

Inspiring Communities to Become Champions of Energy Efficiency

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ABSTRACT

Enactment of Public Act 95-0481 in 2007 spurred electric utilities in Illinois to develop a three-year (2008-2010) Energy Efficiency and Demand Response Plan (EEDR). ComEd's EEDR plan outlines a series of energy efficiency and demand response programs – the first of which were launched in June, 2008 – to its residential and business customers. ComEd's plan represents a commitment by the utility to enhance value for customers through its implementation of a robust, innovative and flexible portfolio of demand-side solutions.

The ComEd Community Energy Challenge is a pilot program sponsored by ComEd in cooperation with the Metropolitan Mayors Caucus and the Illinois Department of Commerce and Economic Opportunity (DCEO). The impetus for this pilot program was ComEd's desire to find ways to deliver its EEDR plan's energy efficiency program incentives in a more cost-effective manner than via its regular program distribution channels.

In November, 2008, ComEd invited twelve communities to compete to develop energy efficiency plans that would be designed to increase energy efficiency in local government operations, local business, and among residents. Ten communities ultimately submitted energy plans, and these communities began implementing the projects detailed in their plans on June 1, 2009. The Challenge competition period runs parallel to Year 2 of ComEd's EEDR plan – June 1, 2009 to May 31, 2010. At the end of this competition period, an independent review panel will evaluate the success of the participants' projects and award a \$100,000 cash prize to the winning community.

Introduction

ComEd, an electric utility with 3.8 million customers in northern Illinois, is in the second implementation year of its three-year Energy Efficiency and Demand Response Plan. While ComEd exceeded its first year MWh statutory savings goal of 148,842 MWh at a budget 10 percent lower than forecast, the utility desired to seek other ways to distribute its energy efficiency incentives in a more cost-effective manner and in a way that would effectively link ComEd's activities to community-based sustainability efforts. Recognizing that several municipalities in its service territory were actively promoting sustainability initiatives in their communities, ComEd sought an innovative approach to partnering with these cities and villages in order to develop and implement replicable pilot projects that assisted communities in meeting their climate change and sustainability objectives. Such an approach would need to motivate communities to become champions of energy efficiency – a role to date held largely by utilities mandated by state law to advocate energy efficiency. Utilities alone may not be the most effective market transformation actors, and the Community Energy Challenge is, in effect, a test of how well communities could successfully fill that role.

Realizing that communities may position and communicate energy efficiency in ways different from utilities' efforts, ComEd desired to explore how these community-based outreach efforts might be more effective in reaching and recruiting new participants to its programs. In this process, ComEd

might also identify improved ways to deliver its energy efficiency incentives, thereby augmenting the traditional utility outreach strategies and delivery mechanisms.

To develop an effective municipal partnership, ComEd worked with Shaw Environmental, a consulting firm with experience assisting municipalities with sustainability and energy efficiency projects. ComEd and Shaw focused on developing a project approach that would result in municipal action that supports energy efficiency. To that end, ComEd selected twelve municipal partners with an established commitment to sustainability and climate issues. Examples of how this commitment had been demonstrated include the municipalities taking some or all of the following actions:

- Signing the U.S. Conference of Mayors Climate Protection Agreement
- Signing the Metropolitan Mayor's Caucus Greenest Region Compact
- Having prepared a municipal sustainability or climate action plan
- Supporting the development of LEED municipal buildings
- Passing residential energy building codes

In the process of defining the parameters of the Challenge, ComEd engaged the commitment of the Metropolitan Mayor's Caucus and the Illinois Department of Economic Opportunity (DCEO). Both organizations became fully engaged supporters of and contributors to the development of this pilot program.

Community Energy Challenge Design Parameters

Development of CEC Guidelines

ComEd invited the twelve identified municipalities to participate in a mayor's planning charette at the Museum of Science and Industry in Chicago in November, 2008. ComEd hoped to engage the municipal leaders in brainstorming sessions that would identify key motivators that would induce them to participate in an energy challenge.

Feedback from this planning exercise shaped the development of the Challenge guidelines. Some key take-aways:

- Communities wanted to be recognized for water and gas savings efforts, not just electric savings.
- Municipalities wanted credit for renewable energy projects they might be implementing in their communities.
- When asked to rank the scoring criteria that might be used for the Challenge, participants ranked them in the following order of importance: total energy savings, GHG emission reductions, total water savings, linking ComEd programs to codes and permits, and green collar job creation.
- There was some skepticism that ComEd might be using the Challenge solely to promote its energy efficiency programs and that the participants would bear little reward for their efforts.
- Given the current economic climate and municipal budget cuts, attendees expressed concerns regarding the availability of funds to finance municipal energy efficiency projects.
- Attendees expressed the need for information and technical assistance during the project planning period.

- Although many participants expressed delight at the large cash prize, several attendees mentioned that their primary motivator to participate was an opportunity to further along their sustainability initiatives, and to engage their residents and businesses more fully in these efforts.

Incentives for the Participating Communities

At the planning charrette, ComEd also announced that it would reserve \$2 million in energy efficiency incentives for those municipalities that submit energy plans and tie ComEd incentives to specific projects in their plans. Of these incentives, \$1.5 million would be set aside for ComEd programs, while \$500,000 would be reserved by DCEO for municipal, public school, and low-income programs (DCEO manages programs targeted to “public” and low-income customers). In response to communities’ pleas for acknowledgement of renewable projects, DCEO later announced that it would also set aside \$500,000 in incentives for Challenge participants who implement renewable projects.

Community Energy Challenge Guidelines & Scoring

Following the mayors’ charrette, ComEd and Shaw finalized Community Energy Challenge (CEC) guidelines and plan evaluation criteria and presented these guidelines at a meeting with Challenge participants in January, 2009. At this meeting, ComEd also assigned a Shaw program manager to each municipality and scheduled follow-up “scoping” sessions with municipal leaders to help frame their energy plans.

CEC Guidelines

At the Challenge launch meeting, ComEd reviewed its expectations for the municipalities’ energy plans. Participants’ energy plans were required to contain the following components:

An energy efficiency education and outreach plan designed to reach residents and businesses within the community – At a minimum the plan should address electric energy efficiency, but may include natural gas efficiency as well.

A plan to reduce electricity and natural gas consumption used in municipal operations – the plan should detail the municipality’s goals for electric and (if applicable) natural gas savings, describe the pilot projects it will implement to reduce electric and/or natural gas use, and explain how progress towards energy reduction goals will be measured and tracked.

A plan to assist ComEd in the cost-effective delivery of incentives to residential and/or business customers – the plan should define how the municipality will help its residents and businesses access ComEd’s energy efficiency program incentives through projects built on strategic, targeted outreach.

A plan to help achieve the participant’s municipal sustainability objectives – the plan should detail the municipality’s sustainability objectives related to energy consumption, greenhouse gas emissions,

water consumption, green job creation and/or the use of municipal authority to promote or mandate energy efficiency.

CEC Plan Scoring

Initial Review and Scoring

Each participant's plan will be scored twice. In the initial review, an independent review panel evaluated and scored the ten plans that were submitted on 4/30/09. These plans were scored based on *estimated* energy savings as well as other pertinent information supplied in the plans. The review panel assigned a Plan Design Score by adding the total number of points awarded within each evaluation category.

The review panel used a credit-based system to evaluate the extent to which participants' plans proposed reductions in energy consumption in government operations and within the community while advancing other municipal objectives. This credit-based system is comprised of eight evaluation credits (listed in the following section). Within each evaluation credit, a participant can earn a range of points based on performance, with higher achievements earning a larger number of points.

Final Review and Scoring

At the end of the performance period (5/31/10), the review panel will award three of the evaluation credits based on quantitative results, with each municipality's results normalized to ensure that no participant has an advantage over another due to size. After all data have been normalized, energy plans will be ranked from highest to lowest and awarded a corresponding number of points based on their ranking.

For the five remaining evaluation credits, a three-point scale will be used to award points to participants who undertake specific actions related to each credit. Participants will be awarded one point for defining a clear strategy, implementation plan, schedule and energy savings goals, two points for making progress toward implementing the project according to schedule, and three points for fully implementing the project and realizing energy savings.

Finally, each participant's plan will be re-evaluated based on its actual performance, and the points awarded under each evaluation credit will be adjusted accordingly. The participant's final design score will be comprised of a weighted total based on the Plan Design Score (20%), Total Energy Savings (50%) and the remaining optional Evaluation Credits (30%).

Evaluation Criteria -- Quantitative Evaluation Credits

Only one of the three quantitative evaluation credits was required to be included in the participant's energy plan – Total Energy Savings. Given the varying interest and pursuits among the participants regarding water conservation and greenhouse gas reduction efforts, ComEd chose to establish the other two credits as optional.

Total Energy Savings (Required). This credit consists of annualized electric, natural gas, and water savings resulting from energy efficiency projects, and annualized energy generated by renewable energy systems placed in service during the program year. The annualized electric savings from energy

efficiency projects must be greater than or equal to 75 percent of total energy savings. This ratio was established to recognize that the Illinois energy legislation gives ComEd credit for electric savings only achieved through its energy efficiency programs.

Total Greenhouse Gas Emissions Reduction (Optional). This credit consists of annualized GHG emissions reductions associated with electric and natural gas efficiency and renewable projects and reductions associated with the reduced consumption of gasoline by mobile and stationary sources.

Total Water Savings (Optional). This credit includes the annualized number of gallons of potable water saved by projects that increase water efficiency or conserve water.

Evaluation Criteria – Qualitative Evaluation Credits

In recognition of the fact that not every participant has the resources or desire to initiate multiple energy efficiency projects, ComEd chose to make each of the qualitative evaluation credits optional credits.

Using Municipal Authority to Promote Energy Efficiency (Optional). Plans that promote energy efficiency using municipal regulation, enhanced municipal operations and inducements will be awarded up to three points for each of the following eight credits:

- **Energy Standard for Municipal Buildings** – Participants must implement a mandatory energy standard for municipal buildings that is more stringent than IECC 2006 and/or ASHRAE 90.1-2004 to qualify for points.
- **Energy Codes for Residential Buildings** – Participants must implement a mandatory energy standard for residential buildings that is equal to or more stringent than IECC 2006 to qualify for points.
- **Point of Sale Upgrades** – Participants must implement a point-of-sale energy improvement program and/or standard to qualify for points.
- **Energy Code Training, Education and Outreach** – Participants that support increased participation and/or optimal implementation of public, residential and/or commercial building energy codes through training and awareness education programs will qualify for points.
- **Green Permitting** – Participants that support increased participation and optimal implementation of voluntary green building energy codes through green building permitting programs will qualify for points.
- **Waiver or Reduction in Fee/Tax** – Participants that support increased participation and/or optimal implementation of voluntary green building energy standards through permit waivers and/or fee/tax programs will qualify for points.
- **Grants or Rebates** – Participants that support increased participation and/or optimal implementation of voluntary green building energy standards through grant or rebated programs will qualify for points.

Assisting ComEd in Delivering Incentives to Hard-to-Reach Customers (Optional). Plans that promote energy efficiency by delivering incentives to hard-to-reach customers will be awarded up to three points for each of the following two credits:

- **Small Business Customers** – Participants that promote energy efficiency by assisting ComEd in delivering incentives to a ComEd business customer with electric demand of 100 kW or less will qualify for points.
- **Other Targeted Customer Groups** – Participants that promote energy efficiency by assisting ComEd in delivering incentives to a targeted group of pre-approved hard-to-reach customers will qualify for points.

Transforming the Market (Optional). Plans that promote energy efficiency by transforming the marketplace through innovative project financing or information technology will be awarded up to three points for each of the following seven credits:

- **Loans** – Participants that leverage financing opportunities, loan programs, and/or develop partnerships with financial institutions to promote energy efficiency will qualify for points.
- **Grants** – Participants that leverage grants or grant programs to promote energy efficiency will qualify for points.
- **Equity Capital** – Participants that leverage equity capital to promote energy efficiency will qualify for points.
- **Tax Incentives** – Participants that leverage local, state, or federal tax incentives to promote energy efficiency will qualify for points.
- **In-Home Electricity Monitoring & Control Devices** – Participants that incorporate information and communications technologies that provide information and feedback about energy use patterns will qualify for points.
- **Central A/C Cycling** – Participants that leverage ComEd’s Central A/C Cycling Program and increase participation over standard adoption rates will qualify for points.
- **Real-Time Pricing** – Participants that leverage ComEd’s Real-Time Pricing Program and increase participation over standard adoption rates will qualify for points.

Demonstrating Superior Cost-Effectiveness in the Delivery of Incentives (Optional). Plans that deliver incentives more cost effectively than ComEd by decreasing program delivery costs, increasing market penetration, or increasing participation rates will be awarded up to three points for each of the following three credits:

- **Municipality Contribution to Program Delivery Costs** – Participants that decrease ComEd’s program delivery costs will qualify for points.
- **Penetration/Reach Increased** – Participants that exceed ComEd’s penetration or reach will qualify for points.
- **Implementation Increased Among Those Reached** – Participants that exceed ComEd’s implementation rate will qualify for points.

Creating Green Jobs (Optional). Plans that create green jobs will be awarded up to three points for each of the following two credits:

- **Creation of Direct Green Jobs** – Participants that create at least one direct job through plan implementation will qualify for points. A direct job is a full-time or full-time equivalent position created through the sole or principal efforts of the municipality and is calculated as working a total of 2,000 hours annually.
- **Creation of Indirect Green Jobs** – Participants that create at least one indirect job through plan implementation will qualify for points. An indirect job is a full-time or full-time equivalent position created through the sole or principal efforts of entities *other* than the municipality and is calculated as working a total of 2,000 hours annually.

Status of Participants' Progress

First Quarter Progress

On June 1, 2009, the Challenge implementation period officially began. This is the period in which participants launched the projects and initiatives outlined in their energy plans. Early in the first quarter of this implementation year, ComEd and Shaw met with each of the municipalities to discuss launch strategies and key challenges, to field any procedural or technical questions regarding ComEd programs or energy efficiency measures, and to review project tracking methodology. Throughout this first quarter, Shaw program managers maintained steady communications with each participant to monitor their progress and encourage participants to keep on track with their energy project action plans.

ComEd required participants to submit first quarter tracking reports that detailed the progress of their energy projects. All but one participant submitted reports at the end of the first quarter. These reports signaled a significant variation in achievements among participants – some municipalities had made great strides, while others indicated moderate or little progress. In checking with those participants who had made little progress, these municipalities still expressed enthusiasm for achieving their energy plans' project objectives; however, there were certain obstacles that slowed their progress. Examples of these impeding issues include the following:

- Two communities experienced turnover among their Challenge municipal leads. Another community's project lead went on maternity leave, and her replacement made little progress in her absence.
- A few participants delayed the start of their municipal energy efficiency projects until their block grant applications were approved. These funds had not been released as of the end of the first quarter.
- One municipality would not move forward with any of its projects until it had received city council approval. City council meetings were delayed a number of times, so this approval was not given until the end of the first quarter.

Despite these issues, a number of participants made significant progress on at least one front -- outreach to their local businesses. Since ComEd's business program incentives had been used up quickly in Plan Year 1, early in the Challenge year, ComEd encouraged the municipalities with targeted outreach to their business community to focus their efforts on this segment right away.¹ Although program incentives had been set aside for these communities, ComEd was concerned that these incentives would not be used in Plan Year 2 (and thus considered a lost opportunity since program budget dollars cannot be carried over into the subsequent plan year) if communities did not make an effort to recruit businesses to its energy efficiency programs. Fortunately, first quarter progress reports indicated that four of the ten participants had worked with local businesses to assist them in applying for ComEd program incentives, with these four communities taking credit for \$493,000 in business program incentives – accounting for almost one-third of the total incentives allocated to Challenge participants.

¹ The EEDR plan allows for a fixed budget of business program costs each year, of which a certain allotment of energy efficiency incentives is allocated. In Plan Year 1, the money allocated for these incentives was used up by October, 2008 – four months after the programs were launched.

Key Partnerships and Leveraging Opportunities

Municipal energy plans and first quarter tracking reports presented many creative and innovative strategies involving partnerships and leveraging opportunities that support municipal sustainability goals and promote ComEd's energy efficiency programs. A sampling of these unique projects is listed below. Some of these projects were launched in the first quarter or were listed as action items to be initiated later in the year.

- One participant is employing its fire inspector to bring ComEd's Smart Ideas for Your Business program materials on each of its inspection calls. The fire inspector visits each business in the community annually; in addition to the materials, he gives a short speech on the business program's energy efficiency incentives. This initiative is a wonderful example of a municipality leveraging its current operations to make contact with a hard-to-reach customer class – small businesses.
- Another municipality sent a letter signed by its mayor to all multi-family all-electric buildings within its boundaries. This letter encouraged landlords to participate in ComEd's All-Electric Efficiency Upgrade program. As a result of this effort, the municipality recruited four all-electric buildings for the program, with two of these buildings participating in the program during the first quarter, and the other two buildings scheduled to participate in the second and third quarters.
- Several municipalities have used local Chamber of Commerce meetings as venues to promote ComEd's business programs.
- Most participants have posted information about ComEd's programs on their municipal websites, published articles in community newsletters, and provided program materials at community outreach events such as local festivals, energy fairs, and recycling events.
- One community sponsored a village electronics recycling day and encouraged residents to participate in ComEd's appliance recycling program. ComEd saw a spike in program enrollments in this community after the event was publicized in the community newsletter. Another community is promoting the appliance recycling program at its neighborhood clean-up events.
- Some communities are leveraging their rental licensing and building permitting processes to disseminate ComEd program materials to residents and businesses.
- One community is adding messages on ComEd's programs to its residents' water bills.
- Another community is proposing to help recruit and perhaps partner with local HVAC contractors to help promote ComEd's HVAC Efficiency Services program.
- One municipality was spurred by the Challenge to partner with its local park district, library district, and three local school districts to create a "green initiatives alliance." This same community is exploring the feasibility of establishing a green business incubator program in which it would offer incentives to attract companies that produce environmentally-friendly goods or services.
- Another community plans to initiate a water conservation challenge among its residents and businesses.
- Two communities are targeting different minority populations – one Hispanic, the other South Asian – in an effort to promote ComEd's programs among hard-to-reach consumer populations.

Evaluation of CEC Cost-Effectiveness, Process Impacts

Since the Community Energy Challenge is still in progress, program evaluation will not be completed until the competition period ends in May, 2010. ComEd has engaged its energy efficiency program portfolio evaluator to formally evaluate the Challenge for process-related strengths and weaknesses, the effectiveness of the program in attracting first-time participants into ComEd's programs, and to quantify net savings impacts during the competition period. The evaluation will address the following key questions:

Impact Questions

- Were the gross impacts reported by the municipalities achieved?
- What are the net impacts from the program (e.g., net of free riders and net of other ComEd programs)?
- Did the program successfully recruit hard-to-reach populations?
- Did the individual municipalities meet their energy and demand savings goals?
- What are the normalized energy savings by municipality?

Process Questions

- Which strategies proved effective for recruiting participants and hard-to-reach populations? Which did not?
- Was the municipal outreach to customers effective in increasing awareness of other ComEd programs?

Program Characteristics and Barriers

- During the implementation period, did the municipalities follow through on their planned activities and projects?
- What are the characteristics of customers, participating municipalities, and any partners who facilitated the process?
- What were the barriers to program participation?

Administration and Delivery

- How did the program evolve through the year?
- What challenges occurred in implementation and how were they handled?
- Are the program processes effective for smoothly providing incentives to customers and encouraging municipalities to actively engage in the program?

Summary

The ComEd Community Energy Challenge pilot program was developed primarily to deliver its energy efficiency program incentives in a more cost effective manner to its customers and to find ways to effectively link utility energy efficiency efforts to community-based sustainability initiatives. ComEd recognizes that the long-term success of its energy efficiency market transformation efforts requires that the utility draw on the creativity of its customers and communities.

Although some participants faced roadblocks that have impeded their progress, ComEd is encouraged by the sustained enthusiasm and responsiveness of the Challenge participants to date. First quarter tracking reports indicate that most municipalities are making progress toward completing energy projects and that there are a variety of unique, creative energy reduction projects in the queue.

ComEd has engaged its efficiency program portfolio evaluator to assess the effectiveness of this pilot program. Based on the outcome of this evaluation, ComEd will decide whether it is prudent to offer the Community Energy Challenge in a similar format and scale in future years.