

Get the Government! Understanding and Serving Government Customers through Energy Efficiency Programs

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Abstract

This paper discusses factors which influence the level of participation by the government sector in energy-efficiency programs. The paper focuses on local governments and schools (K-12) that have participated in the Cape Light Compact and Efficiency Maine programs. Factors are identified using customer surveys, site visits, and database analysis. The paper also draws upon the experience of the evaluation team in other government sector program.

The intent of the paper is to provide background information that will assist program managers and evaluators in understanding the unique needs of the government sector and considering those needs in program design and assessment. In particular, the paper discusses several barriers to program participation and the approaches to overcoming those barriers that have been used successfully in actual programs.

Introduction

The government sector represents a major consumer group with significant potential for energy efficiency. At the same time, it is clear that to reach this sector, programs need to address the government sector's unique organizational structure, financial and institutional barriers to participation, and approach to decision-making.

An evaluation team recently evaluated the Cape Light Compact (CLC) government retrofit program while also performing a comprehensive evaluation of Efficiency Maine's Business Program. Both programs address local governments and existing schools. A coordinated data collection and analysis approach allowed the evaluation team to compare and contrast the two programs in serving the government sector.

This paper begins with a description of the Efficiency Maine and CLC programs and key findings from their recent evaluations. Then the paper discusses other programs that specifically target the government sector including NYSERDA's Energy Smart Offices, with which evaluation team members and program staff are also familiar. The paper concludes by discussing effective approaches and "lessons learned" in government sector programs based on this collective experience.

Program Descriptions

Efficiency Maine is a state-wide effort funded by electricity consumers to promote the more efficient use of electricity, help Maine residents and businesses reduce energy costs, and improve Maine's environment. The Efficiency Maine Business Program is delivered through registered Program Allies (made up of over 400 manufacturers, wholesalers, retailers, professionals, and contractors). The Maine Public Utilities Commission contracts an implementation team to administer the Program.

The Efficiency Maine Business Program has been in operation since April 15, 2003, so it is relatively new. The Program offers information and cash incentives to all non-residential entities within Maine. Incentives are available for retrofit and new construction projects. Until recently, the Program has had three main application processes: 1) A “Quick and Easy” application form that is only available for small businesses and existing K-12 schools, 2) A pre-qualification incentive application for with prescribed incentives, and 3) custom projects that require detailed documentation on project costs, and energy savings.

Cape Light Compact (CLC), a regional services organization, separately targets its government customers with both prescriptive and custom approaches to energy efficiency. Under the prescriptive approach, customers can obtain information and financial incentives for energy efficiency measures, while under the custom approach, vendors and customers are free to propose efficiency improvements that are specifically tailored to the individual customer’s needs and interests. Each cost effective proposal is reimbursed (to customers or vendors) for a certain percentage of the incremental cost of the proposed efficiency measures.

There are over 24,000 commercial and industrial (C&I) electricity customer accounts within the Cape Light Compact’s territory, representing only 13 percent of all electricity customers but 45 percent of total electricity consumption. The government sector is an important target for these programs—7 percent of the C&I customers but 19 percent of the C&I energy consumption.

While CLC has a separate program to uniquely address the needs of the government sector, Efficiency Maine has a different application type to facilitate participation of K-12 schools. K-12 schools, along with small businesses, may complete a “quick and easy” application that is streamlined in information requirements and the project pre-approval process.

Evaluation Methodology

PA Government Services (PA) and Science Applications International Corporation (SAIC) conducted the evaluations of both the Efficiency Maine Business Program and the CLC Small Government Retrofit Program in 2006. Both evaluations included customer participant surveys to collect process and impact information. Both evaluations also included an impact evaluation to review energy savings estimates to calculate adjusted net and gross energy savings. The evaluations estimated the Programs’ gross electric savings from the data gathered through a program tracking system engineering review, review of project files and on-site inspections for a sample of participating customer sites. The evaluations made net-to-gross energy savings adjustments based on free-ridership and spillover estimates obtained from the participant customer survey.

The following table lists the data collection activities implemented to support both evaluations and the completed sample sizes. The Efficiency Maine data is for the program overall, and not just its government customers.

Table 1: Efficiency Maine and CLC Small Government Retrofit Evaluation Data Collection Activities and Sample Completes

| Data Collection Activity | Efficiency Maine | CLC Small Government Retrofit |
|---------------------------------|--|--------------------------------------|
| Program Staff Interviews | 8 | n/a |
| Program Ally Interviews | 20 | n/a |
| Participant Surveys | Overall n=253, government sector n=16 | N=31 |
| Non-participant surveys | N=50, K-12 schools n=20 | N/A |
| Project file reviews | N=77 | N=20 |
| On-site inspections | N=36 | N=20 |

Efficiency Maine and CLC Program Evaluation Findings

In this section, we highlight results of the evaluations of the Efficiency Maine and CLC Program in the following sections:

- Program satisfaction
- Ease of participation
- Program marketing and outreach
- Customer participation—motivators, business types and barriers to increased involvement
- Non-energy impacts
- Energy impacts
- Additional opportunities for energy savings

Program Satisfaction

Average overall satisfaction with both the CLC and Efficiency Maine programs overall and all aspects of the Program were high among participants—4 and above on a 5-point scale (1=not at all satisfied and 5=very satisfied).

Respondents for both programs were most satisfied with the size and processing of the incentive as well as the program staff. In comparison with feedback from Efficiency Maine Business program participants, equipment through CLC’s program was rated lower. This was largely a result of occupancy sensor issues. However, both programs received their lowest average rating for the amount of information they provided to customers about the equipment.

As further evidence of participants’ satisfaction with the programs, the majority of respondents for both programs said they were likely to participate again and would recommend the program to a colleague. Reasons given by those not planning to participate again in one of the programs were have done all energy efficient improvements at facility, dissatisfaction with program equipment, lack of information provided about equipment, and hassle/transaction costs of applying.

Ease of Participation

Efficiency Maine’s program paperwork requirement was reported as a barrier by about ten percent of government participants and some non-key program allies (those who sell only a few pieces

of qualifying equipment each year). Ten percent of CLC participants also indicated the program paperwork requirement as a barrier.

Program Marketing and Outreach

The Efficiency Maine customer surveys showed that while the trade-ally based model^[1] is successfully getting the word out about the Program to customers, marketing efforts need to continue to be bolstered by program outreach efforts directly to customers as well. This appears to be particularly true for government sector clients. CLC participants and Efficiency Maine government participants are most often learning of the programs through someone in their organization, followed by program representatives. For Efficiency Maine, these word-of-mouth source are higher for government customers than for program participants overall.

Customer Participation—Motivators, Barriers to Increased Involvement and Business Types

Motivators. The top two factors for deciding to participate in the CLC program were (1) reduced bills, and (2) energy savings of efficient equipment. For Efficiency Maine, these motivators were second and third. The top motivator for Efficiency Maine participation was the incentive. However, CLC participants mentioned equipment availability as third, and thus the incentive did not rank in the top three motivators for CLC. This is interesting because the CLC program covers 100% of project costs for government sector clients and Efficiency Maine does not. Therefore, it is surprising that the incentive is not the first reason listed for project participation for CLC. However, as noted in the program satisfaction above, satisfaction with the incentive provided was very high.

While the incentive was the primary motivator for program participation for Efficiency Maine participants, non-participating Maine businesses reported they were most interested in reducing their bills and helping the environment. Interviewed non-participant Maine schools had the most interest in participating in the program of all non-participating interviewed businesses.

It was also found in the Efficiency Maine Program that state sponsorship of the Efficiency Maine Business Program may have a positive influence on participation, especially for the government sector.

Barriers to Increased Participation. The Efficiency Maine data collection activities with program staff, program allies, and customers all confirm that one of the largest barriers to energy efficiency projects, especially government sector clients, is the upfront costs to do the project. Other barriers include a perceived lack of need, lack of control over energy use, other cost concerns such as the incremental cost or insufficient payback, and product availability. The CLC program addresses the upfront costs of doing the project for government customers by covering 100% of project costs.

Efficiency Maine Program Staff noted that government sector clients will choose to implement only the project with highest rate of return, and would not carry out comprehensive programs. *“They are taking baby steps toward high performance.”*

^[1] The Efficiency Maine Business Program is delivered primarily through program allies. Program allies are the main vehicle for marketing the program to customers, informing customers about the program requirements, completing the paperwork requirements and implementing energy efficient projects. This approach is commonly referred to as a “trade-ally based model.”

Participation Types. For Efficiency Maine, manufacturing is the largest participating customer segment type in terms of energy savings and the percentage of overall participants. This is typical of other energy efficiency programs as well, mostly as a result of this sector's high energy consumption. While Efficiency Maine appears to be capturing a good breadth of the different business segments, some industry types are better represented than others. For the government sector, K-12 schools are well represented in the Efficiency Maine Program (6% of program participants compared to 2% of the Maine business population). Program staff reported in interviews that schools are now more involved since they made the program change to let them complete the simple application for prescriptive measures (the "quick and easy" application) along with small businesses.

At the same time, small government participants such as municipalities are under-represented in the Efficiency Maine Business Program population (approximately half of a percent of program participants compared to 3% of the Maine business population). Efficiency Maine program staff reported in interviews that municipal governments were a challenge to reach. The interviewee reported that the low participation by municipalities may be a result of how municipalities are structured. *"I think if you look at the town structures in Maine, each Department head has their own budget which includes energy costs for their particular building. After their department budget is pared down in the city manager's office, there is no available capital for investing in efficiency. Furthermore, often this head, say the library director, has few building management skills, while in small and medium towns, continual pressure to reduce the cost of government has stripped the town of facilities management staff who can afford to take time for such projects."* Efficiency Maine has increased working with the Maine Municipal Association starting in 2006, to increase municipality participation. Generally, working with trade associations and other market intermediaries has been a successfully way that Efficiency Maine has captured other business types - associations were the third most commonly reported way that Efficiency Maine Business Program participants first learned of the program.

The CLC Small Government Retrofit Program's customers represent different types of facilities, but are primarily composed of office buildings (36 percent) and K-12 schools (32 percent).

Program non-energy impacts. Respondents of both programs reported several non-energy benefits of program participation. The most often reported non-energy benefit was better performing equipment reported by approximately a third of participants in both programs. Other non-energy benefits included increased productivity, increased energy efficiency knowledge, more efficiency operation and maintenance practices, more training/information on equipment, operations that are better for the environment and increased comfort.

Energy Savings

Both programs are delivering substantial energy savings. Overall, the CLC small government retrofit program net savings were 82 percent of those reported in the Program tracking data provided by the implementation contractor. The reduction was primarily due to changes in engineering inputs to the savings calculation based on the project file reviews and on-site data collection. The levels of free-ridership were quite low at 1.8 percent and is actually more than offset by participant spillover effects of 2.8 percent.

Efficiency Maine Business Program net energy impacts realized through the Program were also just over 80 percent of the gross savings recorded in the tracking system, similar to the CLC program. Free-ridership and spillover numbers are not available for Efficiency Maine government sector participants because of the small sample sizes for the customer segment.

It is important to recognize that the additional energy savings from market effects of the programs, including non-participant spillover, were not part of the scope of work for either evaluations. Therefore it is likely that energy impacts are understated for both programs. Non-

participant spillover refers to energy efficient measures installed by program non-participants due to the Program's influence.

A *free rider* refers to a customer who received an incentive through an energy efficiency program who would have installed the same or a smaller quantity of the same high efficiency measure on their own within one year if the program had not been offered. *Spillover* refers to additional energy-efficient equipment installed by a customer due to program influences but without any financial or technical assistance from the Program.

Additional Opportunities for Energy Savings

While on-site at customer facilities, evaluation team engineers determined if any significant additional electric energy savings potential projects were available at sites that had participated in the programs. While multiple additional opportunities for installation of energy efficient measures were noted during the on-site visits, the overall conclusion was that the implemented projects were capturing the most significant source of savings.

Lessons Learned for Government Sector Clients

Cost

There is substantial evidence that up-front costs and budget issues are the primary deterrent to government sector clients implementing energy efficiency projects. Cape Light Compact is successfully addressing this barrier by covering 100 percent of project costs for their small government retrofit program. The low free-ridership numbers for the CLC Program suggest that, in fact, these energy saving projects would not be implemented without the program.

NYSERDA Energy Smart Offices is also successfully addressing up-front costs by providing government clients free audits, followed by individualized recommendations on no-cost/low-costs actions they can take to reduce their plug-load electric use.

Costs might be successfully addressed through programs which provide financial guidance, including performance contracting, lease financing, and use of state Revolving loan funds, or other strategies where savings exceed instalment payments.

Paperwork

Another barrier to government sector clients participating in programs is the hassle and transaction costs of applying. Efficiency Maine has successfully increased the participation of K-12 schools in the program by allowing them to complete a simplified application process. In addition, Efficiency Maine has increased field staff to provide customers more assistance completing the application process.

Peer-to-Peer

There is evidence from all of the programs that government sector clients are best reached through word of mouth venues. This suggests that programs targeting government sector clients need to use networking with other participants, government sector market intermediaries and direct contact from program representatives as outreach venues to reach government sector customers.

Technical Assistance

Two other barriers to government sector participation can be addressed through technical assistance provided by programs. First of all, there is a perceived lack of need and lack of control over energy use on the part of government clients. This can be addressed through technical assistance showing government sector clients energy saving opportunities at their facilities as well as how to operate and maintain equipment. Government clients also reported lack of information about equipment as one of the program components they were least satisfied with for both the CLC and Efficiency Maine Programs. At the same time, both participating and non-participating Maine customers said the program design element they would be most interested in would be a technical review during the construction and design process. This indicates customer receptivity to this type of service.

Training

Another barrier to customer satisfaction with energy efficiency projects and therefore their future participation is lack of understanding of equipment operation. . It is common in government sector customers that the end-users are removed from the decision-makers and are often not familiar with the equipment and sometimes totally unaware that the equipment was installed. Therefore, a useful strategy would be to develop processes to ensure that the staff affected by the project is educated on the operation of the equipment and the benefits. The key contact for the project should be encouraged to inform the staff of the equipment installation, its benefits, and appropriate operation. It may also be useful to look for opportunities to use the schools energy education program to inform staff and students on energy-efficiency opportunities and projects at their school.

We note that through the performance contract strategy mentioned above, the training can be ensured by obligating of the service provider to provide training through contractual language.

Plug Load Opportunity

The on-site inspections of government sector facilities from the Efficiency Maine and Cape Light Compact evaluations also suggest that this customer segment, perhaps more than many others, is ripe to benefit from plug load efficiency programs. The NYSERDA Energy Smart Office Program recommends low-cost/no-cost plug-load efficiency recommendations about the procurement of more efficient equipment, power management of computers and monitors, and powering off of equipment after hours and when not in use.