Making Energy Efficiency Even More Efficient

How Information Technology Can Optimize Portfolio Management

WHITE PAPER

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IDC ENERGY INSIGHTS OPINION

Energy efficiency has seen increased focus in the past two years as utilities and state and federal governments have provided new funding for energy efficiency programs. The interest is motivated by a desire to reduce greenhouse gas emissions, to improve energy security, and to reduce costs for consumers. As funding for energy efficiency ramps up, so do utility-managed energy efficiency programs geared for residential, business, and institutional customers. These programs can no longer be managed efficiently by ad hoc databases and spreadsheets. Rather, the utility must be able to access one system in order to effectively manage performance of its portfolio of programs.

Two case studies — PPL Electric Utilities (PPL) and NSTAR Electric and Gas (NSTAR) — reveal the benefits of having a centralized energy efficiency information system, including the ability to meet regulatory reporting requirements, gain tighter control of program management, and forecast pipeline of projects. For these utilities and others, the primary objective of the energy efficiency initiative is to deliver on expected savings in a cost-effective manner. An energy efficiency information system helps a utility manage to that end. In reviewing these case studies and the experience of other utilities, IDC Energy Insights has found that:

● Utilities scaling up energy efficiency or just beginning to offer energy efficiency are looking for IT systems to provide accurate and timely reporting to the public utility commission (PUC) and easy access to verified information for managing day-to-day operations and for performing evaluations.

● Utilities that have successfully implemented new energy efficiency programs and are supporting IT systems have started with understanding the objectives of the programs and the requirements of the energy efficiency business processes and how these two areas intersect with existing utility business processes. The process involves participation by energy efficiency, regulatory affairs,

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information technology, transmission and distribution planning, public affairs and communication, accounting, rates, and other programs such as demand response and solar as well as trade allies, the public, and the PUC.

● An integrated application with program and contractor management at its core is the preferred way to support the energy efficiency program portfolio. The best practice approach is to develop the application in phases, with most critical functionality developed first. Typically, functionality that comes first involves requirements for regulatory reporting that are directly associated with achieving the energy savings and cost-effectiveness objectives of the programs.

● Energy efficiency rules are still evolving. With the introduction of smart metering, time-based pricing, and renewable energy, utilities are faced with a rapidly changing regulatory environment. An energy efficiency information system needs to be flexible enough to handle regulatory changes.

SITUATION OVERVIEW

Funding and Incentives for Energy Efficiency

Governments have stepped up energy efficiency initiatives and funding because energy efficiency has been identified as one of the least costly approaches to reducing greenhouse gases associated with climate change. Sources of funding for energy efficiency include federal dollars through the American Recovery and Reinvestment Act (ARRA), renewable energy credits, federal mandatory congestion charges, and regional mandatory carbon markets. These sources supplement the more traditional rate payer–funded programs. Both rate payer–funded and utility-funded energy efficiency programs are growing rapidly. According to the Consortium for Energy Efficiency's 2009 report, *The State of the Efficiency Program Industry*, rate payer–funded electric and gas energy efficiency program budgets in the United States grew from $3.7 billion in 2008 to $5.3 billion in 2009 (see Figure 1).

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FIGURE 1

U.S. Rate Payer Program Funding
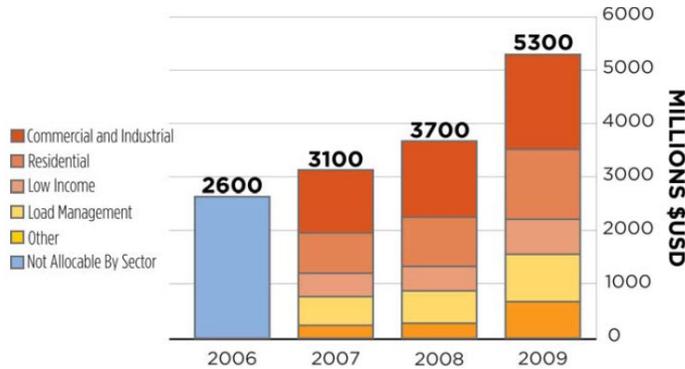
Source: Consortium for Energy Efficiency, 2009

Energy efficiency is not new, but what is new is that utilities can now use energy efficiency to enhance revenue. For example, in Ohio, Duke Energy is allowed to earn a return on the avoided costs for not having to build a power plant as customers reduce consumption. Energy Efficiency Resource Standards (EERS) and Energy Efficiency Portfolio Standards (EEPS) are also setting energy efficiency goals and providing incentives to utilities to reduce consumption in the United States. Currently, 19 states have EERS (see Figure 2). For one utility in New York, the potential incentive is approximately $9 million if it reduces consumption by 255,000MWh.

FIGURE 2

U.S. Energy Efficiency Resource Standards
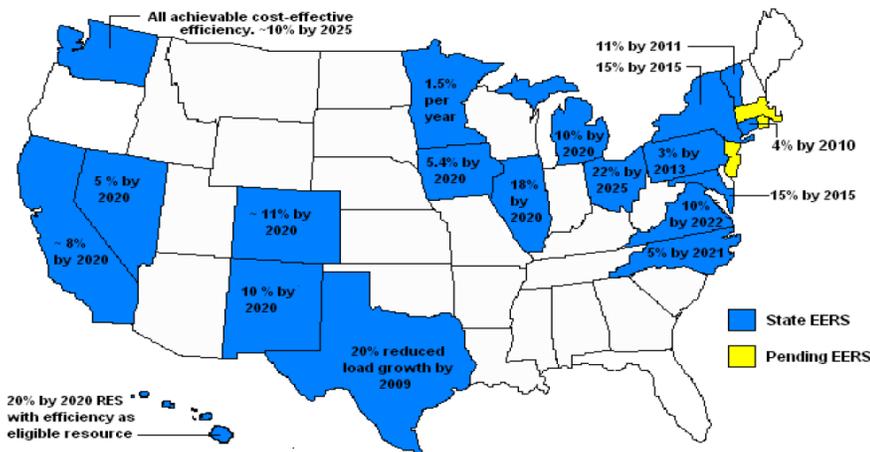
Source: ACEEE, 2009

Decoupling initiatives in several states are intended to mitigate losses in revenue to utilities from reduced energy use. Ten states and the District of Columbia have approved decoupling for electric utilities compared with 19 states that have approved decoupling for gas utilities.

Implications of Customer Scale-Up

Savings goals are higher than ever before, and new offerings are being brought to bear to reduce carbon emissions. Energy efficiency business units are collaborating with those focusing on demand response, renewables, and green buildings. Energy efficiency programs are expected to reach a larger portion of a utility's customer base than ever before to achieve goals and win incentives.

Serving a Larger Market with More Complexity

For utilities that have had energy efficiency programs for years, the low-hanging fruit has been picked. New customer segments and new measures will need to be developed to achieve savings expectations. Limited availability of funding in the past led to some utilities closely monitoring enrollment in programs to prevent overenrollment. Now the emphasis is on reaching and enrolling more customers to get to measure installations and savings.

With federal and state governments funneling money into energy efficiency, there is the potential for duplication of effort. From a societal standpoint, energy efficiency funding should result in more measures being installed in more places. Utilities will be challenged with identifying and mitigating potential overlap.

Responding to Rapidly Changing Regulations

With the increased focus on energy efficiency, coupled with the introduction of smart metering, time-based pricing, and renewable energy, utilities are faced with a rapidly changing regulatory environment. As energy efficiency portfolio standards roll out, there are likely to be both minor and major adjustments to regulatory policy. For example, the algorithms for determining savings may change when a customer participates in both demand response and energy efficiency programs. Utilities must be able to respond quickly and completely to these changes, often within short timelines. Sometimes the change is relatively minor, such as setting different values for parameters. Other times, the PUC requests a major change to the algorithm. One of the case studies provides an example of a short timeline for implementing multiple energy efficiency programs.

Utility and Regulator Objectives for Energy Efficiency

Utilities have a number of objectives for their energy efficiency programs. Utilities want to give their customers opportunities to reduce their energy bill. Education efforts are one step in that direction, but installation of energy efficiency measures provides savings that persist beyond education. Regardless, first and foremost, the objective is to deliver on expected savings in a cost-effective manner.

Cost-Effectiveness Applies to Measures and Management

Funders and regulators are looking to utilities to deliver energy efficiency goals in a cost-effective manner. Cost-effectiveness has typically been measured in the evaluation stage of a program by comparing measure savings impacts with measure implementation costs (either direct installation costs or incentives). With the scale-up of energy efficiency programs, there will be more emphasis on the cost side of the equation, focusing not only on the cost of implementing measures but also on the overall cost of managing the programs. This includes:

- **Managing the performance and the cost of a portfolio of energy efficiency programs.** Each program has its own savings and cost-effectiveness objectives, but utilities will also look to adjust the portfolio of programs, based on individual program performance. In the past, yearly or biannual evaluations have allowed utilities and regulators to gauge success, but this may no longer be enough to ensure that new, scaled-up annual goals are achieved.

- **Managing the performance of contractors.** Most utilities utilize external contractors to install equipment and process rebate payments; some are using external contractors to market and manage program implementation and quality control. Poor performance by the contractor can impact customer satisfaction, erode savings, and increase costs.

Utility Response to Managing Energy Efficiency

Energy Efficiency Depends on Information

The business process for energy efficiency is supported by information. Figure 3 displays the energy efficiency program life cycle. Each step in the life cycle — program design, marketing and outreach, program delivery, and program evaluation — depends on information. For example, marketing and outreach depends on being able to analyze and segment markets based on customer demographic and consumption data. Program managers need to exchange

information about recruitment and measure installations during the program delivery stage. Processing of incentives depends on the flow of information — from the invoice submitted by the installation contractor to the program manager for approval and to accounting for issuing the payment. Evaluation depends on the analysis of customer data, measure data, and consumption data. Program design depends on analysis of previous programs to learn what works.

FIGURE 3

Energy Efficiency Program Life Cycle

Source: IDC Energy Insights, 2010

Until recently, energy efficiency programs have been managed using spreadsheets and custom-built software based on commercially available database software. Most IT systems in place supporting energy efficiency programs have limitations because they were not purpose built to manage the scale, complexity, and objectives of today's energy efficiency programs. A number of utilities and other organizations have embarked on initiatives to adopt new systems and services that are more scalable and auditable. These utilities have found that an energy efficiency system can help achieve the goals and benefits discussed in the following sections.

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Meeting Energy Efficiency Goals

The success of a program or portfolio of programs hinges on the ability of that program to meet energy savings goals. Most utilities report that their primary objective in investing in an energy efficiency information system is to support achieving energy efficiency savings targets. Functionality that does so is high on the list of functional requirements for the energy efficiency system. By having access to day-to-day information about program progress against goals, a program manager can more closely monitor performance and make midprogram adjustments, if necessary, so that goals are met. At the same time, program administrators can view the progress of a portfolio of programs and shift resources among them as needed to meet overall savings and expense targets.

Accurate and Timely Reporting to the PUC

To satisfy regulators and stakeholders, utilities need to have confidence in reports created for the PUC and public and the integrity of the data behind them. Utilities report that they are able to create standard reports easily and have the ability to address ad hoc queries. It is particularly helpful to be able to trace the source of the information included in the PUC reports and recreate reports when necessary.

Easy Access to Information for Day-to-Day Operations and Evaluation

Most utilities have limited staff resources to focus on the management of energy efficiency programs. Time and effort spent in accumulating data from many sources, especially for purposes of program evaluation, can be better spent focusing on program performance. An energy efficiency information system helps program managers and others gain quick access to data so that time is better spent on other activities.

Ability to Closely Monitor and Manage External Contractors

External contractors charged with delivering programs or installing measures are seen by customers as representative of the utility. Program managers must be able to track contractor field activities in addition to managing the more tangible contract deliverables (such as reports and data summaries).

Provide Access to Utility Personnel in Other Business Units

There are multiple utility business units involved either directly or indirectly with energy efficiency programs. For example, customer service representatives are able to help recruit customers to programs when they have visibility into a customer's current program participation. Transmission and distribution planning have access to data that is helpful in planning for future capital investments in physical infrastructure.

Inform Program Design

Historically, energy efficiency program administrators have been hampered by the inability to access customer- and program-level data until the project has been verified. At the portfolio level, the time lag can be even greater as performance numbers are available only after the evaluation is performed at the end of the program period. A year or more could elapse before a program evaluation is completed. Utilities with energy efficiency systems report that they are able to track individual project and program performance while the program is active. Access to savings performance and market acceptance of programs enables program managers to make midcourse adjustments to achieve spending or savings goals. It can also provide accurate data on which to base subsequent program design decisions. Program managers may also be able to estimate evaluation outcomes.

Models for Energy Efficiency Systems

Utilities that have chosen a centralized IT system to support the business processes associated with delivering energy efficiency and other programs have adopted one of three models.

Model #1: Customer relationship management (CRM)-centric application. Several utilities have chosen to adopt and/or modify CRM applications to manage energy efficiency programs. The utility CRM may be provided by one of the utility-specific CRM vendors. The CRM's campaign management and sales tracking functions are key features used to support program promotion. Recruitment, enrollment, program delivery, program management, and reporting functions are customized additions to the base CRM functionality.

Model #2: Integrated application with energy efficiency program and contractor management at its core. Some utilities have chosen to work with a systems integrator to develop a scalable energy efficiency information system. Professional services firms use frameworks or reference architecture developed from previous engagements in energy efficiency to build the system. The major component is usually a module that has been set up for program and contractor management and integrated with other enterprise applications such as the financial system (accounts payable, general ledger) and CIS/CRM.

Model #3: Managed services for energy efficiency. Although a centralized IT system for energy efficiency provides many advantages, many of the IT departments at utilities may not have the resources to support such a system. With aging workforces and other major initiatives such as installation of smart metering and intelligent grid technology, not to mention standard IT functions, some utilities have chosen to have a professional services firm host and/or manage their energy efficiency information system.

Assessing the Models

The idea of extending a CRM application to accommodate energy efficiency program tracking may be appealing to utilities. However, utilities that have taken this approach have found that a significant amount of customization of the CRM is required. The CRM is essentially a marketing and sales application. It does well with organizing campaigns and tracking leads and sales, but not with subsequent steps in the program life cycle, particularly with tracking and assessing savings impacts at the measure, project, and program levels. The major vendors of CRM applications have not yet committed to adding this functionality to the base product. This means that a customized CRM is likely to be expensive to support as either the CRM or applications integrated with the enhanced CRM change.

The core of the energy efficiency information system is functionality to support program delivery and evaluation. Utilities can get the marketing functionality needed through integrating the energy efficiency information system with CRM applications without "reinventing the wheel." One of the utilities in the case studies has done that by integrating with CRM delivered as software as a service (SaaS). However, utilities need to use an application that has been designed to track savings and costs on the measure, project, customer, and portfolio levels. The application needs to be flexible enough to accommodate regulatory changes. Figure 4 displays a concept of the energy efficiency information application, its users, and integration with other applications.

Energy Efficiency Information System
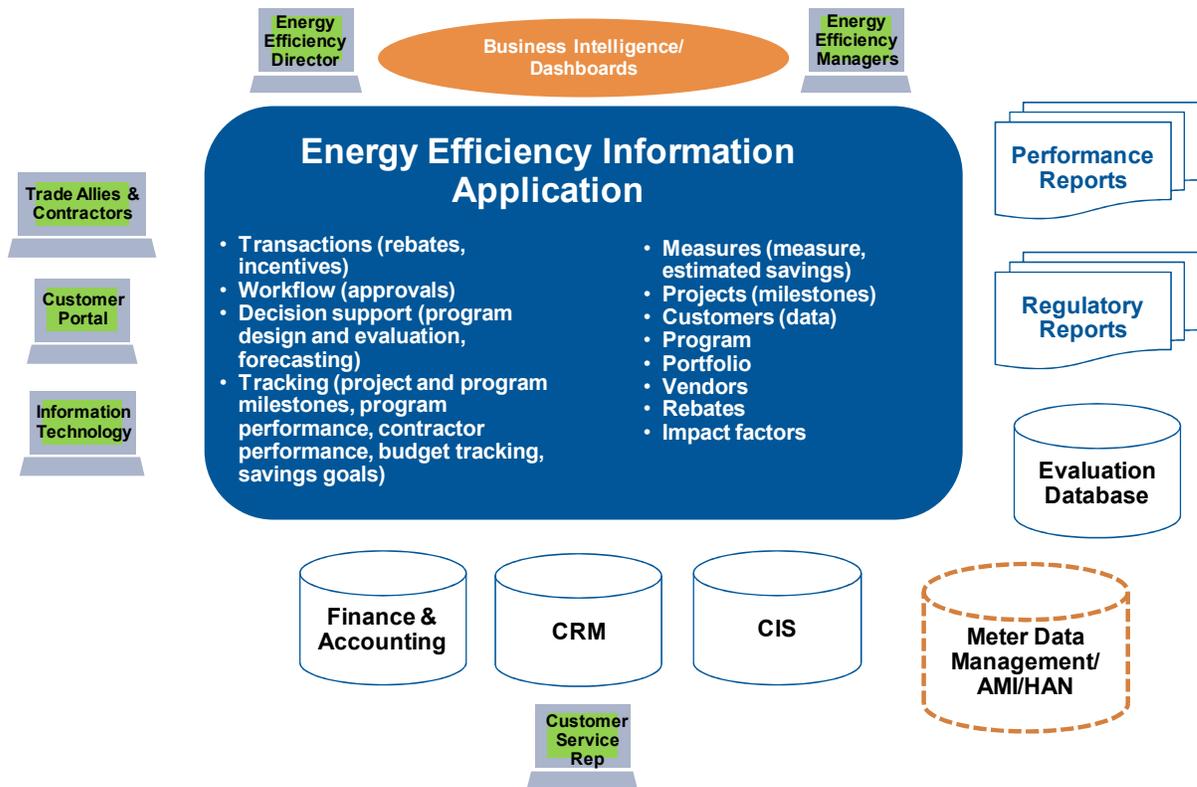
Source: IDC Energy Insights, 2010

Integration with other applications helps the program manager gain visibility into program performance. For example, one utility reported that its energy efficiency application is integrated with the financial system. Accounting data from the financial data is imported into the energy efficiency application so that program managers can analyze program costs against energy savings. Program budget data is also available through the energy efficiency information application so that managers can track whether the program is on budget.

Getting There

Managing energy efficiency programs efficiently requires a combination of effective business processes and systems to support them. Utilities that have successfully implemented new energy efficiency programs have started with understanding the objectives of the programs and the requirements of the energy efficiency business processes and how they intersect with existing utility business processes. The internal stakeholders are usually led by the energy efficiency business unit with the participation of regulatory affairs, information technology, transmission and distribution planning, public

affairs and communication, accounting, rates, and other programs such as demand response and solar. External stakeholders are the PUC, trade allies, and the public. Best practices for utilities are to contract functions such as marketing, implementation management, monitoring and verification, and installation to third-party contactors.

Once business processes are defined, the utility develops functional requirements for the energy efficiency information system in conjunction with information technology. Because the requirements for energy efficiency are specialized, most IT departments do not have expertise about the business rules for energy efficiency, so it is often advisable to involve a professional services firm from the start with the development of functional requirements.

The best practice approach is to develop the application in phases, with most critical functionality developed first. Typically, functionality that comes first involves requirements for regulatory reporting that are directly associated with achieving the energy savings and cost-effectiveness objectives of the programs.

The two case studies provide insight into the experience of two utilities in implementing an energy efficiency information application working with CGI's Energy Efficiency practice. The first case, PPL Electric Utilities (PPL), chose to implement Model #3, a managed services model. The second case, NSTAR Electric and Gas (NSTAR), follows Model #2, application development for an application hosted in-house, but managed by CGI.

CASE STUDIES

PPL: Managed Services for a Speedy Implementation

Headquartered in Allentown, Pennsylvania, PPL controls or owns nearly 12,000 megawatts of generating capacity in the United States, sells energy in key U.S. markets, and delivers electricity to about 4 million customers in Pennsylvania and the United Kingdom.

PPL Electric Utilities, the regulated electric delivery subsidiary, developed its current energy efficiency plan in the context of Act 129, passed by the Pennsylvania Legislature. PPL has a long-standing interest in providing its customers with opportunities for energy savings, so the company supported the legislation. The act requires electric utilities to reduce customers' annual energy use 1% by mid-2011 and 3% by mid-2013. It also requires utilities to reduce customers' peak demand, or peak hourly use, by 4.5% by mid-2013. Utilities may be fined up to $20 million for failing to meet reduction targets. In addition, programs are judged on the basis of cost-effectiveness, not just the savings delivered.

PPL Program Portfolio

PPL offers a range of programs for all segments of its customer base — residential, business, institutional, and nonprofit. The portfolio includes programs providing rebates on energy-efficient equipment such as appliance and lighting; installation of energy-efficient equipment such as high efficiency heat pumps and photovoltaics; and weatherization. The program portfolio includes custom as well as prescriptive measures. The custom measures typically require a technical assessment prior to installation. Programs are also targeted to low income customers. The company works closely with trade allies and community-based organizations to promote and deliver the programs.

The Role of IT in Delivering Energy Efficiency

Prior to Act 129, PPL kept track of each program separately using databases and spreadsheets. Given the large scope of programs under the act, PPL determined that it needed to develop a centralized Energy Efficiency Management Information System (EEMIS) to support tracking, management, delivery, reporting, and evaluation of its energy efficiency programs.

The EEMIS is populated with relevant customer and measure data associated with program participation for all programs. It contains measure data (installed quantities, location, etc.), milestones (dates of audits installation, inspection, etc.) contractor data, and customer data (account and demographics). The EEMIS contains a library of measures and measure savings that can be drawn on to arrive at estimated savings. The company has the flexibility of adding measures and adjusting savings calculations.

Delivery Model

With short deadlines for delivery on energy savings goals, PPL needed to get programs up and running quickly. The company determined that it needed to have an energy efficiency information system in place to support programs as they rolled out. After surveying stakeholders about their requirements, PPL developed a request for proposal that was distributed to 18 companies. Only three companies responded, most likely because of the tight timeline for the project.

After a thorough review process, PPL chose to use CGI, a professional services firm that had an energy efficiency framework called PragmaEfficiency, developed based on its years of experience creating energy efficiency information systems in multiple states. PPL expects that programs and regulatory requirements will evolve over time and needed a system that could be flexible enough to accommodate new developments without costly changes.

The company also chose Model #3, a managed services model. Under this model, the professional services firm developed and programmed the EEMIS and hosts the application. The contract includes service-level agreements (SLAs) for services such as reliability and uptime. PPL also uses the firm to supplement in-house staff in supporting program analytics.

EEMIS Benefits

The EEMIS took two months to develop and implement. PPL signed off on requirements on October 16, 2009, and CGI had the system up and running by December 18, 2009. PPL no longer has to make the effort to assemble data from its service providers in order to get required reports. Project and installed measure data is populated directly by service providers and internal staff and is immediately available. If there are errors in the service provider's submittal, the system flags the errors and automatically notifies the service provider to investigate and make corrections.

As a result, PPL has recognized the following benefits:

- **Ability to deliver first quarterly report to the state evaluator for 2010 without incident.** The report was timely and accurate.

- **Ability to easily obtain up-to-date information on program activity.** Program managers have the ability to view details about program participation and savings. The company will soon have a dashboard available so that managers and other relevant personnel will be able to see how programs are progressing toward participation, cost, and savings targets.

- **Ability to track commitments for custom projects.** There is a risk of overcommitting funds, especially for large custom projects. The EEMIS allows the program manager to track commitments to ensure that funds are available.

Lessons Learned

The most challenging aspect of this project, in addition to the tight timeline, was that regulators had not developed requirements for evaluation when the system was in the design phase. If the service provider for evaluation for the state had been selected, PPL would have had a better idea of what was required for reporting and evaluation. The company had to depend on CGI's experience and its own assumptions when designing and implementing the system.

For the Future

PPL intends to use the EEMIS as one source of information to inform the next round of program design in 2013. While the EEMIS will not be the only source of information, it can provide valuable insight into what worked and what did not work.

NSTAR: Development, Portfolio Management, and Ongoing Managed Services

NSTAR is the largest Massachusetts-based, investor-owned electric and gas utility, with revenue of approximately $3 billion and assets totaling approximately $8 billion. NSTAR employs more than 3,000 employees in its regulated business. The company transmits and delivers electricity and gas to 1.1 million electric customers in 81 communities and nearly 300,000 gas customers in 51 communities.

NSTAR has long maintained an aggressive portfolio of gas and electric energy efficiency programs, which have recently been scaled up further in response to the Massachusetts Green Communities Act of 2008. The act mandates that utility companies serving customers in the Commonwealth offer all cost-effective energy efficiency measures available. More specifically, the act states, "To mitigate capacity and energy costs for all customers, the department shall ensure that electric and natural gas resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost-effective or less expensive than supply." The act maintained a 2.5 mil charge per kilowatt-hour and also identified other sources of funding, including proceeds from the Regional Greenhouse Gas Initiative (RGGI) and the forward capacity market (FCM), to fund both energy efficiency and demand response. NSTAR's energy efficiency program budget is expected to rise from $50 million in 2008 to $125 million in 2010, which is a 150% increase from the $50 million budget in 2008. This budget is expected to double again by 2012, the final year in a three-year plan.

In October 2009, the Energy Efficiency Advisory Council (EEAC), mandated by the act, approved the energy efficiency plans of the utilities in the Commonwealth. The plans for 2010–2012 are expected to put the state on track to meet 30% of its energy needs through energy efficiency by 2020.

NSTAR Program Portfolio

NSTAR provides gas and electric energy efficiency programs to residential, commercial, and industrial customers. Residential programs are geared to both single and multifamily retrofit housing. A residential retrofit program, delivered through a service provider, is one of the primary programs. Commercial and industrial programs provide both prescriptive and custom measures for both building retrofit and new construction. While the residential programs are most recognized, 70% of the savings in the Energy Efficiency plan are expected from the commercial and industrial market.

The Role of IT in Delivering Energy Efficiency

With the variety and scale of energy efficiency programs, NSTAR determined that it needed an information system that would allow it to track and manage the portfolio of energy efficiency programs. The existing custom-built system would not be sufficient to manage the scale of the programs, keep the company on track for meeting aggressive savings goals, and provide flexibility needed by an ever expanding utility and statewide focus on energy efficiency. Specifically, NSTAR wanted to be able to view up-to-date information on actual and forecast program performance based on current data to manage performance and inform strategic planning. Like PPL, NSTAR chose CGI because of its experience in energy efficiency and its energy efficiency framework. NSTAR had worked with the company on other projects and had developed a rapport and partnership that continued to serve the development of the energy efficiency information system well.

Delivery Model

NSTAR uses Model #2. The new application, *eTRAC*, was developed by CGI and is now hosted at NSTAR. NSTAR had decided early on to hire a third-party contractor to manage the energy efficiency application because it did not have in-house expertise in maintaining energy efficiency information systems. The company first contracted with another professional services firm to perform application management but soon discovered that it needed to bring CGI back in to manage the application.

eTRAC Benefits

NSTAR is focused on achieving savings goals. To do this, the company needs information to tightly manage its programs and contracts. According to the Vice President of Customer Care, the system is a platform for easy access to information. "It is a powerful tool providing program managers with a lens into project status." Benefits that the company has realized include:

- Ability to meet regulatory reporting requirements

- Ability to gain tighter control of program management

- Ability to forecast pipeline of projects

In addition, the energy efficiency information system has provided NSTAR with a rich database of information about its energy efficiency programs. NSTAR has mined this data to investigate patterns in measure installation and to audit findings in certain geographies and potential geographies that are prime for program expansion. In this way, the data contained in the system has aided the company in program design and marketing.

Lessons Learned

NSTAR realized early on that in building out an application to support energy efficiency, it would make sense also to revisit the business process. It was important to be as clear as possible about what was needed. The decision to build process flow charts paid off when the company moved to implement gas programs. The company also realized the value of working with a partner with expertise in and understanding of utility energy efficiency programs and how they work. Data and programs can be complex, especially given detailed evaluation requirements and regulatory cycles. Knowledge and past experience in developing energy efficiency information systems can also speed the testing process.

For the Future

In the future, NSTAR is considering enhancing its energy efficiency information system through establishing an enhanced Web portal. The portal could be used by service providers, contractors, and other stakeholders to get access to information to improve program performance.

FUTURE OUTLOOK

Some utilities are looking for more comprehensive treatment of buildings — going deeper into a building or home to identify new opportunities. This means collecting more information on what is installed at the customer's premises. Some utilities are finding greater savings and lower administrative costs if they deliver multiple measures in conjunction with other initiatives, such as installation of solar panels.

The introduction of new programs and technology is expected to have a significant impact on market acceptance of energy efficiency and demand response. New technology such as smart metering, home energy networks that tie together smart appliances, smart thermostats, in-home displays, and personal energy management tools will help customers reduce energy consumption and bills.

It is still not clear whether energy efficiency and demand response programs will be managed out of the same application. What is clear, though, is that smart metering and demand response will generate large volumes of data. Where a customer participates in multiple programs — energy efficiency, demand response, rooftop solar — utilities will need to analyze multiple streams of data to determine how to accurately allocate energy savings to the right initiative.

Utilities will have more information about the customer and the network than ever before. Smart meters are providing granular consumption data, and energy efficiency programs are collecting

equipment inventories associated with energy efficiency projects. Applications that are easily integrated can further the utility's objectives. For example, the integration of a meter data management application with an outage management system can reduce the time it takes to resolve an outage.

CONCLUSIONS

● Whether implementing energy efficiency programs for the first time or expanding existing programs, utilities would be wise to consider understanding the business process and developing an energy efficiency application to support it: Make information technology a key part of the planning process for energy efficiency scale-up. Energy efficiency business units, customer service, marketing, and accounting should work closely with IT to lay out the requirements needed to ensure program and contractor performance.

● Plan for constant change in energy efficiency. The rules are still evolving. Do not forget about the impact that other programs or technologies will have on energy savings. It will be complicated to sort out where to attribute the savings — to energy efficiency programs, demand response, or customer-owned generation such as photovoltaics.

● Loosely couple the energy efficiency system with other applications. For example, you will not want to integrate the CIS so tightly with the energy efficiency information application that you will need to regression test billing when new rules come into force.

● Structure the energy efficiency application so that it records data at the lowest level. For example, regulators may request measure-level data at the zipcode level.

● Professional services firms that have developed frameworks and have experience implementing an energy efficiency information system can speed the development and implementation of a system. If you decide to hire a firm for development, it makes sense for that same vendor to manage the application.

ABOUT CGI

Founded in 1976, CGI Group Inc. (**www.cgi.com**) is one of the largest independent information technology and business process services firms in the world. CGI and its affiliated companies employ approximately 26,000 professionals. CGI provides end-to-end IT and business process services to clients worldwide from offices in the United States, Canada, Europe, and Asia/Pacific as well as from

centers of excellence in North America, Europe, and India. As of March 31, 2010, CGI's order backlog was $11.4 billion. CGI shares are listed on the NYSE (GIB) and the TSX (GIB.A) and are included in both the Dow Jones Sustainability World Index and the FTSE4Good Index.

CGI combines 20+ years of extensive utility industry expertise with a comprehensive portfolio of solutions from distribution, outage, and workforce management to energy efficiency, customer relationship management, and IT services such as server consolidation, NERC compliance, and IT management.

METHODOLOGY

The main focus of this White Paper is to examine energy efficiency program development and implementation for utilities. The findings in this White Paper are based on IDC Energy Insights ongoing research and survey work with North American utilities. In addition, IDC Energy Insights conducted supplementary qualitative research interviews to further augment its research efforts. Six executive telephone-based interviews were conducted with senior decision makers within the two case study participants.

LEARN MORE

In addition to the primary research completed to support the development of this White Paper, IDC Energy Insights also conducts regular surveys of utilities and best practices case studies and publishes a variety of research on developments within the utilities market space.

Some recently published related research includes:

- *North American Intelligent Grid Utility Spending Forecast* by Marcus Torchia, Jill Feblowitz, and Rick Nicholson (IDC #EI220896, December 2009)

- *Vendor Assessment: Customer Care and Billing Industry Short List — Customer Care in the New Energy Economy* by Jill Feblowitz (IDC #EI220574, October 2009)

- *Best Practices: Meeting the Challenges of Energy Efficiency Scale-Up* by Jill Feblowitz and Sam Levine (IDC #EI220521, October 2009)

- *Vendor Assessment: Buyer's Guide for Sustainability Services for Utilities — It's All About Smart Metering and Carbon Emissions* by Jill Feblowitz and Gard Little (IDC #EI219884, September 2009)

- *2009 UtiliQ Rankings: Top 25 Intelligent Utilities* by Rick Nicholson (IDC #EI219691, August 2009)

- *North America Utility Industry 2009 Top 10 Predictions* by Rick Nicholson, Jill Feblowitz, Nadav Enbar, and Craig Williamson (IDC #EI216039, January 2009)