of Revere	Municipal Facilities & K-12 Public Schools	Revere, MA	10,059,616	1,005,242	2010	15
Pine Bush Central School District	K-12 Public Schools	Pine Bush, NY	4,660,755	735,950	2011	18
Edgemont Union Free School District	K-12 Public Schools	Scarsdale, NY	3,600,423	297,924	2011	18
Worcester Housing Authority	Public Housing	Worcester, MA	9,966,480	1,654,200	2011	12
Minisink Valley Central School District	K-12 Public Schools	Slate Hill, NY	8,860,826	597,202	2011	18
Yonkers City Schools	K-12 Public Schools	Yonkers, NY	8,189,667	715,105	2011	18
Cambridge Housing Authority (Phase 2)	Public Housing	Cambridge, MA	1,859,757	159,200	2011	12
Braxton County School Board	K-12 Public Schools	Sutton, WV	2,052,601	349,689	2011	10
Greensville County Schools	K-12 Public Schools	Emporia, VA	2,274,699	N/A	2011	N/A
Southern Nevada Water Authority	Municipal Facilities	Las Vegas, NV	2,286,318	N/A	2011	N/A
Jackson State Community College	Higher Education	Jackson, TN	3,418,544	N/A	2011	N/A
Bloomington School District	K-12 Public Schools	Bloomington, IL	2,589,000	N/A	2011	N/A
East Maine School District (Phase 3)	K-12 Public Schools	Des Plaines, IL	4,696,971	N/A	2011	N/A
City of Cincinnati	Municipal Facilities	Cincinnati, OH	7,071,964	1,800,000	2011	N/A
Porta Community Unit School District 202	K-12 Public Schools	Porta, IL	7,600,228	209,800	2011	N/A
Libertyville District 70	K-12 Public Schools	Libertyville, IL	4,562,887	N/A	2011	N/A
Chicago Housing Authority	Public Housing	Chicago, IL	17,000,000	1,584,200	2011	12
Lake County (Phase 2)	Municipal Facilities	Waukegan, IL	11,500,000	967,000	2011	N/A
Bannockburn School District 106	K-12 Public Schools	Bannockburn, IL	2,424,100	N/A	2011	N/A
Savannah River Site	Government Facilities	Aiken, SC	795,000,000	N/A	2011	20

## 2.4 Project References

*Provide detailed information on energy-savings performance contract projects your company completed that can be used for references. Expand on the information provided in the previous section to give details on individual projects. Include the following information on each project as a minimum:*

*2.4.1 Project Identification: Owner name, city/ state, facility type (hospital, school, college, city, county, etc).*

*2.4.2 Contact Information: Names and contact information of owner(s) representatives who can serve as references.*

*2.4.3 Project Type: Energy-savings performance contract or other type.*

*2.4.4 Project Size: Number of buildings and total project square footage.*

*2.4.5 Project Dollar Amount: Total contract amount and the total project capital expenditure amount.*

*2.4.6 Source of Funding: A description of the source of funding used for the project and the company's role (if any) in securing that funding.*

*2.4.7 Project Dates: Actual dates of audit start and acceptance; Actual construction starting and ending dates.*

*2.4.8 Contract terms: A description of the type of contract, financing arrangement, and contract term.*

*2.4.9 Project Personnel: A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to Connecticut ESPCP projects.*

*2.4.10 Project Schedule: Indicate if project was completed on schedule and an explanation if not.*

*2.4.11 List of Improvements: The types of retrofits and operational improvements implemented related to energy, water and other cost savings.*

*2.4.12 Project Performance: The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below:*

*2.4.13 Measurement and Verification (M&V): A brief description of the M&V approach for each project including which savings were stipulated, if any.*

*2.4.14 Performance Guarantee: A description of the savings guarantee for each project and, if the guaranteed savings were not achieved, how the company compensated the entity that contracted for energy-savings performance contract services for any annual shortfall (e.g. pay funds to meet the guarantee, etc.).*

*2.4.15 Additional Comments: Comments on any special features, services, conditions, creative approaches, special needs of customer, etc. that may be relevant to the ESPCP and clientele.*

<b>City of Lowell, Massachusetts</b>	
<i>Project identification.</i>	Owner name: City of Lowell Location: Lowell, MA Facility type: Municipal facilities, school buildings, auditorium. Housing was done under a different project
<i>Contact Information</i>	P. Michael Vaughn, Chief Procurement Officer/Purchasing Agent City of Lowell City Hall 375 Merrimack St Lowell, MA 01852 Phone: (978) 970-4110 pmvaughn@lowellma.gov
<i>Project Type</i>	Energy Performance Contract; 20-year term
<i>Project Size</i>	Buildings: 47; Total Square Footage: 2,864,730 sqft
<i>Project Dollar Amount</i>	Total Contract Amount: \$21,144,465
<i>Source of Funding</i>	Ameresco assisted with sourcing funding
<i>Project Dates</i>	Construction: June 2010 – February 2012
<i>Contract Terms</i>	Tax-exempt lease purchase – 20 years
<i>Project Personnel</i>	David Anderson, Officer-in-Charge; Matt Young, Project Manager; Hal Meyer, Senior Account Manager; Kevin Fetzter, M&V Manager; Jim Walker, Lead Solar Developer; Chris Sternadore, Lighting; Jeremy Scott, Project Development Engineer; and Jim Koulovatos, Financial Review; All are proposed to work on any Connecticut projects.
<i>Project Schedule</i>	This project was completed on time and within budget.
<i>List of improvements.</i>	Lighting system improvements, lighting controls, integrated and new energy management systems, demand control ventilation, steam trap replacements, pipe insulation, thermostatic radiator valves, automatic pool covers, vending machine controls, PC load management, variable frequency drives for pumps and fans, energy efficient motors, energy recovery units, stack-draft reducer, boiler replacements, chiller replacement, roof replacements, window replacements, fan coil replacements, replace/repair high school library's RTU gas furnace, telecommunications upgrade, attic insulation, infiltration reduction, air handling unit replacement, hot water pump and motor replacement, furnace replacement, and install solar PV.
<i>Project performance</i>	Projected annual savings: 11,136 kW; 5,454,434 kWh; 421,684 ccf gas \$1,313,741  Guaranteed annual savings: 11,136 kW; 5,454,434 kWh; 421,684 ccf gas \$1,313,741
<i>Measurement and Verification (M&amp;V)</i>	FEMP Option A
<i>Performance Guarantee</i>	This project is in the first year of repayment.
<i>Additional Comments</i>	The Power Purchase Agreement ("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 prices.  This PPA includes design, installation, owning and maintaining PV systems. No capital cost

**City of Lowell, Massachusetts**

obligation by the City will be incurred and the City pays Ameresco a discounted rate from the National Grid tariff. Metering installed by Ameresco for monitoring and billing. The City may purchase the systems at the end of seven years or anytime thereafter at fair market value. At the end of 20 years, Ameresco will remove system or turn over to the City at their option.

Ameresco designed, permitted, installed, financed, and owns, operates, and maintains five solar PV roof-mounted systems on four schools and the Lowell Memorial Auditorium.

<b>Revere Public Schools, Massachusetts</b>	
<i>Project identification.</i>	Owner name: City of Revere Location: Revere, MA Facility type: Municipal facilities, Public Schools
<i>Contact Information</i>	Dr. Paul Dakin, Superintendent Revere Public Schools 101 School Street Revere, MA 02151 Phone: 781-286-8226 x1 Email: PDakin@revere.mec.edu
<i>Project Type</i>	Energy Performance Contract; 15-year term
<i>Project Size</i>	Buildings: 11; Total Square Footage: 872,422 sqft
<i>Project Dollar Amount</i>	Total Contract Amount: \$10.3 million
<i>Source of Funding</i>	Ameresco assisted with sourcing funding
<i>Project Dates</i>	Construction: June 2009 – November 2010.
<i>Contract Terms</i>	Tax-exempt lease purchase – 15 years
<i>Project Personnel</i>	David Anderson, Officer-in-Charge; Matt Young, Project Manager; Hal Meyer, Senior Account Manager; Kevin Fetzer, M&V Manager; Jim Walker, Lead Solar Developer; Chris Sternadore, Lighting; Michael Kelliher, Project Development Engineer; and Jim Koulovatos, Financial Review; All are proposed to work on any Connecticut projects.
<i>Project Schedule</i>	This project was completed on time and within budget.
<i>List of improvements.</i>	The project, focusing initially on the City's schools, includes lighting retrofits, energy management systems, boiler replacements, steam trap replacements, insulation, HVAC rooftop unit replacements, computer load management, vending machine controls, and features a new roof with an integrated building photovoltaic system (BIPV). Additionally, Ameresco has a long term maintenance contract providing services throughout the schools.
<i>Project performance</i>	Projected annual savings: 3,793 kW; 2,146,268 kWh; 116,539 therms gas; 49,811 gal oil; 503 kgal water, \$628,739  Guaranteed annual savings: 3,793 kW; 2,146,268 kWh; 116,539 therms gas; 49,811 gal oil; 503 kgal water, \$628,739
<i>Measurement and Verification (M&amp;V)</i>	FEMP Option A
<i>Performance Guarantee</i>	This project is in the first year of repayment.
<i>Additional Comments</i>	"Being in an urban community, a lot of our buildings are older buildings, so we knew we had to do something to have them be more efficient, and, at the same time, allow us to save money so that we could reinvest in education rather than utility bills and repairs. Working with Ameresco, we don't have daily concerns anymore about whether X building is going to be properly heated or air conditioned when you have 6,100 kids ready to arrive in the morning."  - Paul Dakin, Superintendent Revere Public Schools

Units	Projected Annual Energy Savings	Guaranteed Annual Energy Savings	Actual Energy Savings Year 1	Actual Energy Savings Year 2	Actual Energy Savings Year 3	Actual Energy Savings Year 4	Actual Energy Savings Year 5
kWh	2,146,268	2,146,268	2,207,950				
kW	3,793	3,793	3,957				
therms	116,539	116,539	101,144				
Oil Gallons	49,811	49,811	48,009				
Kgal Water	503	503	271				
	\$628,739	\$628,739	\$705,829				

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Insert letter

<b>City of Dallas – Waste Water Treatment Plant</b>	
<i>Project identification.</i>	Owner Name: City of Dallas Location: Dallas, Texas Facility Type: Waste water treatment plant
<i>Contact Information</i>	Richard Wagner, Sr. Program Manager City of Dallas – Water Utilities Department (214) 948-4516 richard.wagner@dallascityhall.com
<i>Project Type</i>	Biogas; combined heat and power; cogeneration; design/build; power purchase agreement
<i>Project Size</i>	4.2 MW
<i>Project Dollar Amount</i>	Total Contract Amount: \$18.2 million Total Project Capital Contribution from Customer: N/A
<i>Source of Funding</i>	Ameresco
<i>Project Dates</i>	Audit: N/A – new facility Construction: March 2010 to February 2011
<i>Contract Terms</i>	Power purchase agreement; Ameresco owns, operates, and maintains the plant on land leased from the City of Dallas for 20 years
<i>Project Personnel</i>	James D. Bier, Michael T. Bakas, Robert Bell, Ben Heuser, Carl Von Saltza The above personnel will potentially be assigned to landfill gas to energy and waste water treatment plant projects in Hawaii.
<i>Project Schedule</i>	This project was completed on schedule.
<i>List of improvements.</i>	N/A – new construction
<i>Project performance</i>	This project saves \$900,000 annually and saves 30 million kWh of electricity annually.
<i>Measurement and Verification (M&amp;V)</i>	M&V data is electronically collected from the revenue power meter on-site.
<i>Performance Guarantee</i>	Savings have been achieved.
<i>Additional Comments</i>	<p>This partnership between Ameresco and the City of Dallas guarantees a source of renewable electricity, thereby meeting the State mandate, as well as a purchase price for the electricity produced by the cogeneration facility. In turn, the City will not be as vulnerable to the price spikes or shortages associated with the grid. In addition to the savings in electricity purchases, reduced energy consumption and carbon reduction, a guaranteed minimum amount of hot water is provided to the digestors in the boilers. This project generates roughly 30,000 renewable energy credits (RECs) per year.</p> <p>Biogas could reduce the City's electricity usage nearly 4%. Due to the demand and energy savings realized, the project qualified for incentives under the local utility's Commercial Standard Offer Program (CSOP).</p> <p>Ameresco financed, designed, permitted, constructed, owns, and currently operates and maintains it. The average daily biogas production from the digesters is 1.3 million cubic feet per day with an energy value of 550-600 Btu/cf. Now, the entire amount of biogas is fed into three Jenbacher Model 420 generators which have a combined nominal capacity of 4,200 kW. The heat produced by the engines is captured for use in DWU's hot water loop to heat the digester vessels.</p>

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**City of Dallas – Waste Water Treatment Plant**

The facility provides the City a guaranteed minimum amount of hot water for heating the round-the-clock operations of the digester vessels and boilers, which is no less than 41% efficiency. A minimum amount of electricity is guaranteed to the City, which is no less than 34% efficiency, based on the lower heating value of the biogas.

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<b>City of Englewood, Colorado</b>	
<i>Project identification.</i>	Owner Name: City of Englewood, Colorado  Location: Englewood, CO  Facility Type: Municipal
<i>Contact Information</i>	Mike Flaherty, Deputy City Manager 1000 Englewood Parkway Englewood, CO 80110 303-762-2314 mflaherty@englewoodgov.org
<i>Project Type</i>	ESPC and a solar power purchase agreement
<i>Project Size</i>	11 main buildings with numerous sub-buildings; 382,869 square feet
<i>Project Dollar Amount</i>	\$2.9 million (includes both ESPC and solar PV) \$47,778 capital contribution from the City
<i>Source of Funding</i>	Tax-exempt lease purchase for the ESPC, and Ameresco for the solar PV.
<i>Project Dates</i>	Audit: Completed June 2010 Construction began in September 2010 and was completed in November 2011
<i>Contract Terms</i>	ESPC: 15 years Power purchase agreement (solar): 20 years
<i>Project Personnel</i>	Trip Tripathi, Phil Cirone, Allen Sehr, Jim Reedy, Johann Niehaus, John McElhone, and Steve Croxton,  Mr. Niehaus may be involved with solar PV design and installation projects in Hawaii, and Mr. Croxton may be involved with M&V on Hawaii projects.
<i>Project Schedule</i>	Project was completed on schedule

City of Englewood, Colorado	
<i>List of improvements.</i>	<ul style="list-style-type: none"> <li>• Energy efficient lights and controls</li> <li>• Wall insulation</li> <li>• Attic insulation</li> <li>• New windows, and sealing and caulking remaining single pane windows.</li> <li>• New low-flow faucet aerators</li> <li>• Low-flow showerheads</li> <li>• Low-flow toilets and urinals and rinse wands.</li> <li>• Converting constant volume air handling units to variable air volume at the recreation center pool and gym</li> <li>• Converting variable air volume inlet vanes to variable frequency drives and replacing the fan powered variable air volume air handling unit</li> <li>• Converting constant flow hot water pumps to variable flow with variable frequency drives</li> <li>• Adding variable air volume dampers on branchsupply and converting roof-top units to variable air volume operations</li> <li>• Replacing gas unit heaters with infrared</li> <li>• Installing HVAC controls</li> </ul> <p>Also, solar PV systems were installed on four City-owned sites (Englewood Civic Center, Malley Senior Recreation Center, Safety Service Complex for Police and Fire, and Englewood ServiCenter). The solar PV systems are expected to generate over 300,000 kilowatt-hours of energy annually.</p>
<i>Project performance</i>	Project is in first year of repayment.
<i>Measurement and Verification (M&amp;V)</i>	IPMVP options A and B
<i>Performance Guarantee</i>	\$117,000 annually. 2,033 kW; 1,215,154 kWh; 37,130 therms (natural gas); 1,943 kGal (water & sewer)
<i>Additional Comments</i>	<p>Ameresco's comprehensive city-wide energy audit resulted in a two-tier project for the City</p> <p>The first tier includes a \$1.5 million Design-Build Own-Operate-Maintain Solar Photovoltaic (PV) Project under a 20-year Power Purchase Agreement (PPA) and will benefit from Xcel Energy (the City's utility provider) rebates and Renewable Energy Credits. Ameresco will own and maintain the systems for 20 years. During that time, the City will buy solar power from Ameresco that provides a stable and predictable energy cost for the City. At the end of the 20-year contract, the solar PV systems may become property of the City.</p> <p>The second tier is a \$1.46 million ESPC that is guaranteed to reduce utility costs by \$117,000 annually (23.3 percent electricity and 9.3 percent natural gas use). The ESPC and Solar PV PPA enable the City to leverage utility savings to fund the necessary energy and water conservation upgrades. This helps the City stretch their capital dollars to focus on the costly infrastructure improvements, such as boiler replacements, and measures that would typically carry a long payback from savings. These improvements will not only save wasted energy and enhance the City's facilities, they will also greatly improve aging infrastructure and enhance the comfort quality of the City workers and residents who use these buildings.</p>

	Projected	Guaranteed	Actual	Actual	Actual	Actual	Actual
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Units	Annual Energy Savings	Annual Energy Savings	Energy Savings Year 1	Energy Savings Year 2	Energy Savings Year 3	Energy Savings Year 4	Energy Savings Year 5
kWh	1,350,171	1,215,154	1,350,170				
kW	2,259	2,033	2,259				
MMBTU	4,126	3,713	4,151				
Water kGal	2,159	1,943	2,159				
(Other)							

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<b>Pennsylvania Department of Military and Veterans Affairs</b>	
<i>Project identification.</i>	Owner Name: Commonwealth of Pennsylvania  Location: Various locations throughout Pennsylvania  Facility Type: State/military
<i>Contact Information</i>	Ray Hulings, Director, Bureau Of Plans, Operations and Maintenance PA Department Of Military And Veterans Affairs Office Of Facilities And Engineering Building 0-47, Fort Indiantown Gap Annville, PA 17003 Office Phone: 717-861-2158
<i>Project Type</i>	ESPC
<i>Project Size</i>	34 National Guard armories each with multiple buildings in five defined regions
<i>Project Dollar Amount</i>	\$5,831,443
<i>Source of Funding</i>	Tax exempt lease purchase through Bank of America
<i>Project Dates</i>	Audit began January 2006 and finished August 2006 Construction began January 2007 and finished March 2008
<i>Contract Terms</i>	15 years
<i>Project Personnel</i>	Mike Daigneault, Pat Cannata, Peter Christakis Messrs. Daigneault and Christakis may be assigned to Hawaii projects
<i>Project Schedule</i>	Completed on schedule
<i>List of improvements.</i>	<ul style="list-style-type: none"> <li>● Lighting System Improvements</li> <li>● Lighting Controls</li> <li>● Integrated and New Energy Management Systems</li> <li>● Central HVAC System Installation</li> <li>● Infiltration Reductions</li> <li>● Steam Trap Replacements</li> <li>● Replace Overhead Doors</li> <li>● Boiler Replacements</li> <li>● Replace Windows</li> <li>● Weather Strip Exterior Doors</li> <li>● Replace Air Conditioning Units</li> <li>● Vending Machine Controllers</li> <li>● Domestic Water Conservation</li> <li>● Insulate Roofs</li> <li>● Pipe Insulation</li> <li>● Premium Efficiency Motors</li> <li>● Roof Replacement</li> <li>● Heating System Modifications</li> </ul>
<i>Project performance</i>	See table below
<i>Measurement and Verification (M&amp;V)</i>	IPMVP Option A

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Pennsylvania Department of Military and Veterans Affairs	
<i>Performance Guarantee</i>	\$376,507 Guaranteed; \$463,409 actual savings (year one)
<i>Additional Comments</i>	

Units	Projected Annual Energy Savings	Guaranteed Annual Energy Savings	Actual Energy Savings				
			Year 1	Year 2	Year 3	Year 4	Year 5
kWh	2,401,875	2,401,875	2,401,875				
kW	4,904	4,904	4,904				
MMBTU	16,953	16,953	16,953				
Gallons Water	11,000	11,000	11,000				
Lbs. Coal	36,359	36,359	36,359				

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Lake County, Indiana	
<i>Project identification.</i>	Owner Name: Lake County, Indiana  Location: Crown Point, Indiana (county seat)  Facility Type: County facilities
<i>Contact Information</i>	Mr. Larry Blanchard 219-755-3200 Building 'A', 3rd Floor 2293 N. Main Street Crown Point , IN 46307
<i>Project Type</i>	ESPC
<i>Project Size</i>	11 buildings; 967,000 sq. ft.
<i>Project Dollar Amount</i>	Phase 1: \$18,086,908 Phase 2: \$11,806,971 Phase 3: In development
<i>Source of Funding</i>	Customer arranged its own financing
<i>Project Dates</i>	<b>Phase 1</b> Construction Began November 2006; Finished December 2008 <b>Phase 2</b> Construction: Began January 2010; Finished March 2011 <b>Phase 3</b> In Development
<i>Contract Terms</i>	10 years
<i>Project Personnel</i>	Mark Heirbrandt, Jeff Metcalf, Dave Phillips, Bret Thomas, Pete Kurpiewski None of these personnel are expected to be involved in Hawaii projects.
<i>Project Schedule</i>	Completed on time
<i>List of improvements.</i>	<b>Phase 1</b> Lighting Improvements, Electrical, Chiller replacement, Motor/pump replacement, Rooftop unit replacement, Air Handler replacement, Chiller Plant optimization, Controls, Gas Main and Distribution Piping replacement, Water Conservation Program, Roof Improvements, Asbestos Abatement Services <b>Phase 2</b> VAV Controls, Seal and insulation upgrade, Hot water system upgrade, solar hot water, domestic hot water, windows, new main feed from substation, UPS, Generator, A/C system, Boilers, controls, Lighting, Electrical upgrades, refrigeration system upgrade <b>Phase 3</b> In Development
<i>Project performance</i>	Phase 1 projected and guaranteed savings: \$2,210,469 (with operational savings) Phase 2 projected and guaranteed savings \$1,526,211 (with operational savings) Phase 3 In development  Phases 1 and 2 combined guaranteed savings is \$545,238 Phases 1 and 2 combined actual savings is \$504,201.  Please see the table below for unit savings..

Lake County, Indiana	
<i>Measurement and Verification (M&amp;V)</i>	
<i>Performance Guarantee</i>	Shortfall is attributed to the M&V for Phases 1 and 2 being combined while Phase 2 still in construction. Ameresco did not have to compensate the County because of this.
<i>Additional Comments</i>	

Units	Projected Annual Energy Savings	Guaranteed Annual Energy Savings	Actual Energy Savings Year 1	Actual Energy Savings Year 2	Actual Energy Savings Year 3	Actual Energy Savings Year 4	Actual Energy Savings Year 5
kWh	4,415,898	4,415,898	3,697,399				
kW							
MMBTU	18,759	18,759	23,828				
Gallons Water	1,498,700	1,498,700	1,498,700				

<b>State of Missouri Department of Corrections</b>	
<i>Project identification.</i>	Owner name: Algoa-Jefferson City Correction Facility Location: Jefferson City, Missouri Facility type: Corrections
<i>Contact Information</i>	Cathy Brown Management, Design and Construction State of Missouri 301 West High Street, Room 730 Harry S. Truman State Office Building P.O. Box 809 Jefferson City, MO 65102 Telephone: 573-751-1034 Fax: 573-526-9820
<i>Project Type</i>	Energy Performance Contract
<i>Project Size</i>	Buildings: 2 campuses and a highway patrol building Total Square Footage: 1,071,000
<i>Project Dollar Amount</i>	Total Contract Amount: In Development. Ameresco Owns and operates the landfill gas to energy plant.
<i>Source of Funding</i>	Customer Arranged Financing through State wide financing contract
<i>Project Dates</i>	Start April 2007; Finish late 2008
<i>Contract Terms</i>	20 year power purchase agreement and performance contract
<i>Project Personnel</i>	Tom Rinner, Gary Crabtree, Todd Anderson None of these people would be potentially placed on this contract's project.
<i>Project Schedule</i>	This project was completed on time and within budget.
<i>List of improvements.</i>	Ameresco will be installing and owning a Landfill gas to 3 MW Energy plant on State Property. The electric power will be sold to the City of Columbia Missouri and the waste heat generated from the plant will provide hot water and steam to the Algoa and Jefferson City Correction facilities. Other projected improvements include lighting, controls, steam traps, and central plant improvements.
<i>Project performance</i>	Projected and guaranteed : approximately \$500,000
<i>Measurement and Verification (M&amp;V)</i>	Measured capacity, stipulated consumption and calibrated simulation
<i>Performance Guarantee</i>	Project has not completed its first year of operations
<i>Additional Comments</i>	In November 2004, voters in Columbia, Missouri, adopted a local renewable portfolio standard (RPS). The initiative requires the city's municipal utility, Columbia Water & Light (CW&L), to generate or purchase electricity generated from eligible renewable-energy resources  To meet their needs, CW&L issued a request for proposals in November 2005. Ameresco's proposal to build a 3.2 MW landfill gas electricity generation facility was selected. CW&L signed a 20-year power purchase agreement with Ameresco for the energy, which will make up 2% of CW&L's energy portfolio.  In addition to generating green power, there is another innovative element to this project – capturing the waste heat from the engines. Instead of building the facility at the landfill, which is located in Jefferson City, MO and owned and operated by Allied Waste, the gas will be piped to the engines, which will be located on property owned by the State of Missouri. The waste heat from the engines is used by two State-owned prisons to meet their thermal needs.

State of Missouri Department of Corrections	

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Tennessee Board of Regents - East Region	
<i>Project identification.</i>	Owner name: Tennessee Board of Regents Location: Eastern Section of Tennessee Facility type: Higher Education, Education/Admin.
<i>Contact Information</i>	Keith King, Project Manager Office of Facilities Management 1415 Murfreesboro Road, Suite 664 Nashville, Tennessee 37217-2883 (615) 366-4400 Fax (615) 366-4464
<i>Project Type</i>	Energy Performance Contract
<i>Project Size</i>	Buildings: 15 campuses Total Square Footage: 5,250,000
<i>Project Dollar Amount</i>	Total Contract Amount: \$31,700,000
<i>Source of Funding</i>	School Bonds arranged by Tennessee Board of Regents
<i>Project Dates</i>	Construction: First college project started on 12-15-04. Others on -going
<i>Contract Terms</i>	1 year of guaranteed savings;
<i>Project Personnel</i>	Hans Hoinaes, Project Development Engineer ; Bill Skosky, Stewart Shunk – Team Leaders,; Philip Pursley, Charley Belt, Project Management; David Spurrier, Measurement & Verification Services  None of these people would be potentially placed on this contract's project.
<i>Project Schedule</i>	This project was completed on time and within budget.
<i>List of improvements.</i>	<p>Pellissippi State Technical Community College, Knoxville, Tennessee This campus includes 16 buildings with approximate square footage of 543,819. Ameresco's project included lighting retrofits, electric motor replacements, variable flow pumping systems, energy management system control points improvements and water conservation.</p> <p>Walters State Technical Community College, Morristown, Tennessee This campus includes 12 buildings with approximately 676,980 square feet. Our project included lighting retrofits, electric motor replacements, variable flow pumping systems, energy management control points improvements and water conservation. The project contract amount was \$1,045,646.</p> <p>Northeast State Technical Community College, Blountville, Tennessee This campus includes 10 buildings with approximately 257,918 square feet. Our project included lighting retrofits, electric motor replacements, variable flow pumping systems, energy management control points improvements and water conservation. The project contract amount was \$460,834.</p> <p>Chattanooga State Technical Community College, Chattanooga, Tennessee This campus includes 15 buildings with approximately 595,622 square feet. Our project included lighting retrofits, electric motor replacements, variable flow pumping systems, energy management control points, water conservation, boiler system improvements, and vending machine controls. . The project contract amount was \$2,216,289.</p> <p>Roane State Community College, Harriman, Tennessee This campus includes 14 buildings with approximately 629,970 square feet. Our project included</p>

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Tennessee Board of Regents - East Region	
	<p>lighting retrofits, electric motor replacements, variable flow pumping, HVAC improvements and water conservation. The contract amount was \$1,572,762.</p> <p>East Tennessee State University Phase 1 of this project encompassed 31 buildings totaling 1,644,593 square feet with annual savings of \$425,992. Project improvements included: comprehensive campus-wide lighting upgrades and water conservation. Phase 2 of this project began in May 2008 and ended in May 2009 with annual savings of \$174,915. Project improvements included: central plant optimization, steam plant upgrades, full building renovation in two buildings, 80 variable-speed motor drives, work on air handling units (AHUs) in 28 buildings, and steam traps across campus. The lighting in the Memorial Center was also upgraded for televised HD games. HVAC controls, mechanical savings, and steam trap replacements are stipulated based on detailed engineering analysis.</p> <p>Northeast State Technical Community College This project began in February 2005 and ended in December 2005. It encompassed 10 buildings totaling 257,918 square feet with annual savings of \$64,229. Project improvements included: lighting upgrades, water conservation, electric motor replacement, variable-flow hydronic pumping systems conversion, energy management control system improvements; and management and controls for the new plate/frame heat exchanger. The lighting, water, motors, variable-speed pumping and the plate/frame heat exchanger savings were verified using field measurements.</p>
<i>Project performance</i>	See above
<i>Measurement and Verification (M&amp;V)</i>	Measured capacity, stipulated consumption Calibrated simulation
<i>Performance Guarantee</i>	Ameresco has met its guarantee.
<i>Additional Comments</i>	<p>In December 2002, Ameresco began a three-year ESPC contract with the Tennessee Board of Regents, East Tennessee Region. The contract was extended for two additional years. Ameresco was selected after an extensive RFP process. The Board extended the contract and dedicated over \$20 million for the project. Under this contract, Ameresco improved 11 campuses in the Eastern Region.</p> <p>As of August 2011, Ameresco has completed nine projects and two are in the final stages of construction. The ESPCs are 15-year terms and are funded through Tennessee School Bond Funds</p>