Fast Capacity Reduction through Geographically Targeted, Aggressive Efficiency Investment: Early Results from a Vermont Experiment

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ABSTRACT

In 2007, Vermont began an experiment in aggressively implementing efficiency as a means of avoiding or deferring upgrades to the transmission and distribution system. The Vermont Public Service Board directed Efficiency Vermont to focus a major portion of efficiency efforts across 18 months to four narrowly defined geographic areas with 63,000 unique customer premises which represents about 18% of premises statewide. The states' electric utilities identified these four areas as those in which significant capital investment in system infrastructure might be avoided or deferred if high levels of efficiency could be quickly put in place. The initial 18-month test period ends December 31, 2008. Of the 40 MW statewide demand reduction that Efficiency Vermont is currently under contract to deliver by the end of 2008, approximately 7 MW are to be provided in the targeted areas. This obligation requires acquiring seven to nine times more demand savings from customers in these targeted areas than have been acquired in the prior 18-month period. To accomplish this goal, Efficiency Vermont has mobilized an intense and concerted effort based on detailed market segmentation and analysis. This work begins with more intense implementation of statewide program services and initiatives, and comprises additional efforts that are being applied only to the target areas. Targeted marketing, community-based initiatives, new custom strategies, and massive direct measure installation are all part of this plan. This paper reports on the results and lessons learned since the launch of the geographic targeting effort in early fall 2007.

Introduction

Efficiency Vermont, the nation's first energy efficiency utility, has been operated by the Vermont Energy Investment Corporation (VEIC) since 2000, using a system benefits charge established by the Legislature (Hamilton & Dworkin, 2004). In 2005, the Vermont Legislature removed a statutory cap on the amount of the system benefits charge and encouraged utility regulators to increase investment in energy efficiency consistent with statutory least-cost planning requirements. They also directed that efficiency strategies should balance: "providing efficiency and conservation as a part of a comprehensive resource supply strategy; providing the opportunity for all Vermonters to participate in efficiency and conservation programs; and the value of targeting efficiency and conservation efforts to locations, markets or customers where they may provide the greatest value" [30 V.S.A §209(d)(4)]. A regulatory order in August 2006 increased Efficiency Vermont's 2006-2008 contract budget by 41% and directed the energy efficiency utility to apply these additional resources to targeted efficiency investments with the goal of deferring or avoiding significant capital investment in system infrastructure.

A consultative process with the state's electric utilities led to the selection of four highest-priority areas where planned capital investment might be deferred or avoided by targeted, deep efficiency. These four regions are distribution areas with approximately 63,000

customers. Fourteen of these are considered very large users (having a peak annual demand over 1MW), 8,600 are other business accounts and the remaining 54,000 are residential users. Of the four areas, two are facing only summer peak constraints, one is winter peaking only, and one has relatively equal summer and winter peaks. Based on available financial resources, a summer peak goal reduction of 7.2 MW was set, to be achieved across the three summer-peaking areas. Similarly, a winter goal of 7.74 MW was set for the combined two winter peaking areas. Both goals are to be achieved across an 18-month period ending in December 2008. These new MW savings goals reflect 700% and 950%, respectively, of Efficiency Vermont's historical average summer and winter peak savings in these areas for the prior 18-month period. Reduction targets were based on ramping up from previous performance in each region. Table 1 shows the approximate annual rate of underlying load growth as forecast by the distribution utilities, projected efficiency reductions and the estimated net load growth:

Table 1. Geographically Targeted Area Characteristics

Name of Distribution Area	Peak Period	2007 Peak Load (MW)	Utilities Forecast of Annual Load Growth Without Efficiency Implementation	Reduction from Targeted Efficiency Implementation as % of Annual Load Growth	Estimated Net Rate of Annual Load Growth with Geographic Targeting
Chittenden North	Summer	64	4.3%	3.1%	1.2%
Newport	Summer	18	1.7%	4.8%	-3.1%
St. Albans	Summer	29	3.4%	6.7%	-3.3%
Newport	Winter	18	1.7%	2.2%	-0.5%
Southern Loop	Winter	70	3.4%	6.8%	-3.4%

If Efficiency Vermont meets its demand reduction goals for the end of 2008, load growth will be turned negative in four of the five targeted areas. The remaining area is in the State's most populous and fastest-growing area, and is forecast to have a particularly high rate of load growth. The extent to which the net load growth targets shown in Table 1 will impact the reliability concerns in these four areas is yet to be determined. This will be one of the subjects of ongoing evaluation efforts to be conducted over the coming months and years. Nonetheless, if the level of demand-reduction called for in these goals can actually be delivered it will significantly increase confidence in using efficiency as a "non-wires' alternative to address reliability constraints.

Market Analysis and Segmentation

Achieving this high level of demand reduction at this scale, very fast, was recognized as extremely aggressive and largely unprecedented. There were a number of studies and tests exploring the potential to address transmission and distribution constraints in the early 1990s, one of the largest being associated with Pacific Gas & Electric's Delta Project (Proctor and Pernick, 1992; NREL / EPRI, 1994). Nationally, it was estimated in 2000 that programs targeted to reduce peak demand could save 40% of expected load growth in the next ten years (Nadel, Neme and Gordon, 2000). In Vermont, one utility has planned to include targeted efficiency as

part of solution to a specific reliability constraint (Plunkett, Bentley and Wyatt, 2006), but there is little implementation experience to rely on when it comes to deploying such an effort.

Planning how to meet these goals involved assessing both where such savings opportunities existed for the targeted customer markets, and the strategies to secure these savings rapidly. The process began with an assessment of the opportunities for savings among the targeted customers. This assessment was greatly facilitated by the comprehensive data system maintained by Efficiency Vermont for all customers in the State. The system includes historical energy use and demand, information on prior measures and projects, and records of all prior interactions with customers. Analysis by SIC classification for customers allowed further identification of accounts likely to have large savings opportunities. Six years of staff experience working in these markets was also instrumental in this effort. Efficiency Vermont considered customer characteristics, prior technology penetration in different customer groups, and specific barriers faced by different customers in order to rank market sectors and customer types by their savings potential. Business customer markets identified with the highest potential included commercial lighting, customers with the very highest loads, hospitals and other health care facilities, and retro-commissioning. In the residential sector, the extremely low market penetration of electric space heat and limited use of air conditioning meant that lighting was the measure with the greatest potential for rapidly achieving high savings.

The four targeted areas are located in three different regions of the state. They range in size from just over 5,000 customers in the rural Northeast Kingdom (the Newport area) to two adjacent areas serving more than 35,000 customers in the state's most populated region. Within the geographically targeted areas, the largest 25% of business accounts are responsible for 92% of the electrical energy used by businesses.

Geographic Targeting Strategies

The analysis of market opportunities resulted in three strategies, each of which is focused on a particular customer segment:

- Account Management—a relationship-based strategy with negotiated incentives for accounts greatest potential for custom, deep-savings retrofits – customers with facilities that use more than 500 MWh / year;
- Direct Installation—a strategy built around direct installation of limited menu of high-savings measures applicable to medium to large business facilities – those using 40 to 500 MWh / year; and
- Community Awareness and Lighting Campaigns—a strategy focused on the purchase and installation of compact fluorescent lights (CFLs) for residential and small business customers, as well as building awareness to increase participation in other Efficiency Vermont services.

Account Management

Efficiency Vermont had been shifting to an "account management" strategy for its largest customers before the initiation of this new initiative, with very promising initial results. In geographically targeted areas, this approach was expanded to a broader group: the 148 customers in the targeted areas with annual usage over 500 MWh. Efficiency Vermont's goal for this group

is an average of 6.5% savings: a reduction of 3.5 MW in summer peak, 5 MW in winter peak and more than 24,000 MWh of savings.

The account management strategy is based on building relationships with the customer's key decision makers, with a goal of building confidence in Efficiency Vermont as a trusted and valued business partner. This highly customized approach applies high levels of technical assistance and customer service in order to identify and implement custom projects that will both provide customer value and contribute to achievement of energy and demand savings goals. All incentives are negotiated; and in this aggressive savings acquisition effort, it makes sense to provide customers with "an offer they can't refuse." Of course, the art of this negotiation process is also to offer no more than necessary, which is informed by an analysis of the investment from a customer economics perspective. It has also been important to manage customer expectations and help customers understand the reasons for situational variation of incentive levels.

Direct Installation

The short, 18-month period for deep resource acquisition in targeted areas required some departures from Efficiency Vermont's prevailing practice of focusing on efficiency resource acquisition through market intervention when the natural cycles of equipment replacement occur. Direct measure installation was seen as the most expedient and effective way to gain large and fast savings at the medium to large (40 to 500 MWh) facilities in the targeted areas. Based on the experience of prior business sector direct installation programs conducted by other utilities, such as National Grid, Southern California Edison and NStar, it was estimated that direct installation of lighting and control measures could achieve more than 21,000 MWh in savings, but only if the acceptance rate averaged 80% or better. Incentives would need to be close to 100% to assure this level of participation. Targeted savings were set at 15% of usage for the average participant.

Although targeted primarily at lighting and controls, an initial audit is designed to identify other cost-effective HVAC, refrigeration, and custom measures. The installation of these additional measures can then be delivered through routine protocols and channels for business customers.

Community Awareness and Lighting Campaigns

Massive CFL installations were seen as the most effective way to achieve savings rapidly in the residential market. A three-phase strategy was identified to meet the goal of selling 300,000 CFLs within the target areas by the end of 2008:

- Build infrastructure to ensure quality product availability;
- Raise awareness and partnerships using a variety of community-based strategies; and
- Create demand through repeated community-wide messaging to encourage participation.

Efficiency Vermont has had great success in the past partnering with local, community-based energy initiatives to achieve unprecedented, high sales of CFLs in small communities through campaigns that ranged from a few days to six months. The first, in a community of 1,100 households resulted in at least one installation in every home and business in the community, with an average of 4 bulbs each. Similar initiatives have followed in other communities around the state. The largest resulted in sales of 42,000 bulbs in a town with only 3,100 customers. Our

role in supporting these efforts includes ongoing retail account management including enhanced merchandising assistance, disbursement of special promotion coupons, coordination with retailers, including negotiated cooperative promotion buy-downs with most of the state's major chains, CFL and mercury education, and retail and kick-off events with community leaders and appearances by Wattson, the Efficiency Vermont mascot. The community's role includes providing leadership, supporting the kick-off, organizing a volunteer campaign committee, setting goals, identifying events where CFLs can be promoted and sold, and building the neighbor-to-neighbor endorsements for the campaign. With geographic targeting, these efforts are being supported by a CFL advertising campaign encompassing television, web, and print media that advocates the purchase and installation of specialty products (dimmable bulbs, encapsulated CFLs, flood lights, and 3-way lights) in addition to the conventional CFL spirals.

For this targeted initiative, eight clusters of towns were identified for targeted lighting campaigns. These clusters had residential customer counts ranging from 3,300 to 7,500 each and shared about 7,000 small (<40,000 annual kwh) commercial customers. Market research indicated that the goal for this strategy would require that 50% of the residential and small commercial customers in these core and surrounding communities purchase and install an average of 10 CFLs. Residential participation in Efficiency Vermont's prior CFL efforts in the core communities has ranged from an average of 11% in some areas to 31% in others. Small business customers were also identified as a market segment with considerable untapped potential for CFL retrofits.

Past community-based efforts were most frequently the result of community leaders or activists approaching us for assistance and direction. This situation exists in two of the targeted communities. In the remaining six areas, classified as "cold-start communities," the situation is the reverse: Efficiency Vermont is reaching out to local leaders to ask for their assistance and direction in promoting efforts that will inspire residents and business owners to purchase and install substantial numbers of CFLs. This outreach, associated press coverage, the organizing of local energy teams and GIS-generated maps posted on the Efficiency Vermont web site are all helping to build community support and involvement in reaching load reduction goals in targeted communities.

An enhancement designed to increase awareness and participation was the implementation of the Project Porchlight door-to-door strategy in three targeted communities in May 2008 [www.**projectporchlight**.com/].

Savings Goals

For 2008, over 60 percent of Efficiency Vermont's statewide savings need to be attained in the geographically targeted areas to achieve contractual goals. Table 2 summarizes the goals for the targeted areas by strategy:

Table 2. Geographic Targeting – Strategies and Projected Savings

Strategy	Target Customers	Targeted Customers	Savings / Customer	Annual Savings Expected Before Targeting (MWh)	Annual Savings from New Initiatives (MWh)	Total Annual Savings Goal (MWh)	% of Total
Account management	Business customers using more than 500 MWh / year	148	6.5% of current MWh use	5,660	18,500	24,160	30%
Direct install	Business customers using 40 to 500 MWh / year	1,400	15% of current MWh use	--	21,175	21,175	26%
CFL campaign – Small Business	Business customers using less than 40 MWh/year	7,200	12 CFLs	946	9,269	10,215	12%
CFL campaign - residential	Residential	54,000	9 CFLs	1,458	14,352	15,810	19%
Other business	New construction	Not targeted		1,738	946	2,684	3%
Other residential	New construction, appliances, & fuel switching	Not targeted		2,198	5,758	7,956	10%
TOTALS				12,000	70,000	82,000	100%

Early Results

Efficiency Vermont has traditionally focused on market-driven energy efficiency opportunities. This geographic targeting effort required a shift to focusing on rapid acquisition of savings efficiency resources, with necessarily more focus on retrofit markets. A dedicated team was established within Efficiency Vermont to implement this initiative, including managers, marketing and business development staff. They began by developing detailed implementation plans, communication plans several communication tools including a brochure, information sheets, GIS-generated maps, and an interactive micro-site on the Efficiency Vermont web site. In addition, data system enhancements made it easier for staff to access customer data in the database and to quickly recognize customers who live in the geographically targeted areas and those using large amounts of electricity.

Account Management

To date, all 148 of the geographically targeted customers designated for account management have been engaged by their assigned account managers. Staff were trained in new protocols for account management of these customers to secure deep load reductions and were given specific savings goals to achieve by customer and in aggregate. By the end of March 2008, approximately 55 of these customers had installed measures totaling 6,399 MWh in annual savings. Another 178 projects totaling 9,000 MWh are in the pipeline.

The negotiated incentives for projects with account-managed customers in the geographically targeted areas have averaged about $100 / MWh as compared to the $60 / MWh in the rest of the state. In some circumstances, higher incentive offers were made for previously

identified projects that had not moved forward due to customers' corporate investment criteria. A number of these stalled projects are now being implemented.

Results to date with account-managed customers in the targeted areas indicate average annual project savings of 100 MWh. The types of measures (and associated savings) associated with this initial group of participants are provided in Table 3.

Table 3. Savings by End Use for Account Managed Customers in Geographically Targeted Areas (through April 2008)

End Use Category	MWh	Summer MW	Winter MW
Lighting & controls	4,293	0.631	0.125
Motors & motor controls	459	0.037	0.018
Compressed air	318	0.017	0.027
Industrial process-snow guns & injection	229	0.013	0.043
Ventilation	170	0.010	0.000
Refrigeration	136	0.007	0.001
Space Heat	123	0.020	0.012
HVAC	101	0.006	0.001
Miscellaneous equipment	25	0.004	-
Cooking-drying	13	0.003	0.000
Hot water	12	0.001	0.003
Totals	**5,881**	**0.747**	**0.231**

The mix of measures shown in Table 3 is not significantly different than that for customers outside the geographically targeted areas. Lighting and lighting controls are wide-spread efficiency opportunities that are easy to identify and upgrade. Lighting also achieves savings during the summer peak period of weekday afternoons. While not as coincident, commercial lighting also contributes substantially to load reduction in the winter peak period. Efficient snow making measures have historically been a large savings opportunity in Vermont, but few opportunities remain in the targeted areas. Refrigeration economizers are an area of increasing focus as we dig deeper into winter peak demand opportunities. Though fewer opportunities exist in Vermont, compressed air improvements are also a prime target for both winter and summer peak reductions. Cooling is a logical summer peak opportunity, but due to low run hours in Vermont, is often not cost-effective as an early replacement measure.

Direct Installation

Efficiency Vermont chose to implement the direct installation initiative through a full-service sub-contract, under the supervision of a dedicated Efficiency Vermont manager. A Request for Qualifications for potential sub-contractors attracted 24 firms to a bidders conference. Fourteen of them submitted proposals; and 6 finalists were interviewed. Key criteria in the selection process were business management experience, knowledge of and experience with Vermont markets, innovation, representative pricing, subcontractor management experience, and partnership knowledge and experience. Efficiency Vermont also established preference criteria: hiring just one contractor, comprehensiveness, and a demonstrated strong desire to maximize the use of Vermont businesses for services and materials. Consistent with the

contract under which Efficiency Vermont operates, the agreement for the Direct Installation contractor was structured with a performance-based compensation component.

A contractor was selected in early September, and by the end of January 2008, a ramp-up, pilot period had been completed. In that period, 107 businesses had received energy audits, and 26 facilities saw completed installation projects. The pilot included a mix of types of business, locations, and past participation with Efficiency Vermont. This initial effort was slightly skewed toward smaller facilities. Ramping up capacity took about a month longer than expected, due in part to: (1) an adherence to the goal of using and hiring Vermont firms and personnel; (2) the multiple levels of data checking and oversight built into the pilot; and (3) the challenge of starting the initiative in the last quarter of the year.

Measures installed to date reflect the focus of this initiative on lighting and controls - high performance Super T8s, T5s, LED and pulse-start metal halide fixtures. In addition to relamping and reballasting, the pilot found many opportunities for installing compact fluorescent screw-base lighting. Some LED case lights were installed during the pilot, but their high cost makes the measure too costly to continue. Nonetheless, the range of opportunity for installing these measures is being captured in Efficiency Vermont's database. If the cost of this LED technology comes down, there is the potential to return to these customers.

As of April 11, 2008, 360 (25%) of the 1,430 eligible businesses have been audited; 15 (1%) have chosen not to proceed for various reasons; 73 projects are completely installed; 69 installations are in progress; and 80 have been accepted by the customer, but are not yet under way. Costs to date are $2.3 million. The savings potential identified through the 360 audits are 5,439 MWh (26%) of the 21,200 MWh savings goal. Average savings per customer are about 18.1 MWh, or approximately 101% the original projection of 17.9 MWh. The estimated peak reductions from this group of customers are 261 KW of the 1,274 winter KW target (20%) and 983 KW of the 2,287 summer KW target (43%).

Customers have been fairly open to allowing direct installation personnel on their premises. The connection with Efficiency Vermont and its widely recognized brand and logo has helped open doors that might otherwise have been shut if the contractor had made a cold call. Approximately 10% of the customers contacted have needed some reassurance from Efficiency Vermont that the contractor is indeed representing Efficiency Vermont. Currently, it is taking an average of 10 to 12 weeks to go from audit to completion of the project, rather than the projected 6 to 8 weeks. Within this period, 3 to 4 weeks is needed to schedule and do the audit, and to write and delivery an audit report to the customer, before a project can begin. Approximately 80% of the customers have authorized the installation at the time the audit report is delivered. Overall, 87% of the offers are accepted. Delays in procuring materials and inclement winter weather are the chief reasons for the slippage in meeting the projected duration. It is currently taking 4 to 6 weeks, rather than the projected 2 weeks, for standard items to be drop-shipped to the distributor and delivered to the job site. The delay is due primarily to a lack of understanding by the distributors about the volume of materials involved.

Targeted Lighting Campaigns (TLC)

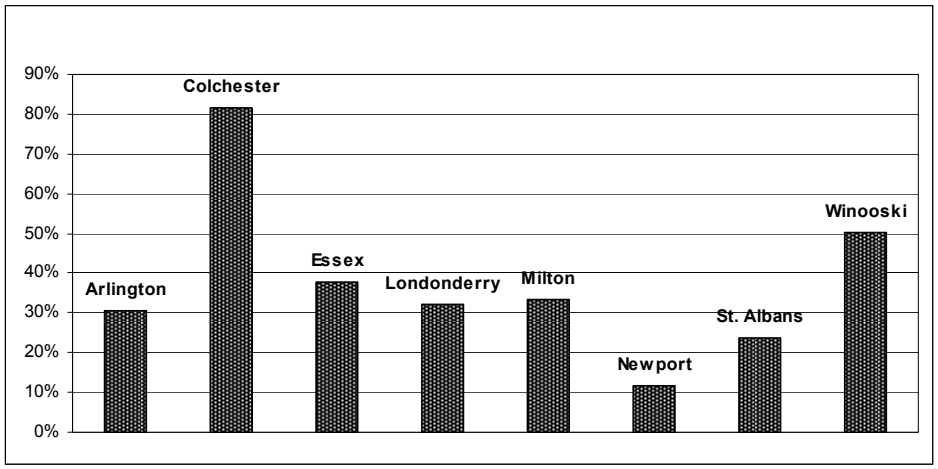
Initial community-based efforts focused on attracting and educating local retailers (general stores, hardware stores, convenience stores, supermarkets, and drug stores) to stock, promote, and sell CFLs at a level that could support the targeted sales numbers. During the fall of 2007, Efficiency Vermont had staffed more than 20 retail events. These events, which are

often held on weekends, provide a great opportunity for Efficiency Vermont retail account managers to expand their relationship beyond store owners and connect with and educate store clerks and cashiers about CFLs. By of the end of January 2008, there were 85 active retail partners in the geographically targeted communities.

A special offer coupon direct-mail piece to 43,000 residential customers in the targeted areas preceded retail events in the fall. Results from the mailing are still coming in, but they appear to have settled at just over 3.5%.

These efforts were followed by outreach to community leaders including presentations at select board meetings and coordination with or establishing local energy committees. By the end of March 2008, all eight targeted communities had scheduled or held formal kick-off events with key community leaders. Each community has now developed their own tag-line, customized marketing materials to promote activities that support the effort and created campaign monitoring devices (thermometers, dashboards, etc.) in easy-to-see locations in the community. Results by town through March 2008 are shown in Figure 1:

Figure 1. Targeted Lighting Community Sales Results as Percent of Goal



Savings Results to Date

Actual savings by strategy and demand savings as of the end of March are as follows:

Table 4. Geographic Targeting – Projected and Actual Energy Savings

Strategy	Goal (MWh)	Savings (MWh) to-date	% of planned savings
Account Management	24,160	6,399	26%
Direct Install	21,175	1,153	5%
CFL Campaign	26,025	9,122	35%
Other	10,640	3,577	34%
TOTALS	82,000	20,251	25%

Table 5. Geographic Targeting –Projected and Actual Demand Savings

Peak Time Period	Total Projected KW Savings for all GT regions	Actual Savings	% of Projected Savings
Winter	7,740	826	11%
Summer	7,200	2,235	31%

Nothing in the results to date suggests problems with the basic strategies being implemented. The overall savings goals, while extraordinarily aggressive, continue to be seen as attainable. While the initiative is, as of the end of March, at the midpoint, and performance has been slow to keep pace, savings results are beginning to accelerate. Recent analysis of pipeline and previously identified opportunities for savings suggest reasons for optimism. The account management pipeline includes an additional 1,156 KW summer and 344 KW winter savings scheduled to be completed in 2008. There is an aggressive direct installation schedule with per-project savings close to planning estimates (102%). Increasingly strong CFL sales (250% of previous year) in the geographically targeted areas, wide participation in our targeted communities and the impending launch of Project Porchlight are all indicators the effort has begun to reach maturity.

Recently, certain strategies have been refined based on early results. As shown in Table 5, one early result noted was that actual demand reductions, particularly with respect to winter demand, were not tracking with the energy savings and were significantly lagging in progress toward goals. Some refinement of the initial strategies, including more focus on measures to deliver winter peak reductions, was needed. One aspect of this was a recognition that managers and staff had traditionally focused primarily on energy (MWh) savings goals and that this focus was carried into the targeting pilot. In response, initiative staff will refocus on managing to MW instead of MWh. At the same time, new analysis identified measures and submarkets where additional emphasis would be most likely to improve demand reduction results, including:

- aggressive follow-up with previous participants in our residential high use services to pursue cost-effective fuel switching of electric heat and electric hot water loads;
- proactive outreach to the highest residential users with no previous participation;
- target custom efficiency measures as follow-up for direct installation participants;
- proactive targeting of compressed air customers;
- outreach to convenience stores for refrigeration economizers and efficiency measures;
- redesign of internal progress reports to indicate demand savings and targets in addition to energy savings; and
- restructure of business incentive offers to focus on $/MW rather than $/MWh.

Initial Lessons Learned

Some of the key lessons to date in addition to recognizing the difference between seeking energy savings and demand savings have been related to recognizing the importance of: (1) staffing with high-quality personnel; (2) effective communications and messaging; (3) the importance of a good customer database; and (4) timing and managing expectations. Key assets critical to our initial success in the implementation of this effort to include the decision to hire a manager to oversee this effort and hiring a direct install contractor who is flexible enough to

meet the customer's needs. Assigning the management of this initiative as the *only* job of the initiative manager was essential for rapid ramp-up and meeting key implementation milestones.

Another lesson has been the importance of conveying accurate information about the geographic targeting efforts both internally and externally. This has minimized confusion among end-use customers and partners, and has insured that Efficiency Vermont staff and subcontractors understand the urgency of the effort. However, Efficiency Vermont did not provide the direct installation contractor's front line personnel with similar geographic targeting message training, or with a broad overview of Efficiency Vermont and the many other services it offers business and residential customers. As a result, the contractor was not as informed as they could have been on other initiatives and how to integrate those opportunities being identified during the audit. An additional lesson about messaging relates to our use of coupons. While redemption results were slightly above expectations, results might have been higher if a clear message linking the coupon to the geographic targeting and community-wide efforts had been released prior to mailing the first round of coupons.

There have been a variety of lessons related to timing. One of the major ones was to not underestimate the amount of time required for ramp-up. We found that the period for new hires to move from start date to unsupervised activities in the field was about 3 months. With the community lighting campaigns, efforts have been launched much faster and with greater vigor in the towns in which Efficiency Vermont staff reside and have community credibility. It also would have been easier to launch direct installation at a time that was not the last quarter of the year when holiday pressures add to the challenge of operating retail and other businesses. Additionally, winter presented additional weather-related delays. The one timing upside has been that installation ramp-up occurred during what is traditionally a slow period for electrical contractors so access to labor has been easier than might have been expected otherwise.

We also learned that community leaders have many conflicting responsibilities and priorities, and our desire to leverage our resources to elevate community lighting campaigns onto their priority list can be challenging. Nonetheless, most community leaders have been quite supportive once the campaigns got underway.

Surprises

One of the pleasant outcomes of the targeting effort was the way that each of the strategies was able to leverage additional energy savings. For example, at least one statewide bank has agreed to lighting upgrades in all of its branches, while taking advantage of direct installation in its branches that are located in the geographically targeted areas. Another example is flowed from direct installation in a single facility at a large educational institution that had previously been slow to adopt energy efficiency improvements. After the customer recognized the benefits of this particular installation, they became much more open to proposals for additional projects in their other facilities. Likewise, publicity about our direct installation offers in municipal buildings and educational facilities opened the door for us to gain town leaders support our community-based lighting campaigns.

A less pleasant surprise, associated with the direct installation strategy, was the cost of appropriate environmental disposal of removed lighting equipment. Initial experience suggests that about 5% of total costs are required for proper disposal. Efficiency Vermont pays the cost of disposal, so while it increases program costs, it does not impact customer acceptance. Another surprise has been the concern among some customers when they find out that the full cost of the

installation must be treated as income for tax purposes. To date, this has not been a barrier to acceptance.

Conclusions

Although the initial results from this targeting effort are promising, it is still too early to gauge whether it will meet the extremely aggressive goals. However, it can be concluded that a concerted endeavor to ramp up rapidly and deliver deep, fast demand savings can yield very substantial savings. Even if the specified MW load reduction goals are not met by the end of 2008, all the savings that are achieved at a cost which is should be significantly lower than the cost to have purchased the equivalent supply on the market, so the initiative will be cost-effective based only on system-wide benefits. A preliminary formal evaluation of this initiative is scheduled for late 2008 and a full assessment and evaluation in 2009.

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