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ENERGY PROGRAMS FOR COMMUNITY COLLEGES

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You asked for a description of energy efficiency and renewable energy programs open to community colleges.

SUMMARY

Community colleges are generally eligible for the efficiency programs electric and gas companies offer to their commercial and industrial (C&I) customers, including the Energy Opportunities and Retro-commissioning programs. These programs provide rebates for energy improvements in areas such as lighting; heating, ventilation, and air conditioning (HVAC) systems; and energy management systems. The utilities also operate the Small Business Energy Advantage (SBEA) program, which provides grants and loans for efficiency measures, but this program is only open to C&I customers with demand of up to 200 kilowatts (kW), and thus generally would not be available to community colleges, which have larger demands. The utilities also offer low-cost financing of these improvements.

Community colleges can also take advantage of performance contracting, in which an energy services company installs energy efficiency measures at its own cost in exchange for part of the cost savings they produce.

The Clean Energy Finance and Investment Authority (CEFIA) administers a program to promote combined heat and power (CHP) that could benefit community colleges. CEFIA has also recently introduced an efficiency financing program that is open to private colleges in the state that it expects will serve as a model for other types of customers.

CEFIA offers grants to any electric company customer who wishes to install solar hot water systems. It is also developing a pilot program to support using organic wastes in anaerobic digestion facilities to generate electricity and heat. Information about the CEFIA energy efficiency and renewable energy programs is available at <http://www.ctcleanenergy.com/YourBusinessorInstitution/tabid/59/Default.aspx>.

In addition to these programs, the law requires electric companies to provide net metering for customers that have on-site renewable generation systems that in effect runs the customer's meter backwards when the system produces more power than the customer uses. The companies must also enter into long-term contracts with customers that produce power from zero- and low-emission renewable energy systems.

Finally, federal law allows state and local governments to issue Qualified Energy Conservation Bonds (QECBs) that may be used to finance efficiency projects in public sector buildings, among other things.

ENERGY EFFICIENCY

Utility Efficiency Programs

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. 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.cl-p.com/Business/SaveEnergy/Services/Energy_Opportunities/?MenuID=4294985014 (this is the website for the Connecticut Light and Power program, United Illuminating's program is similar).

Retro-Commissioning. The electric and gas companies offer this program to 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 information processing 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. Information on the program is available at http://www.cl-p.com/Business/SaveEnergy/Services/Retro_Commissioning/.

C&I Energy Efficiency Loan Program. This program provides low-interest loans for energy efficiency projects and 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 loan component of the SBEA program. 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. Information on this program is available at <http://www.cl-p.com/business/saveenergy/financing/smalliloans.aspx>.

Performance Contracting

[PA 11-80](#) required the Department of Energy and Environmental Protection (DEEP) to create a standardized energy savings performance contracting program for state agencies and municipalities. Under these contracts, an energy services company installs energy efficiency measures in exchange for part of the savings they produce.

The program provides:

1. a pre-qualified set of energy service companies, on contract with the Department of Administrative Services, that will perform upgrades that meet stringent qualification criteria;
2. a program manager from DEEP who will be an on-call resource for state agencies and municipalities;
3. a financial advisor from CEFIA who will guide municipalities and ensure that they are getting the best deal possible for financing their projects;
4. a set of contractual documents that offer a Connecticut-based template for energy savings performance contract projects; and
5. targeted technical assistance for state agencies and municipalities through the Connecticut Energy Efficiency Fund.

Further information on the program is available at <http://www.ct.gov/deep/cwp/view.asp?Q=509098&A=4174>.

CEFIA Combined Heat and Power (CHP) Program

[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. CHP (also known as cogeneration) simultaneously produces electricity and thermal energy. It could be used on a community college campus to generate power and to heat buildings.

CEFIA must set one or more standardized grant amounts, loan amounts, and power purchase agreements for the projects to limit the authority's and project proponent's administrative burden. The standardized provisions must seek to minimize costs for the ratepayers, ensuring that the project developer has a significant share of the financial burden and risk, while ensuring the development of projects that benefit Connecticut's economy, ratepayers, and environment. The authority may decline to support a proposed project if its benefits, including emissions reductions, are insufficient to justify ratepayer or taxpayer investment.

The program may not exceed 50 megawatts of generating capacity. Funding for individual projects is capped at \$350 per kW (there are 1,000 kW in a megawatt). CEFIA must allocate \$2 million annually from the Clean Energy Fund for the program.

Efficiency Financing Program

On September 18, 2012, CEFIA announced that it will lend \$1 million under a new “Campus Efficiency Now” program designed to promote energy efficiency and cleaner and more reliable energy for Connecticut’s independent colleges. The program will enable the participating colleges to install energy saving measures with no upfront funding by the college.

CEFIA will loan up to \$1 million to support the installation of energy efficiency upgrades. Participating Connecticut Conference of Independent Colleges (CCIC) members will repay the loans using savings generated by the efficiency projects under a 5-year energy savings agreement. The initial program partners see this as a chance to expand on savings achieved under existing energy services performance contracts. CEFIA anticipates that the program will also demonstrate the value of its new approach to supporting clean energy, which emphasizes financing rather than the provision of rebates.

GreenerU Inc., developed the program in partnership with CCIC and CEFIA. GreenerU Inc., has worked with other New England colleges in implementing innovative energy efficiency programs. The University of Hartford, Mitchell College, Connecticut College, University of Saint Joseph, and the University of New Haven are expected to participate in the new program. CEFIA anticipates that additional CCIC members will participate in the program and that it will also attract additional funding from private investment sources based on positive results from the pilot program.

Under the program, there are no upfront costs to the participating colleges. The schools only pay for delivered energy savings, not for equipment or installation. A share of the college’s savings is dedicated to repay CEFIA’s loans. GreenerU Inc., will oversee a three step process that begins with a preliminary feasibility assessment; data gathering, budgeting, and sustainability goal setting; and concludes with an operational project that will deliver energy savings and sustainability benefits to each participating campus over and beyond the 5-year contract term.

Further information on the pilot program is available at www.ctcleanenergy.com. While the program is not open to community colleges, CEFIA anticipates it will serve as a template for other types of consumers in the public and private sectors.

RENEWABLE ENERGY

CEFIA Programs

Solar Water Heating. CEFIA offers grants, through participating contractors, to any electric company customer who wishes to install solar hot water systems. Funds are restricted 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 domestic or process hot water needs. Developers of new residential or nonresidential facilities in Connecticut may also apply for the incentives.

The program uses a competitive "reverse auction" format, where the applicant must submit a bid specifying the incentive it seeks, based on the lowest rebate necessary to make the project economically feasible. Successful applications will be those with the lowest cost and rebates per unit of energy produced. Other evaluation criteria include the owner's financial strength and the extent to which energy efficiency measures have been installed at the site.

Further information on the program is available at <http://www.ctcleanenergy.com/Portals/0/CEFIA%20Commercial%20Solar%20Hot%20Water%20Program.pdf>.

Anaerobic Digesters. [PA 11-80](#) requires CEFIA to establish a pilot program to support using organic wastes in anaerobic digestion facilities to generate electricity and heat. Such facilities create methane (the principal component of natural gas) from the wastes, which can include food wastes as well as crop wastes or manure. The program may be particularly relevant for community colleges, which could use the heat produced by the facility to heat buildings.

The program 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 the program.

Net Metering

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 with a capacity of up to 2 megawatts (2,000 kW) to earn billing credits when the customer generates more power than he or she uses, essentially running the meter backwards. OLR report [2009-R-0125](#) describes Connecticut's net metering law in greater detail.

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. The low emission facilities must have a capacity of less than 2,000 kW. Community colleges would be eligible for this program if they develop eligible on-site generation.

The act specifies how the electric companies must solicit and procure these contracts under the zero- and low-emission programs. 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, with a filing deadline of June 12, 2012. In this phase, bidders could 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 located on a customer's premises. Projects may not have received grants from CEFIA, although they may have received financing from it.

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

FEDERAL FINANCING PROGRAM

The federal Energy Improvement and Extension Act of 2008 (P.L. 110-343) authorized the issuance of Qualified Energy Conservation Bonds (QECBs), that may be used by state and local governments to finance certain types of energy projects. Bond proceeds can be used to fund capital expenditures on a variety of projects including:

1. reducing energy consumption in publicly owned buildings;
2. supporting energy-related research; and
3. designing and implementing demonstration projects to promote commercializing energy-related technologies and processes.

QECBs are taxable, which means that bondholders must pay federal taxes on the interest they receive. Issuers may structure QECBs 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.

The U.S. Congress authorized \$3.2 billion of QECB 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. Information on QECBs is available at <http://www1.eere.energy.gov/wip/solutioncenter/financialproducts/qecb.html>.

According to an [analysis](#) by the National Association of State Energy Officials, Connecticut had issued bonds for \$9.6 million of its \$36.3 authorization as of January 2012. It does not appear that any of Connecticut's allocation has been used for community college projects, although community colleges in several states, including California, Colorado, Indiana, and Ohio have taken advantage of this financing mechanism.

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