

ENERGY CONSERVATION TECHNICAL ASSISTANCE UPDATE

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Illinois Department of Commerce and Economic Opportunity
Illinois Office of Energy & Recycling
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Illinois
Department of Commerce
& Economic Opportunity

Bruce Rauner, Governor

EXECUTIVE SUMMARY

By Illinois law, the Illinois Department of Commerce and Economic Opportunity (Department) is required to provide technical assistance to local governments, to help them save energy and taxpayer dollars with energy efficiency. In 2016, the Department fulfilled this mandate by assisting units of government and other stakeholders, through its Energy Efficiency Portfolio Standard (EEPS) programs, referred to as Illinois Energy Now. However, it should be noted that for the first six months of 2016, EEPS was without an appropriation, so activities were very limited. When the Fiscal Year 2016 and 17 budgets were finally enacted we were able to cover limited expenses for the first half of the year and resumed full activities for the second half of the year.

Programs that assist local governments include: Energy Performance Contracting; Energy Code Training, Education and Technical Assistance; and the Smart Energy Design Assistance Center. In addition, grants to three organizations provided further opportunities for technical assistance to local governments through the Trade Ally program, Application Outreach program, and Metropolitan Mayors' Caucus Aggregation program. Some of the highlights include:

Energy Savings Performance Contracting Program

Energy Savings Performance Contracting (ESPC) is a budget-neutral approach to make building improvements that reduce energy and water use and increase operational efficiency. By partnering with an energy service company (ESCO), a facility owner can use an ESPC to pay for today's facility upgrades with tomorrow's energy savings—without tapping into capital budgets.

For 16 years, the Energy Savings Performance Contracting Program has provided assistance to the public and not-for-profit sectors in Illinois, to help them take advantage of ESPCs. During this time over \$722 million in energy efficient capital improvements through performance contract arrangements resulted in about \$47.5 million in combined annual savings.

Energy Code Building Industry Training and Education Program

Energy codes and standards set minimum efficiency requirements for new and renovated buildings, assuring reductions in energy use and emissions over the life of the building. Energy codes are a subset of building codes, which establish baseline requirements and govern building construction. Building energy codes are projected to save \$126 billion from 2010-2040 in energy cost savings.

Energy codes, like building codes, are adopted at the state and then local level, and Illinois' code is called the Illinois Energy Conservation Code. This Code is updated every three years, most recently at the end of 2015, effective 1/1/16. The Department provides training and education to the implementers of these codes – homebuilders, general contractors, architects, engineers, code officials, HVAC specialists, realtors, and home performance professionals – to ensure that they effectively apply the latest code for new construction, additions and renovation projects in Illinois.

DCEO partnered with International Energy Conservation Consultants, LLC for trainings. Activities were limited without a budget, but 610 officials were trained on the new code. Some code-related technical assistance was also provided on a limited basis.

Smart Energy Design Assistance Center (SEDAC)

The Smart Energy Design Assistance Center provides advice and analysis enabling public and private facilities, in the State of Illinois, to increase their economic viability through the efficient use of energy resources. Without a budget during FY2016 SEDAC was not able to provide services to local governments. A budget in the latter half of CY16 allowed funding for energy conservation technical assistance, energy assessments, cost analysis, energy modeling services, and implementation assistance.

SEDAC also provided retro-commissioning (RCx) services to local governments in Illinois. Retro-commissioning analyses use a systematic process to analyze existing building operating systems to identify low-cost and no-cost operational improvements that increase occupant comfort and save energy in existing buildings.

Finally SEDAC conducted a variety of outreach and training events, discussing topics such as opportunities for energy efficiency savings in existing buildings, high performance design for new public sector buildings and state programs to support energy savings efforts.

INTRODUCTION

The Energy Conservation Act (20 ILCS 1115) was signed into law September 1979. The law requires that the Department provide technical assistance in the development of thermal efficiency standards and lighting efficiency standards to units of local government, upon request by such unit. The law also states that the Department shall provide technical assistance in the development of a program for energy efficiency in procurement to units of local government, upon request by such unit. Ultimately the goals of these mandates are to help local governments and their residents save energy and money, by making their buildings more energy efficient. By providing technical assistance – in the form of outreach, education and training and one-on-one assistance – the Department is able to ensure that government officials are aware of the benefits of energy efficiency and have the technical information they need to effectively implement cost-saving strategies. These goals complement and are in line with related energy efficiency mandates the Department must meet, under the State’s Public Utilities Act Energy Efficiency Portfolio Standards (220 ILCS 5).

Over the last several years, the Department has met this mandate through its Energy Efficiency Portfolio Standard (EEPS) programs, referred to as Illinois Energy Now. These programs include Energy Savings Performance Contracting; Energy Code Training, Education and Technical Assistance; and the Smart Energy Design Assistance Center. Due to a lack of appropriation in the first half of CY16, these activities were mostly limited to the second half of the year, in FY17. Grants to three organizations provided further opportunities for technical assistance to local governments through the Trade Ally program, Application Outreach program and Metropolitan Mayors’ Caucus Aggregation program.

CORE PROGRAM OVERVIEWS

Energy Savings Performance Contracting

Energy Performance Contracting is an innovative arrangement for designing, installing and financing energy improvements, where the savings achieved by the project are guaranteed to amortize the cost of the project over the term of the agreement. Energy performance contracts provide a practical means to fund many types of building improvements, including: new lighting technologies, high-efficiency boilers and chillers, and energy management controls. Under an energy performance contract an agreement is made with a private energy service company (ESCO) that will identify and evaluate energy-saving opportunities and then recommend a package of improvements to be paid for through savings. To ensure savings, the ESCO offers staff training and long-term maintenance services. Additionally, the ESCO will guarantee that project savings meet or exceed annual payments and cover all project costs. Energy performance contracts are typically 10-20 years in length, are adaptable to site specific needs, and are best suited for facilities that have the following characteristics:

- Annual utility cost in excess of \$100,000;
- Stable use of the facility for the next five to ten years;
- Minimal availability of funds for energy related capital improvements; and
- Have accomplished minimal energy efficiency upgrades over the past ten years.

Through the Department's Energy Savings Performance Contracting Program, assistance is provided to units of state and local government, schools, and not-for profit organizations to promote the use of energy performance contracting. Services provided by the Department include:

- Competitive Procurement Process
- Comparative Evaluation Methodology
- Review and analysis of ESCO proposals
- Technical Review of Project Audits and Scope
- Review and comment on Basic Contract Documents
- Advice on Contract Negotiations
- Assistance on Evaluating Project Financing Options
- Review of Project Performance Based on Measured Savings

For sixteen years, the Energy Savings Performance Contracting Program has provided assistance to the public and non-profit sectors. During this time over \$722 million in energy efficient capital improvements through performance contract arrangements resulted in about \$47.5 million in combined annual savings. In 2016 results were limited as the start of the year lays the ground work for projects throughout the year:

- Technical assistance was provided to 91 local governments, schools, universities, housing authorities and not-for-profit entities seeking assistance with considering or implementing an energy performance contracting.
- 13 energy performance contract projects with a total project cost of over \$123 million were completed and are now in the "Measurement & Verification of Savings" stage of the process. These projects are expected to save over \$ 10.26 million annually.
- 3 additional projects with a total project cost of over \$86 million are over 50% construction complete with total annual savings of \$4 million.

Building Energy Codes Program

The Department is required under the Energy Efficient Building Act (20 ILCS/3125) to provide training and technical assistance on the Illinois Energy Conservation Code, for both commercial and residential buildings. Energy codes and standards set minimum efficiency requirements for new and renovated buildings, assuring reductions in energy use and emissions over the life of the building. Energy codes are a subset of building codes, which establish baseline requirements and govern building construction.

Energy codes, like building codes, are adopted at the state and then local level, and Illinois' code is called the Illinois Energy Conservation Code. This Code is periodically updated, most recently at the end of 2015, when the Administrative Rules to adopt the 2015 *International Energy Conservation Code*, with amendments, as Illinois Energy Conservation Code, were approved by the Illinois General Assembly's Joint Committee on Administrative Rules. The Department provides training, education, and technical assistance to the implementers of these codes – homebuilders, general contractors, architects, engineers, code officials, HVAC specialists, realtors, and home performance professionals. Through the Building Industry Training and Education Program and the Code Technical Assistance Program, the

Department helps local governments ensure that the latest code is effectively applied, for new construction, additions and renovation projects in Illinois. The work is performed under Illinois Energy Now, with prior minimal support from the Department's Energy Efficiency Trust Fund, which was not available in 2016.

For its training and education efforts, in 2016, the Department focused specifically on the new energy code effective 1/1/16.

In 2016, DCEO partnered with IEC, LLC to hold 20 events, 6 full-day and 14 half-day trainings for 610 industry professionals. Through IEC, LLC, the Department provided one-on-one code-related technical assistance, in 2016, including:

- 435 code interpretations by phone or email;
- 79 hours of consultative technical assistance to Chicago Department of Buildings; 100 hours to the Statewide IECC;
- 54 assisted communities and
- technical support to the Illinois Capital Development Board as set forth in the Illinois Energy Efficient Building Act ["the Act" 20 ILCS 3125].

Smart Energy Design Assistance Center

The Smart Energy Design Assistance Center (SEDAC) provides advice and analysis enabling private and public facilities, in the State of Illinois, to increase their economic viability through the efficient use of energy resources. SEDAC receives a grant through the Department to provide valuable services at no cost to public facilities, as well as to businesses and nonprofit organizations. SEDAC is managed by the Department of Urban and Regional Planning, at the University of Illinois at Urbana-Champaign, and operates as a public-private partnership, in collaboration with the 360 Energy Group, along with other energy entities across the state.

SEDAC was started in 2004 to target small business energy opportunities. In June 2008, under the Illinois Energy Efficiency Portfolio Standard (EEPS), SEDAC services were expanded to include public entities in Ameren Illinois and ComEd electric delivery territories. In June 2011, public entities in Ameren Illinois Gas, Nicor Gas, North Shore Gas, and Peoples Gas delivery service territories were added.

During 2016, SEDAC provided 226 energy conservation technical assistance services to local government clients. 41 of those local government clients initially received quick technical assistance in response to an inquiry via telephone, email, or SEDAC application. SEDAC completed energy assessments for 11 local government buildings, with 10 receiving additional cost analysis and energy modeling services. Energy assessments inform local governments on how to take immediate action and plan future investments to reduce energy usage and costs associated with their buildings through recommendations based on the analysis of the building structure, equipment, and usage. In 2016, with a reduced year, SEDAC identified potential annual energy savings from quantified energy reduction measures of 2,046,575 kWh and 19,287 therms. SEDAC also provided follow up implementation assistance,

identifying appropriate energy savings measures and additional technical assistance needed for implementing the energy savings measures.

In 2016, SEDAC also provided retro-commissioning (RCx) services. SEDAC offers RCx guidance, by identifying quick payback measures (payback of 18 months or less) to improve the control, scheduling, and operation of energy-consuming systems to match the current functional requirements of a building. The end result is significant energy and demand savings, and in many cases, improved occupant comfort and productivity. In 2016, SEDAC completed retro-commissioning plans and began ongoing implementation assistance for 20 local government buildings. SEDAC continued ongoing implementation assistance and verification for 30 RCx clients. In addition, SEDAC continued work on pilot RCx projects including Mini-Retro-Commissioning and Energy Dashboards. Mini-RCx projects are structured to provide relatively quick review of two major RCx recommendation areas: scheduling and setpoints. These projects are targeted to buildings that would not qualify for the regular RCx service because of building size or equipment. SEDAC also continued its energy dashboard pilot program to install and monitor energy dashboards for RCx clients, with installation completed for 7 new local government projects in 2016. After installation, SEDAC continued to provide dashboard monitoring services to identify ongoing energy conservation opportunities.

In addition to direct technical assistance to local governments focused on their specific buildings, SEDAC also provided workshops and other outreach activities on energy efficiency to local governments throughout the state. In 2016, SEDAC conducted 13 workshops, trainings, and presentations targeted to Illinois local governments and other building managers covering energy efficiency topics including energy-savings strategies in existing buildings, pools, and park district facilities, and energy efficiency implementation, funding, and management strategies.

OTHER ILLINOIS ENERGY NOW PROGRAMS

Grants to three organizations under the DCEO Illinois Energy Now programs provide additional opportunities for local governments in Illinois to receive technical assistance on energy efficiency.

Illinois Energy Now Trade Ally Program

The Illinois Energy Now Trade Ally Program has been created for the benefit of Trade Ally partners and their clients, forging connections that can lead to increased energy savings through the Department incentives. Trade Allies are general contractors, lighting contractors, HVAC contractors, engineers, architects, energy service companies, and energy-saving product wholesalers, distributors and retailers who are trained to deliver more cost-effective energy efficient building solutions to their public sector clients. Through a series of workshops, webinars, trade shows and rallies, they are fully trained on the portfolio of energy efficiency programs and develop a solid understanding of program rules and procedures. With ongoing support and guidance from staff and engineers, Trade Allies can help their clients navigate the incentive process, including completing Department incentive applications.

The Trade Ally Program is designed exclusively for industry professionals working with local government and other public sector clients. The participation of over 550 active Trade Allies has increased the

number of applications to the Illinois Energy Now Program and thus has helped the Department achieve its EEPS goals.

Illinois Association of County Board Members

The Illinois Association of County Board Members (IACBM) assists units of local governments with participation in the Illinois Energy Now (IEN) incentive programs. IACBM markets the programs to hard-to-reach audiences, focusing on smaller municipalities, and assists those communities in obtaining energy audits and in maneuvering the application process. IACBM also continues to expand and maintain an on-line energy efficiency toolkit that provides units of local government with energy efficiency facts sheets, energy planning guidance and IEN case studies. IACBM's works with governments within the Ameren, ComEd, and NICOR utility territories.

Metropolitan Mayors' Caucus

In 2016, under the Department's Energy Efficiency Aggregation Program, the Metropolitan Mayors' Caucus (MMC) assisted 79 individual public sector agencies benefiting nearly 32 communities in the metropolitan Chicago area to take advantage of IEN financial incentives. MMC, in partnership with 360 Energy Group, identifies, qualifies, and assists many of its 275 municipal members and other local units of government in northeastern Illinois in implementing energy efficiency projects. These projects include lighting and other fast turnaround measures (e.g., HVAC, controls) in the ComEd territory and thermal efficiency projects for North Shore, Peoples, and NICOR gas delivery customers. For 2016, savings achieved were 3,854,619 kWh and 194,474 therms due to \$1.39 million of Department incentives administered. Additionally, nearly \$16 million has been leveraged in local energy efficiency investment by these public agencies. These projects have created more than 177 jobs in the Illinois economy this year of participation.

LOOKING AHEAD & SUMMARY

For the first half of 2017, the Department's technical assistance will continue to be supported with EEPS funds and maintain its focus on high impact areas like ESPC, codes, and design assistance. Resource distribution in these areas has been based on an assessment of relative program success and areas where the greatest impacts are being seen in terms of assistance ultimately resulting in actual savings.

As a result of PA 99-0906, starting in FY17, the Department will no longer have EEPS funds to support its Energy Conservation Act technical assistance mandate. At one time, much of the Department's technical assistance programs were supported by the Energy Efficiency Trust Fund (571), and this could be an option, however since FY16 this Fund has been suspended due to a lack of appropriation. The Department has been pleased to be able to offer a range of energy efficiency assistance, to ensure that Illinois local governments have the technical tools they need to save money by saving energy for many years. It is our hope that we will be able to secure adequate funding to continue to support these activities and meet this mandate in the future.