



# OLR RESEARCH REPORT

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## **EFFICIENCY AND RENEWABLE ENERGY PROGRAMS FOR MUNICIPALITIES**

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You asked for a compendium of energy programs available or of interest to municipalities, including energy efficiency, renewable energy, performance contracting, and property assessed clean energy (PACE) programs.

### **SUMMARY**

The electric and gas companies generally consider municipalities to be commercial customers that are eligible for most energy efficiency programs offered to commercial and industrial (C&I) customers. These include programs that provide rebates for energy improvements in areas such as lighting; heating, ventilation, and air conditioning (HVAC) systems; and energy management systems. Some of the programs also offer low-cost financing of these improvements. These programs are supported by the Energy Efficiency Fund, which is primarily funded by electric and gas company ratepayers. PA 11-80 additionally requires the Department of Energy and Environmental Protection (DEEP) to develop a program to promote combined heat and power systems, which simultaneously produce electricity and heat. Such systems may be appropriate for schools and other municipal buildings.

The Clean Energy Finance and Investment Authority (CEFIA) administers the state's Clean Energy Fund and offers a program promoting solar water heating that is open to municipalities. PA 11-80 requires CEFIA to establish pilot programs for combined heat and power and anaerobic digesters that will also be open to municipalities.

The law requires electric companies and competitive electric suppliers to provide equipment and billing for net metering. In general, the net metering law allows a customer with an on-site electricity generator powered by a renewable energy resource to earn billing credits when the customer generates more power than he or she uses, essentially "running the meter backwards." PA 11-80 authorizes "virtual net metering," which allows a municipality to share these credits to lower the electricity bills of other "beneficial accounts" (e.g., other municipal buildings) the municipality designates. PA 11-80 also requires electric companies to enter into long-term contracts with renewable energy generators, which could include municipalities.

Federal law allows municipal and state governments to issue Qualified Energy Conservation Bonds (QECCBs) that allow them to borrow money to fund energy efficiency and renewable energy projects. A QECCB is among the lowest-cost public financing tools because the U.S. Department of Treasury subsidizes the issuer's borrowing costs.

The law also authorizes energy performance contracts, under which an energy services provider (1) gives a customer a comprehensive set of energy efficiency measures; (2) often arranges for long-term project financing from a third-party; and (3) normally guarantees that the project's savings will be sufficient to cover the cost of project financing for the life of the project. As described in OLR report 2011-R-0067, a number of Connecticut municipalities have entered into performance contracts. PA 11-80 explicitly authorizes municipalities and state agencies to enter into such contracts. It requires the Energy Conservation Management Board (ECMB) to develop standardized performance contracting procedures, and authorizes municipalities to use these procedures or ones they develop themselves.

PA 11-80 also allows municipalities to establish PACE loan programs to finance energy efficiency and renewable energy projects under which the projects' costs are recovered by an assessment on the benefitted properties. As discussed in OLR report [2012-R-0027](#), the federal government has taken steps that have largely stopped the implementation of residential PACE programs nationally, although its actions are the subject of litigation.

## **ENERGY EFFICIENCY FUND**

The Energy Efficiency Fund is primarily supported by a charge of 0.3 cents per kilowatt-hour (kWh) sold by electric companies and competitive electric suppliers. Additional funding comes from proceeds of auctions under the Regional Greenhouse Gas Initiative, contributions from gas company ratepayers, and other sources. The fund supports a wide range of programs that are open to municipal customers of the electric and gas companies. The programs include the Small Business Energy Advantage, Energy Opportunities, Retro-commissioning, and Small C&I Energy Efficiency Loan programs.

### ***Small Business Energy Advantage***

The Small Business Energy Advantage (SBEA) program is open to all C&I customers with an average 12-month peak demand between 10 kilowatts (kW) and 200 kW (i.e., small business and institutional customers).

In the program, a contractor retained by the utility conducts an energy assessment of the customer's facility at no cost. The electric company reviews the assessment and, if accepted, the contractor presents a proposal to the customer. The proposal includes all possible energy-efficiency measures, their complete costs and estimated energy savings, and available program incentives and financing options. Eligible measures include lighting, HVAC, and refrigeration.

Eligible customers can receive rebates that cover part of the cost of the measures. They can finance the remaining costs with interest-free loans that can be repaid on the customer's electric bill. The loan amount can be from \$500 to \$100,000. Loans are not available to customers or projects participating in certain other efficiency programs. Further information about the program is available at [http://www.clp.com/Business/SaveEnergy/Services/Small\\_Business\\_Energy\\_Advantage/](http://www.clp.com/Business/SaveEnergy/Services/Small_Business_Energy_Advantage/) (this is the website for the Connecticut Light and Power program, United Illuminating's program is similar).

### ***Energy Opportunities***

The Energy Opportunities program is open to C&I customers of any size engaged in a retrofit project. Under the program, a retrofit is the replacement of existing equipment that is working and has at least 25% of its useful life left. Electric company customers on a commercial or industrial rate can participate in the program with regard to electric

efficiency measures; firm (non-interruptible) gas company customers can participate with regard to gas efficiency measures. Eligible measures include lighting, HVAC, refrigeration, and water heating improvements.

Program staff identify energy-saving equipment options for the customer to consider. They then prepare a contract the customer signs before ordering any equipment. This document identifies the energy-efficiency measures, their estimated energy savings, and the anticipated incentive offered by the company. The incentive depends on the type of measure, for example, standard lighting measures are eligible for a 35% rebate of their cost, while high performance lighting measures such as light emitting diodes are eligible for a 40% rebate. The companies also offer express rebates for some of the more common measures for fast and convenient savings. Once the project is completed, the measures are inspected and verified and the customer receives the incentive payment. The program can also provide zero or low-interest rate financing to replace inefficient equipment with a high-efficiency replacement.

Further information about this program is available at [http://www.clp.com/Business/SaveEnergy/Services/Energy\\_Opportunities/?MenuID=4294985014](http://www.clp.com/Business/SaveEnergy/Services/Energy_Opportunities/?MenuID=4294985014).

### ***Retro-Commissioning***

The electric and gas companies offer this program to municipalities and other C&I customers, focusing on larger facilities. The companies conduct an in-depth engineering investigation of a facility's systems operations, which focuses on integrating more efficient and effective instructions for the building management systems. The program's main objective is to find low- or no-cost, non-capital, energy-efficient measures that will quickly and effectively result in energy savings for the facility's owner.

### ***Small C&I Energy Efficiency Loan Program***

This program is open to all C&I customers in business for at least three years with good credit standing. All efficiency projects undertaken by C&I customers qualify, except for new construction, major renovation projects, and projects that participate in the SBEA loan program described above. If an SBEA project only receives rebates under that program but does not obtain a loan, it can apply to participate in this low-interest loan program.

## **COMBINED HEAT AND POWER PROGRAM**

PA 11-80 requires DEEP to accept applications for financial incentives for combined heat and power systems (CHP) systems of up to one megawatt of capacity. DEEP was required to review the current market conditions for CHP (also called cogeneration) systems and determine the appropriate financial incentives necessary to encourage installation of them. DEEP conducted its review and on April 5, 2012 approved financial incentives of \$200 per kilowatt (kW, a unit of generating capacity). This program is open to all developers of CHP systems, including municipalities.

## **RENEWABLE ENERGY**

### ***Clean Energy Finance and Investment Authority***

By law, CEFIA must (1) develop programs to finance and otherwise support clean energy investment in municipal and other projects; (2) stimulate demand for clean energy and the deployment of clean energy sources in the state that serve end-use customers here; and (3) support financing or other expenditures that promote investment in clean energy sources according with its comprehensive plan to foster the growth, development, and commercialization of clean energy sources and related enterprises.

CEFIA may provide financing support to clean energy projects if it determines that the amount to be financed by the authority and other non-equity financing sources does not exceed (1) 80% of the cost to develop and deploy a renewable energy project or (2) 100% of the cost for an energy efficiency project. CEFIA may assess reasonable fees on its financing activities to cover its reasonable costs and expenses, as determined by its board.

CEFIA is responsible for administering the Clean Energy Fund, which is supported by a 0.1 cent per kWh charge on electric bills and other sources. Further information about the fund is available at <http://www.ctcleanenergy.com/default.aspx>.

CEFIA also administers the Clean Energy Communities program under which municipalities can qualify for free renewable energy systems for public buildings. To qualify, the municipality must (1) pledge to obtain at least 30% of the electricity for all municipal facilities from clean energy sources by 2015, (2) commit to meeting the requirements of the U.S. Environmental Protection Agency's community energy challenge,

and (3) sign up residents with energy suppliers that get their power from renewable resources. Information about the program is available at <http://www.ctcleanenergy.com/YourCommunity/CTCleanEnergyCommunities/tabid/363/Default.aspx>.

**Previous Projects.** The Clean Energy Fund has provided financial assistance to a variety of municipal projects. These include:

1. fuel cells at Fairfield and New Haven water pollution control authority facilities;
2. photovoltaic systems at a community center in Mansfield, the town garage in North Stonington, a recycling center in Stamford, and a fire station in Westport; and
3. small wind facilities at high schools in Coventry and Lebanon.

**Current and Pending Programs.** CEFIA offers grants, through designated participating contractors, to any customer (including municipalities) of Connecticut Light & Power or United Illuminating Company who wishes to install solar hot water systems. The program is currently being run on an interim basis; a long-term program will begin in the summer of 2012.

Funding under the interim program is limited to domestic hot water and commercial process water systems only; space heating and pool heating systems are not eligible. Grants are intended to support systems that will supply between 50% and 80% of a customer's annual hot water needs. Developers of new residential or nonresidential facilities in Connecticut may also apply for the incentives.

Customers must have an energy assessment of the facility to identify opportunities for additional energy savings. The assessment must be conducted by a professional engineer, certified energy manager, certified energy auditor, or a contractor certified by the Building Performance Institute, Inc.

For commercial customers (including municipalities) funding is awarded using a competitive "reverse auction" format, where the incentive is based on the lowest rebate needed to make the project economically feasible. Applications are ranked based on the project's economic factors, such as the cost per unit of solar energy produced, (90% weight) and implementation of energy efficiency measures on the site (10%) weight.

The customer must use a CEFIA-approved contractor to qualify for a rebate. The contractor will review the project, provide information on solar hot water systems and assist the customer with CEFIA's application process. A list of approved contractors is available at [www.ctcleanenergy.com/commercialSHW](http://www.ctcleanenergy.com/commercialSHW). No single project owner, site owner, or contractor will be granted a total of more than \$500,000 under this interim program. No single project will be given a grant larger than \$200,000. Further information about the interim program is available at <http://www.ctcleanenergy.com/Portals/0/CEFIA%20Commercial%20Solar%20Hot%20Water%20Program.pdf>

PA 11-80 requires CEFIA to establish a three-year pilot program to provide financial incentives for installing CHP systems with a generating capacity of less than 2 megawatts (2,000 kW). (This is separate from the CHP program administered by DEEP, described above.) CEFIA must set one or more standardized grant amounts, loan amounts, and power purchase agreements for the projects to limit its and project proponent's administrative burden. The standardized provisions must seek to minimize costs for the ratepayers; ensure that the project developer has a significant share of the financial burden and risk; and ensure the development of projects that benefit the state's economy, ratepayers, and environment. The CHP program may not exceed 50 megawatts. Funding for individual projects is capped at \$350 per kW.

The act also requires CEFIA to establish a pilot program to support anaerobic digestion facilities that to generate electricity and heat by converting organic wastes into methane. The assistance can take the form of loans, grants, or power purchase agreements. CEFIA may approve no more than five projects under the program, each with a maximum size of 1,500 kW and a maximum cost of \$450 per kW.

CEFIA must allocate \$ 2 million annually from the Clean Energy Fund for each program.

CEFIA issued its [RFP](#) for this program on April 11, 2012, with a closing date of July 13, 2012. Municipalities are eligible to submit proposals; examples of possible municipal sites for anaerobic digester projects are school cafeterias and sewage treatment plants.

## **NET METERING/VIRTUAL NET METERING**

The law requires electric companies and competitive suppliers to provide equipment and billing for net metering (CGS § 16-243h). In general, the net metering law allows a customer with an on-site electricity generator powered by a renewable energy resource to earn billing credits when the customer generates more power than he or she uses, essentially “running the meter backwards.”

PA 11-80 authorizes “virtual net metering,” which allows municipalities to share these credits to lower the electricity bills of other “beneficial accounts” (e.g., other municipal buildings) the customer designates. Electric companies must provide their municipal customers with virtual net metering and make any needed interconnections, including installing metering equipment, for customers who need it. The act specifies how the (1) metering equipment must operate and (2) electric companies must bill those who participate.

DEEP must develop administrative processes and program specifications, including a program cap of \$1 million per year for the credits provided to the beneficial accounts, apportioned to each electric company based on its consumer load.

### ***Virtual Net Metering Equipment***

Electric companies must interconnect with and provide virtual net metering equipment to any “virtual net metering facility” that requests it. These facilities are customer-owned class I renewable energy source (solar, wind, fuel cells, etc.) that can generate up to two megawatts of electricity. The customer must be one of the electric company's in-state retail end-users and within the same service territory as the other accounts to which it will distribute credits.

The virtual net metering equipment must be able to (1) measure the electricity consumed from the electric company's facilities; (2) deduct the amount of electricity the customer produced, but did not consume; and (3) calculate the customer's net production or consumption for each monthly billing period.

### ***Billing***

A customer participating in virtual net metering can designate “beneficial accounts” that will receive the billing credits when the customer produces more electricity than he or she uses. These accounts

must all be in-state retail end users and in the same electric company service territory as the customer. The customer must notify the electric company about the other accounts in writing at least 60 days before the generating facility begins operating. The customer can amend the list of accounts only once a year by providing another 60 days' written notice. The municipal customer may not designate more than five beneficial accounts.

When the customer produces more electricity than he or she uses in a monthly billing period, the electric company must bill the customer for zero kWh. For each extra kWh produced, the electric company must assign a credit that equals the retail cost per kWh the customer would otherwise have been charged. The credits are then used to reduce the charges on the beneficial accounts in the next billing period, although no account can be reduced below zero kWh. However, the shared billing credit is only for the generation service charge (the cost of power as distinct from such costs as transmission and distribution). Under traditional net metering, the credit that a customer received for his own account applied to all of the charges on the bill.

If any unused credits remain after the electric company has reduced all of the beneficial accounts to zero kWh, the electric company must carry them forward from one monthly billing period to the next until the end of the calendar year. At the end of each year the company must pay the customer for any unused credits at the wholesale rate the company pays for the power it buys to serve its standard service customers.

## **LONG-TERM CONTRACTS WITH RENEWABLE GENERATORS**

By law, electric companies and competitive electric suppliers in Connecticut must get part of their power from renewable resources. In practice, the companies and suppliers meet these requirements by buying the renewable energy credits (RECs) associated with the power produced by renewable generation.

PA 11-80 requires Connecticut electric companies to enter into long-term (15-year) contracts to buy RECs produced by generation facilities that emit no or low levels of air pollutants. An example of the former is a wind turbine; an example of the latter is a fuel cell. The zero-emission facilities must be less than 1,000 kW in capacity (approximately the size needed to serve 750 homes). The low emission facilities must have a capacity of less than 2,000 kW.

The act specifies how the electric companies must solicit and procure these contracts under the zero- and low-emission programs. Both programs are open to all generators, which could include a municipality. East Hartford, Enfield, and New London have expressed interest in the zero-emission program.

In the current round of the programs, 100 kW and larger zero-emission and all low-emission projects will be selected based on a competitive request for proposals process. The initial request for proposals for the programs was issued on May 1, 2012 and the filing deadline is June 12, 2012. Bidders can submit prices up to a \$200 per kW for the low-emission program and up to \$350 per kW for zero-emission projects. There will be separate bidding processes for zero-emission projects of 100 to 250 kW and 250 to 1,000 kW project. Small (under 100 kW) projects will be able to participate in the zero-emission program on a first-come, first-served basis after the first year's RFP for medium-size projects is completed.

There will be two additional annual solicitations for the low-emission program and as many as five additional annual solicitations for the zero-emission program. Projects must have been placed in service after July 1, 2011 and must be "behind the meter," i.e., on a customer's premises. Projects may not have received grants from CEFIA, although they may have received financing from the authority.

Further information on these programs is available at <http://www.ct.gov/deep/cwp/view.asp?a=4120&Q=503720>.

## **FEDERAL FINANCING PROGRAM**

The Energy Improvement and Extension Act of 2008 authorized the issuance of Qualified Energy Conservation Bonds (QECCBs) that may be used by state, local, and tribal governments to finance certain types of energy projects. QECCBs are taxable bonds, which means that bondholders must pay federal taxes on the interest they receive. Issuers may structure QECCBs as tax credit bonds (bond investors receive federal tax credits in lieu of interest payments) or as direct subsidy bonds (bond issuers receive cash rebates from the U.S. Treasury to subsidize their net interest payments). Both tax credit and direct payment bonds subsidize the issuer's borrowing costs.

Bond proceeds can be used to fund capital expenditures on a variety of projects including:

1. reducing energy consumption in publicly owned buildings;
2. implementing green community programs, such as those that provide loans or grants to community residents;
3. producing electricity from renewable energy resources in rural areas;
4. supporting energy-related research;
5. implementing mass commuting and related facilities that reduce energy consumption and pollution;
6. designing and implementing demonstration projects to promote the commercialization of energy-related technologies and processes; and
7. implementing public education campaigns to promote energy efficiency.

The bonds are not subject to a U.S. Department of Treasury application and approval process. The U.S. Congress authorized \$3.2 billion of QECCB issuance capacity, which has been allocated to state, local, and tribal governments. Bond volume is allocated to each state based on its share of the U.S. population as of July 1, 2008. Each state must allocate part of its allocation to municipalities with a population of 100,000 or more within the state (in Connecticut, Bridgeport, Hartford, New Haven, Stamford, and Waterbury) based on each municipality's share of the state's population.

Further information on QECCBs is available at <http://www1.eere.energy.gov/wip/solutioncenter/financialproducts/qecb.html>.

## **PERFORMANCE CONTRACTING**

### ***Introduction***

In an energy performance contract, a provider typically provides all of the services needed to design and implement an energy efficiency project. These can include energy audits, design engineering, construction

management, commissioning (verifying that the project works the way it was designed), operations and maintenance, and savings monitoring and verification. The efficiency measures can address: lighting; heating, ventilation, and air conditioning; energy management systems; and building envelope improvements such as insulation, new roofs, and windows. A contract may also include installation of on-site renewable energy or other forms of distributed generation and water conservation measures.

The provider often arranges for long-term project financing from a third-party. Among the major finance companies participating in such contracts are Bank of America, Citibank, and GE Capital. Financing commonly takes the form of an operating lease or municipal lease. The latter, also called a tax-exempt lease purchase agreement, allows the customer to finance a project without carrying a liability on its balance sheet. Municipal and state governments sometimes finance projects by issuing bonds.

The provider normally guarantees that the project's savings will be enough to cover the cost of project financing for the life of the project, with the guarantee often backed by a performance bond or letter of credit. If the savings do not take place, the provider pays the difference. The provider bears the risk of interest rate changes and utility cost increases beyond the escalation clause in the contract.

OLR report 2011-R-0067 describes the performance contracting experience of the Bridgeport Housing Authority, the town of East Hartford, and the borough of Naugatuck. Each municipality contracted with a provider for a variety of energy efficiency improvements. In all three cases, the improvements substantially reduced energy consumption and saved the municipality money. In addition, the efficiency measures reduced emissions of carbon dioxide, sulfur dioxide, and nitrogen oxides. Other municipalities that have entered into performance contracts include Branford, Bristol, Cromwell, Fairfield, Farmington, Mansfield, and Windham. According to Connecticut Conference of Municipalities staff, while most Connecticut municipalities that have entered into performance contracts have had positive experiences, this has not been universally true.

### ***PA 11-80 Provisions***

While a number of municipalities had entered into performance contracts, some town attorneys questioned whether municipalities had legal authority to do so. PA 11-80 explicitly allows any municipality to enter into a performance contract with a qualified energy service provider

to produce utility cost or operation and maintenance cost savings. Any energy-savings measure implemented under these contracts must comply with applicable building codes. A municipality may implement other capital improvements in conjunction with an energy-savings performance contracts so long as the measures that are being implemented to achieve the cost savings and other capital improvements are in the aggregate cost-effective over the term of the contract. The act's provisions also apply to state agencies.

**Definitions.** An energy-savings performance contract is one between a municipality and a qualified energy service provider to evaluate, recommend, and implement one or more energy savings measures. The contract must guarantee energy cost savings and include (1) the design and installation of equipment and, if applicable, operation and maintenance of any of the measures implemented and (2) guaranteed annual savings that meet or exceed the total annual contract payments the municipality makes including financing charges incurred over the contract's life.

To be qualified, the provider must be a corporation approved by the Department of Administrative Services (DAS) with a record of successful energy performance contract projects that (1) is experienced in designing, implementing, and installing energy efficiency and facility improvement measures; (2) has the technical capabilities to ensure the measures save money; and (3) can secure the financing needed to support energy savings guarantees.

The contract must reduce utility or operation and maintenance costs. The former are utility expenses eliminated or avoided on a long-term basis as a result of equipment installed or modified or services performed by the provider. They do not include merely shifting personnel costs or similar short-term cost savings. Operation and maintenance cost savings means a measurable decrease in these costs and future replacement expenditures that result directly from implementing one or more utility cost savings measures. These savings must be calculated against an established baseline of operation and maintenance costs.

Energy-savings measures include a wide variety of efficiency measures, as well as renewable energy and cogeneration systems, indoor air quality improvements, and water conserving measures. A measure, piece of equipment, activity, or facility is considered cost-effective if a municipality reasonably expects that the present value of the energy it will save or produce over its useful life is more than the net present value of the costs of implementing, maintaining, and operating it over the same period, discounted at the cost of public borrowing.

**Agency Roles in Performance Contracting.** DEEP, in consultation with the Office of Policy and Management (OPM) and ECMB, must help municipalities identify, evaluate, and implement cost-effective conservation projects at their facilities and create promotional materials to explain the performance contract program. OPM must inform municipalities of opportunities to develop and finance energy performance contracting projects. It must provide technical and analytical support, including (1) procuring energy performance contracting services, (2) reviewing verification procedures for energy savings, and (3) assisting in structuring and arranging financing for energy performance contracting projects.

DEEP may charge fees to cover costs incurred for its administrative support and resources or services provided to the municipalities that use its technical support services. The fees must be disclosed before services are rendered. Any participating municipality may opt out of the state performance contract process rather than incur the fees. Municipalities may add the costs of these fees to the total cost of the energy performance contract.

**Standardized Procedures.** DEEP must establish a standardized performance contract process for municipalities, working with ECMB and consulting with OPM and DAS in developing the process. A municipality may use the standardized process or establish its own.

The standardized process must include standard procedures for entering into a performance contract and standard energy performance contract documents. The documents must include requests for qualifications (RFQs); RFPs; investment-grade audit contracts; energy savings performance contracts, including the form of the project savings guarantee; and project financing agreements. An investment-grade audit is a study by the provider selected for a project that includes detailed descriptions of the recommended improvements for the project, their estimated costs, and the cost savings projected to result from them.

**Prequalification of Energy Performance Contractors.** DAS must issue an RFQ from companies that can offer energy performance contract services to create a list of qualified companies. Municipalities can use the list or establish their own qualification process.

When reviewing RFQs (apparently responses to the RFQ), DAS must consider a company's experience with, among other things:

1. design, engineering, installation, maintenance, and repairs associated with performance contracts;
2. conversions to a different energy source as part of a comprehensive energy efficiency retrofit;
3. post-installation project monitoring, data collection, and reporting of savings;
4. overall project management and qualifications;
5. accessing long-term financing;
6. projects of similar size and scope, including those in Connecticut; and
7. other factors DAS determines to be relevant and appropriate.

**Selecting Contractors.** Before entering a performance contract, a municipality that uses the standardized procedures must issue an RFP to three or more qualified providers. It may award the contract to the provider that best meets its needs, which need not be the lowest cost provider.

A cost-effective feasibility analysis must be included in the responses to the RFP. The municipality must use the analysis to select a qualified provider to engage in final contract negotiations. In making its final selection, the municipality must consider:

1. contract terms,
2. the proposal's comprehensiveness,
3. the provider's financial stability,
4. comprehensiveness of cost savings measures,
5. experience and quality of technical approach, and
6. overall benefits to the municipality.

**Energy Audit.** The provider selected as a result of the RFP process must prepare an investment-grade energy audit. Upon acceptance, the audit becomes part of the final performance contract. The audit must include estimates of (1) how much utility, operation, and maintenance cost savings would increase and (2) all costs of the measures. These include:

1. itemized design costs,
2. engineering,
3. equipment and materials,
4. installation,
5. maintenance and repairs, and
6. debt service.

If (1) the municipality does not to execute an energy services agreement after the audit is prepared and (2) the costs and benefits described in it are not materially different from those described in the feasibility study submitted in response to the RFP, the municipality must pay the costs of preparing the audit. Otherwise, the audit costs are included in the costs of the performance contract.

**Review of Projected Cost Savings.** These guidelines may require that a licensed professional engineer review the cost savings projected by the qualified provider. The engineer must have at least three years experience in energy calculation and review. He or she may not be (1) an officer or employee of a provider for the contract under review or (2) otherwise associated with the contract.

In conducting the review, the engineer must focus primarily on the proposed improvements from an engineering perspective, the methodology and calculations related to cost savings, increases in revenue, and, if applicable, efficiency or accuracy of metering equipment. The engineer must maintain the confidentiality of any proprietary information he or she acquires while reviewing the contract.

**Project Financing.** A municipality may use funds designated for operating and capital expenditures or utilities for any energy-savings performance contract, including contracts authorized by the act. A contract may provide for financing by a third party, including tax-exempt

financing. The financing provision may be separate from the contract. A municipality may use designated funds, bonds, lease purchase agreements, or a master lease for energy-savings performance contracts, so long as their use is consistent with the purpose of the appropriation.

Energy-savings performance contracts must provide that (1) all payments between parties, except obligations on termination of the contract before its expiration, will be made over time and (2) the objective of the contract is implementation of cost savings measures and energy and operational cost savings.

A performance contract, and payments under it, may extend beyond the fiscal year in which the contract became effective, subject to appropriations, if required by law, for costs incurred in future fiscal years. The contract may run for up to 20 years and the length of the contract may reflect the useful life of the cost savings measures. A contract may provide for payments over a period not to exceed deadlines specified in it from the date of the final installation of the cost savings measures.

**Reconciliation and Annual Reports.** The contract may provide that reconciliation of the amounts owed under it will occur in a period beyond one year, with final reconciliation occurring within the term of the contract. A contract must include contingency provisions if the actual savings do not meet predicted savings.

The contract must require the provider to give the municipality an annual reconciliation of the guaranteed energy cost savings. If the reconciliation reveals a shortfall in annual savings, the provider is liable for the shortfall. If the reconciliation reveals an excess in annual energy cost savings, that excess remains with the agency or municipality but may not be used to cover potential energy cost savings shortages in subsequent contract years or savings shortages in prior years.

During the term of each contract, the provider must monitor the reductions in energy consumption and cost savings attributable to the cost savings measures installed under the contract. The provider must, at least annually, report to the municipality documenting the performance of the cost savings measures. The report must comply with International Performance Measurement and Verification Protocols.

**Modifications of Energy Savings Calculations.** The provider and municipality may agree to modify savings calculations based on:

1. a subsequent material change to the baseline energy consumption identified at the beginning of the performance contract;
2. changes in the number of days in the utility billing cycle, the building's total square footage, its operational schedule, or its temperature;
3. a material change in the weather or in the amount of equipment or lighting used at the facility; or
4. any other change that reasonably would be expected to modify energy use or energy costs.

***Use of Savings and Reporting Requirements.*** Any municipality participating in the standardized energy performance contract process that enters into an energy performance contract must report to OPM and DEEP the project's name, investment on the project, and expected energy savings when the contract is executed. It may direct the savings realized under the performance contract to contract payment and other required expenses and, when practicable, it may reinvest savings beyond that required for contract payment and other required expenses into additional energy saving measures.

## **PACE**

### ***Enabling Legislation***

PA 11-80 allows any municipality to establish a PACE loan program for financing sustainable energy improvements to qualifying real property located within the municipality. The program can cover all or part of the municipality. Under the act, the energy improvements are (1) any renovation or retrofitting of qualifying real property to reduce energy consumption or (2) installation of a renewable energy system to serve the property. Qualifying real property are single- or multi-family residential dwellings or other buildings that a municipality determines can benefit from energy improvements.

Any municipality that establishes a loan program may issue bonds to (1) offer loans to the owners of eligible property in the municipality to finance energy improvements, (2) conduct related energy audits, and (3) conduct renewable energy system feasibility studies and verify the installation of any improvements. The bonds and financing must be backed by special contractual assessments on the benefitted property.

Any loan made under the program must be repaid over a term that does not exceed the time in which the energy costs savings generated by the improvements equals their cost, as determined by the municipality. The municipality must set a fixed interest rate when each loan is made. The interest rate must be sufficient to pay the program's financing costs, including loan delinquencies. The loan cannot have a prepayment penalty.

Loans under the program, interest, and any penalties are a lien against the property. The lien must be levied and collected in the same way as property taxes. In the case of a default or delinquency, the lien is subject to the same penalties and remedies and lien priorities as a delinquent tax payment. But the lien does not have priority over existing mortgages.

### ***Federal Actions***

As discussed in OLR report [2012-R-0027](#), the Federal Housing Finance Agency (FHFA), which regulates the residential secondary mortgage market, raised concerns about PACE programs, most notably regarding the priority of PACE liens over existing mortgages. It has taken steps that have largely stopped the implementing of residential PACE programs, although its actions are the subject of litigation.

In the wake of FHFA's action, several jurisdictions developed PACE programs solely for commercial properties. Commercial PACE programs have recently begun in Los Angeles County and San Francisco and programs are in development in Michigan, Ohio, and Vermont. OLR report [2012-R-0027](#) describes the enabling legislation in Michigan and Vermont.

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