In It Together: Getting Evaluators and Implementers to Talk with One Another

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ABSTRACT

A great deal of discussion in recent years has focused on the need for program implementers to be responsive to changes in the market, including feedback from manufacturers, retailers, and customers. The experience of an ongoing demand-reduction program suggests the value of also obtaining and responding to feedback from evaluators throughout the program cycle.

This paper describes an effort to develop and maintain communication about program initiatives designed to reduce demand as part of the We Energies 55 MW Plan. It describes the background of the plan and the Company's rationale for bringing an evaluation team to the table during the initial planning and implementation efforts. Discussion covers We Energies' efforts to ensure ongoing communication, some results of those efforts, and some constraints that had to be imposed. Brief case studies then describe the vetting of a planned program component, the shaping of an initiative, and progressive modifications of a program delivery approach. A final section suggests some lessons learned from the perspectives of sponsors, implementers, evaluators, and regulators.

Overall, the approach taken by We Energies appears to have achieved several benefits, such as limiting free ridership and avoiding activities that are not likely to be cost-effective. At the same time, it is clear that nurturing the requisite relationships entails additional costs and demands attention to maintaining the independence of the evaluation team. It remains to be seen whether the benefits outweigh the costs and what factors may limit those benefits.

Background

We Energies, the largest investor-owned electric and gas utility in Wisconsin, serves the southeastern corner of the state, including Milwaukee, Kenosha, and Racine, as well as areas in east central Wisconsin and in the Upper Peninsula of Michigan. In February 2002, We Energies applied to the Public Service Commission of Wisconsin (PSCW) for permission to build new generating capacity, based on the expected growth in customer demand and the impending need to replace aging power plants, while continuing the Company's support of existing energy-efficiency activities. In November 2003, after considering the Company's application and supporting studies, the PSCW authorized We Energies to construct two 600 MW coal-fired units. However, the PSCW also identified additional opportunities for cost-effective energy efficiency and required the Company to submit, by March 2004, a plan to capture an additional 55.8 gross MW through demand-reducing programs.

In May 2004, the PSCW approved the Energy Efficiency Procurement Plan, as submitted by We Energies, to secure 55.8 gross MW of verified gross demand reduction (the 55 MW Plan) by the end of 2008. The Commission also ordered that the Company keep the PSCW staff informed of detailed program designs and implementation plans, as well as any subsequent proposed changes, and to provide semiannual status reports throughout the program period. It further stipulated that, "In order to ensure the savings achieved are in addition to those that would occur anyway, [We] Energies shall make program design and implementation modifications if evaluation results indicate that net savings are substantially below gross savings."(PSCW 2004)

The PSCW encouraged We Energies to achieve significant energy savings through the program, but their focus was clearly on demand reduction and they set no specific MWh targets. They also stipulated that the contribution of load management and demand response programs be limited to 30 percent of the overall MW goal. Finally, they required that the utility offer demand-reducing opportunities to customers in all sectors, including hard-to-reach/low income customers.

The plan submitted by We Energies provided for a portfolio of programs that focus on achieving demand reductions in the commercial sector, but also include components targeting the residential sector, the agricultural sector, and hard-to-reach/low income customers. The initial portfolio (which has evolved considerably in the ensuing years) comprised the individual components shown in Table 1:

Table 1. Initial Roster of Demand-Reducing Initiatives, We Energies 55 MW Plan

Residential Sector	Non-residential Sectors
Lighting and appliances	Hard-to-reach small commercial customers
Low income/Hard-to-reach CFL distribution	Custom incentives
Low income/Hard-to-reach comprehensive pilot	Request for Proposal (Customer-generated initiatives)
Energy partners (Load management)	Prescriptive rebates
	Comprehensive agricultural initiative
	Best practices in operations and maintenance
	Interruptible and curtailable load management

In addition, We Energies sponsored, and the PSCW authorized, a pilot commercial new construction initiative which included substantial elements of a market transformation orientation. Finally, the PSCW authorized the Company to provide a "Quick Start" mechanism that would allow account managers to enroll non-residential customers who were ready to initiate demand-reducing projects before the regular program implementation contractors were in place and ready to roll out the projected components.

Although the PSCW intended that We Energies sponsor and oversee a variety of initiatives as part of the 55 MW Plan, it did not intend that the utility conduct those efforts directly. Investor-owned utilities in the state had greatly reduced their energy-efficiency staff and programs during the restructuring era. Partly in response to that situation, Wisconsin had established a statewide energy-efficiency program—Wisconsin Focus on Energy—using public benefits funds in 2002 (following a two-year pilot effort in northeastern Wisconsin). Furthermore, the PSCW essentially barred investor-owned utilities from reconstituting extensive staff expertise in this arena (thus, the need for We Energies to obtain special permission for offering the Quick Start component).

As a result, We Energies could solicit bids for the design and implementation of demand-reducing initiatives, but with limited internal staffing. It had a limited time frame in which to achieve program objectives and was required to report regularly on its achievements. Moreover, although a specific level of verified net savings was not defined, the Company was on notice that the PSCW was concerned with and was monitoring the free ridership associated with its offerings.[1]

Rather than follow the common practice of hiring an evaluation contractor toward the end of the first year of the program, We Energies solicited proposals and engaged a consulting group even before releasing RFPs for the program implementation contractors. The Company was hoping that the

[1] As already described, the program was intended strictly as a resource acquisition initiative. At the outset, therefore, the PSCW offered to consider evidence of non-participant spillover (market transformation), but not to credit it toward achievement of the program goals.

evaluation contractors would go beyond providing early feedback on program offerings that would help it to improve the performance of the initiatives in close-to-real time. In addition, the Company hoped the evaluation contractors would provide guidance that would help the program designers minimize free ridership while achieving high levels of program participation.

As a result, the evaluation team was in place and ready to offer advice and feedback to the implementers even before the initiatives were ready to be rolled out to customers. In the following sections, we first describe the communication procedures that were established for We Energies and its contractors and some of the constraints that have been imposed on those procedures. We then provide brief case studies of evaluation and feedback on selected program components. Finally, we suggest several lessons learned and recommendations for others who may have the opportunity to carry out similar assignments in the future.

Shared Expectations? Opportunities and Constraints

Perhaps the most important factor affecting the success of the relationships among We Energies, the implementation contractors, and the evaluation team is that the Company invited the participation of the evaluators in virtually all discussions of program design and implementation. The evaluators sat in during meetings in which the contractors described their designs and implementation plans, in planning for a tracking system to support program management and oversight, in reviews of program outputs, and in discussions intended to clarify the areas of cooperation and differentiation between the We Energies program and that of Focus on Energy.

As a result, the evaluation team was able to provide early guidance in a number of areas. For example, based on an internal literature review, the team was able to provide general recommendations on the level of financial incentives that should be offered in order to limit free ridership and was able to weigh in on the demand-reducing measures that were likely to be subject to free ridership (Fuller 2004). The team also offered input on the design of the tracking system and helped devise the program application forms, which included some questions for assessing the likelihood of free ridership and some questions designed to determine whether customers found the presence of two major energy-efficiency programs (that of We Energies and that of Wisconsin Focus on Energy) confusing or an invitation to "game" the system. In addition, the team (working with evaluators for Focus on Energy) was able to develop guidelines for deemed savings and for algorithms to guide judgments of the acceptability of program applications. It also helped account executives at We Energies identify proposed Quick Start projects with a high potential for free ridership and alerted the team implementing the prescriptive rebate program to the need for diversifying the mix of efficiency measures they were promoting.

With regard to the New Construction initiative, the evaluation team helped review and set the baseline against which enhanced designs and measures are judged. The team also provides ongoing feedback regarding the adequacy of project documentation, building simulations, and estimates of savings. Similarly, for the custom incentives and prescriptive rebates initiatives, ongoing communication with the implementers has helped identify such problems as inadequate lighting levels and failures to disconnect old compressors (so that the customer would not be able to revert to their use easily).

At times, however, the open communication channels and the desire for input on the part of the program sponsors led to some awkwardness. Several times, the evaluation team had to pull up short and remind everyone of its role as an independent source of information about earlier program processes and effects, and a future reviewer of forthcoming programs, rather than as a direct stakeholder in the level of demand reduction achieved.

The question that arises for the evaluation team when asked to help maximize the effectiveness of its program is how to maintain its independence and avoid being co-opted or becoming an advocate for particular design or implementation decisions. The underlying assumption that is shared by the

regulatory community, utilities, and other stakeholders is that, although program evaluators may be paid from utility funds, those accepting such assignments are independent observers, bound to apply professional research methods and standards to the investigation of energy-efficiency programs and their results. One of the specific standards guiding evaluation activities is described as follows:

> Evaluators should maintain a balance between [responding to] client needs and other needs. Evaluators necessarily have a special relationship with the client who funds or requests the evaluation. By virtue of that relationship, evaluators must strive to meet legitimate client needs whenever it is feasible and appropriate to do so. However, that relationship can also place evaluators in difficult dilemmas when client interests conflict with other interests, or when client interests conflict with the obligation of evaluators for systematic inquiry, competence, integrity, and respect for people. In these cases, evaluators should explicitly identify and discuss the conflicts with the client and relevant stakeholders, resolve them when possible, determine whether continued work on the evaluation is advisable if the conflicts cannot be resolved, and make clear any significant limitations on the evaluation that might result if the conflict is not resolved. (AEA, 2004)

This problem is relatively easily resolved when the assignment is of a purely summative nature, as when evaluators are brought in after a program has been completed and the questions focus on what impacts it has had. Not that evaluators in such instances could never compromise their objectivity; however, anecdotal evidence suggests that temptations to lose the perspective of the outsider during the course of such an assignment are modest. Evaluators in such situations are indeed outsiders, with little direct involvement in the program or with the implementers. Of course the downside of being an outsider is that one's judgments and recommendations are often ignored as not being timely or as not responsive to the practicalities of the program environment.

In contrast, opportunities to be involved from the outset of the program design effort are far more seductive. They offer considerable possibilities that evaluators' judgments and recommendations may have impacts. After all, many evaluators already believe that, by virtue of their systematic study of and wide experience with program and implementation designs, they are highly qualified to advise on the most effective and cost-efficient approaches. In such instances, how can evaluators avoid becoming advocates for particular program features and invested in the success or failure of those programs—thus compromising or forfeiting their claims of independence and objectivity? And how can evaluators resist the siren call of program sponsors and implementers seriously asking for advice rather than simply following a requirement?

These temptations were immediately present for the evaluation team contracted by We Energies, particularly because, as noted earlier, a serious gap existed: the Company had lost much of its internal expertise in program design and implementation since the years in which it had been a strong purveyor of energy-efficiency programs. It would be wonderful to be able to write that the evaluation team has resolved the problems posed by these temptations and can provide a systematic method that can be transmitted to others for use in such situations. The best that can be said, however, is that efforts to educate sponsors and implementers are crucial elements of the response. These efforts must be supplemented by ongoing awareness of the temptations involved and constant review of the objectivity of the advice being offered: Are all reasonable options discussed? Is all relevant evidence reported? Are the decisions left to the implementation team and the program sponsors?

These processes are continuing, because the opportunities and temptations were not confined to the initiation of the 55 MW Plan, but were—and are—ongoing. We Energies has worked to ensure that the evaluation team can learn from and provide input to the implementation teams throughout the program period. These opportunities have included regular monitoring of program activities and outputs, as well as multiparty reviews of program impacts. Throughout the design and rollout phases of the

overall program, the Company held weekly telephone conferences with each of the implementation teams, which were also attended by at least one member of the evaluation team. Thus, the evaluators were able to identify areas where research on the effectiveness of other programs would be helpful and could provide some guidance on best practices within a short time of a program idea being brought forth. In addition, the Company conducted semiannual reviews of program outputs, and invited commentary about design approaches and concerns from the evaluation team. Reciprocally, We Energies brought implementation teams and the evaluator together to discuss evaluation results as soon as they were available. The next section of this paper describes the results of several of these activities.

Close Encounters of Evaluators and Program Designers/Implementers: Selected Case Studies

The following case studies illustrate the range of activities that have taken place in the We Energies program, as a result of the early involvement of the evaluation team. They cover the vetting of a planned program component, the shaping of an initiative, and progressive modifications of a program delivery approach.

A Program Component Derailed: Operations and Maintenance Savings through Retro-Commissioning

The first case study sprang from outside recommendations that We Energies should support retro-commissioning (RCx) in the commercial sector as a potentially useful component of the 55 MW Plan. When the proposal was received, the evaluation team conducted a review of evidence relating to the approach and the problems of developing reliable, precise, and persisting demand reduction through RCx activities.

Several reports suggest that RCx projects provide considerable value to participating customers and that the energy and demand savings achieved can be substantial, at least during the first year after a project has been implemented. However, an internal literature review indicated that two problems appear to reduce the overall value of broad-scale programs designed to market and implement such programs. First, the "take-up rate"—the proportion of customers who agree to participate in the program, undergo the initial audit, and implement a majority of the recommended projects, relative to the number of firms that are approached—appears to be relatively low, at least anecdotally. As a result, programs dependent on direct utility marketing may not provide impacts at a high benefit-cost ratio when savings are considered against overall program expenditures. (One indication of this is a study of the California market, which found that just 0.03 percent of existing buildings had been commissioned, whereas the potential penetration rate was judged to be 2 percent [PECI 2007].) Second, many of the demand reductions and energy savings achieved initially may be associated with operating and maintenance improvements. If these changes are not hardware-based or locked in through changes in management policies and practices, the relevant improvements may be lost over time or be forgotten when staff members turn over or are faced with other priorities. Even the savings associated with purchase and installation of new equipment may be lost over the following few years, for essentially the same reasons. Thus, the benefits of the program may not persist, and, again, the benefit-cost ratio is reduced (See, e.g., Turner *et al*. 2001; see also Friedman *et al*. 2003).

The outside firm that was recommending the RCx investment recognized the problems involved. Furthermore, the firm indicated ways in which their implementation of the basic concepts would differ from earlier designs so as to overcome the difficulties described. As a consequence of the proposer's explicit effort to respond to recognized problems, the evaluation team suggested that We Energies might proceed with a pilot demonstration project while additional research and monitoring of the pilot were

conducted. Given the uncertainties that had been identified by the evaluation team and various contracting issues that surfaced, however, We Energies declined to proceed with the recommendation.

Back to the Drawing Board: Education and Awareness

We Energies is conducting a number of activities designed to increase the knowledge and awareness of its commercial customers regarding power requirements, energy use, and opportunities for demand and consumption savings. Several of these efforts are well beyond what We Energies and other utilities provide as "business as usual," and have been developed or expanded as a result of the 55 MW Plan. The activities involved include the following:

- Application of the One-2-Five Energy® diagnostic tool designed to educate decision-makers on the evaluation of their current energy management practices
- Expansion of a collaborative effort with the Wisconsin Interfaith Climate Trust, which will include direct installation, benchmarking, and project identification for members' facilities
- Enhancement of the website developed as part of the collaboration with the Wisconsin Interfaith Climate Trust, to allow for ongoing monitoring of energy use and savings from implemented measures, in order to maintain customer interest and motivate additional project installations
- Offering ENERGY STAR® benchmarking with the Portfolio Manager interface
- Providing an Internet-based Energy Efficiency Resource Library with a Commercial Energy Advisor, Operations and Maintenance modules, and a Purchasing Advisor
- Forming and using Energy Teams which include account managers and energy efficiency program staff, as well as key customer representatives, to integrate consideration of energy use and demand into corporate-level decision-making practices

As with all such programs, it is difficult, if not impossible, to attach specific demand reductions or energy savings to the interventions involved. The interventions do not involve the installation of specific measures; generally, they can only be said to help prepare the ground for later decisions to participate in specific programs or to install specific measures. Moreover, it is often difficult to separate out the effects of the education and awareness-raising efforts from other influences, including the marketing of other program components and specific measures. Thus, the credit for demand reduction or savings is normally given to the program components or measures directly involved, as the immediate and most obvious causes of action. Nonetheless, it can be argued that without the efforts to provide education and stimulate awareness, the later participation or installations may very well not take place.

After several discussions, the PSCW decided that We Energies would receive credit for 1 MW of load reduction, if the evaluation team found that the overall Education and Awareness program was judged to be effective.[2] This requirement forced the implementation team and the evaluation team into continuing dialogue regarding the design and expectations of the program.

The evaluation team found that, in its initial program design document, the implementation team did little more than describe the interventions that it would carry out. In the language of program theory, the implementers had described their activities, but had not detailed the specific outputs to be expected from those activities, let alone how those outputs would be expected to lead to either short-term or mid-term energy-efficient outcomes. As a result, the evaluation team would only be able to audit the activities themselves and the fact that We Energies had met its commitment to support those activities. The evaluators would not be able to determine whether the education and awareness-raising efforts were meeting specific objectives of helping to prepare customers for future energy-efficiency improvements. For these reasons, the team declined to develop a plan to evaluate the education and awareness effort,

[2] The amount of credit was predicated on the proposed expenditures for this effort.

pending receipt of a revised implementation plan—one that identifies specific outcome objectives and lays out the rationale connecting the activities selected with subsequent movement toward the purchase, installation, or adoption of energy-efficiency measures or practices.

Not Mrs. O'Leary's Cow: CFLs in the Barn and the Value of Early Feedback

Even on family farms, the milking of dairy cows is an intensive and heavily mechanized process today. As a result, the sheds and milking parlors are used extensively—and well lighted—during the utility's peak afternoon hours, as well as during early mornings and at night. Thus, the opportunity for demand savings through substitution of CFLs for incandescent lamps in Wisconsin is substantial. To take advantage of this opportunity, the implementation team sought to distribute large numbers of CFLs to dairy farmers through farm shows, county fairs, and other venues where many potential users were present, as well as through visits to individual farmers.

The implementers expected that the broad distribution of CFLs would be accompanied by extensive installations and consequent demand reductions. Based on evidence from other studies in the residential sector, they projected an installation rate of at least 70 percent. After all, installation of CFLs is not particularly onerous and the energy savings would go to the farmers' bottom line.

Nonetheless, it seemed wise to review the assumed installation rate early in the program life, since no directly parallel program—encouraging the use of CFLs in farm operations—could be found. Both We Energies and the implementation team saw value in assessing early results, even if only a small sample of CFL recipients could be assessed because of budgetary limits. Moreover, stakeholders agreed that direct observation, via site visits by an independent observer, was preferable to telephone interviews or to re-visits by program staff members.

The evaluation team conducted site visits to twelve farms. Table 2 shows the disposition of the 110 CFLs that had been distributed to those farms.

Table 2. Disposition of CFLs in Initial Farm Sample

Disposition	Number	Percentage
Installed	63	57.3
Farming operations (barns, milk houses, feed rooms, machine sheds) and operations-related locations (garage, office)	*35*	*31.8*
Residence	*28*	*25.5*
Stored	35	31.8
Broken or failed	12	10.9
Total	**110**	**100.0**

As shown in Table 2, the evaluation results failed to confirm the initial assumption regarding the installation rate, and implied that the cost of conserved energy would be substantially higher than projected for this initiative. The installation rate in locations that are either core or peripheral parts of farm operations[3] was less than one in three (31.8 percent, ± 4.4 percent). Moreover, many of the CFLs ended up in farm residences. (In the broader picture, this is a good thing, of course. The use of CFLs in farmhouses reduces energy consumption and saves money for the farmer. However, the program that

[3] The PSCW agreed to credit the program for all CFLs placed in these applications, although it may be argued that some are unlikely to contribute to peak load reduction. No lighting loggers were installed and the evaluation team did not collect customer reports of operating hours, believing these to be highly unreliable.

sponsored the CFL distribution focused specifically on demand reduction. Moreover, the Focus on Energy program already offers coupons for the purchase of CFLs for farmhouses at reduced costs.)

These results suggested that the initial program design was failing to achieve the anticipated results. The following problems were identified as potential contributors to this result:

- Distribution of CFLs at farm shows and similar venues offered little time to engage customers in discussions of when and where to place the product, compared to distribution through individual farm visits. Indeed, the focus at farm shows appeared to be on pushing out as much product as possible.
- At least some breakage seemed traceable to customers holding and twisting the lamp elements rather than the base of the CFL during installation.

In discussing these issues, We Energies, the implementation team, and the evaluation team developed the following recommendations to help improve the percentage of CFLs successfully installed in farming operations.

- Eliminate the distribution of CFLs at farm shows and related venues; focus distribution activities on individual farm visits.
- Develop and distribute collateral material that emphasizes immediate installation of CFLs in farm-related applications. (And remind customers that Focus on Energy offers opportunities to obtain CFLs for residential applications at a considerable discount.)
- Educate customers as to how CFLs should be gripped during installation.[4]

Re-Visiting Mrs. O'Leary's Cow: Follow-up Site Visits

Evaluators do not always get a chance to observe the results obtained when implementers follow the recommendations offered. However, this opportunity was available with regard to the initiative for distributing CFLs to agricultural customers.

The implementers developed a marketing campaign encouraging dairy farmers to ask for free CFLs. After dividing the dairy farms into manageable geographic segments, the implementers sent direct mail pieces designed to elicit requests for CFLs to one segment at a time. When request forms were returned, they were followed up through visits by energy advisors who supplied CFLs while exploring what other demand reduction or other services they might provide. The packages containing the CFLs included new labels that emphasized the importance of immediate installation of the products and installation in farm-related operations. One additional change was to remove the limit of one dozen CFLs per farmer that had been in place during the initial phase of the program.

The revised initiative began during the fall of 2005. To determine whether the program and marketing changes affected the installation rate in farm-related operations, the evaluation team conducted a new set of thirty site visits in late winter and early spring of 2006, focusing on customers who had received CFLs in January and February of that year.

Overall, the CFL component of the Comprehensive Agriculture Program reported distributing 18,116 units from July 2005 through April 2006. The sample frame provided to Itron/SFMC for the evaluation presented indicated that 5,787 of these CFLs were distributed to farm customers of We Energies during January and February 2006.

The sample frame was divided into three strata based on the number of CFLs received. The strata were: 12 or fewer CFLs (203 farms, accounting for 1,679 CFLs, an average of 7.8 lamps per site); 13 to 25 CFLs (84 farms, accounting for 1,651 CFLs, an average of 18.9 lamps per site); and 26 or more CFLs (58 farms, accounting for 2,457 CFLs, an average of 37.1 lamps per site).

[4] We Energies and the implementers also agreed to review the quality of the CFLs they purchased and to consider the problem of installing CFLs in locations having a high concentration of methane gas.

Of the 638 CFLs distributed among the thirty sites sampled, 285 were installed at the time the sites were visited, yielding an overall installation rate of 44.5 percent (± 2.0 percent). This overall installation rate, however, does not account for the fact that the farms visited were drawn from a sample stratified according to the number of CFLs distributed. A more appropriate estimate is one in which each farm is weighted by the probability that it would be selected, based on the number of CFLs received. The weighted installation rate is 47 percent with a standard error of ±3.4 percent. Weighted dispositions of the CFLs are shown in Table 3.

Table 3. Disposition of CFLs in Second Farm Sample

Disposition	**Percentage (Weighted)**
Installed	47
Farming operations (barns, milk houses, feed rooms, machine sheds)	*41*
Residence	*6*
Stored	46
Given away	6
Broken or failed	1
Total	**100.0**

The weighted installation rate in buildings directly associated with farm operations is 41 percent (standard error, ± 3.4 percent). It represents a modest improvement over that observed in October 2005 (from 29 to 41 percent; a difference that is significant at the 90 percent level of confidence). Moreover, the rate of installations in farm residences has been greatly reduced (from over 25 percent to 6 percent) and the breakage/failure rate has been clearly reduced as well (although the site visitors also found that a considerable number of CFLs had been given to others).

These results suggest that the changes in program delivery had been successful overall in improving the impact of the CFL distribution effort, as indexed by the rate at which the units were immediately installed in farm-related locations. Nonetheless, this installation rate was still considerably below that stipulated in the program plan.

The problem was to identify the reason(s) for the continuing shortfall in meeting expectations. One hypothesis focused on the possibility that the removal of restrictions on the number of CFLs provided to individual farms encouraged stocking up on units that could be installed at a later time or given away to others. This hypothesis was bolstered by an earlier study conducted by Focus on Energy that had found lower installation rates in the residential sector as customers were allowed to purchase larger lots of discounted CFLs (Winch & Schauf 2003).

Accordingly, the evaluation team developed installation rates for each of the sample strata, as shown in Figure 1. The data indicate that the installation rate is negatively correlated with the number of lamps provided on average to members of each stratum.

The results suggest two important conclusions. First, an unmistakable tradeoff exists between increasing the overall volume of savings through distribution of CFLs to dairy farmers and the short-term cost-effectiveness of the effort. As more CFLs are made available to these customers, total demand reduction increases; however, the percentage of units that are installed immediately declines, so that the cost per unit of demand reduced will increase, at least in the short run. (We have not been able to locate any systematic studies that address both installation rates and removal rates over different periods of

time.) It would be possible to address this problem through limiting the number of CFLs provided to each farm, or it might be appropriate to consider moving to a direct install option.

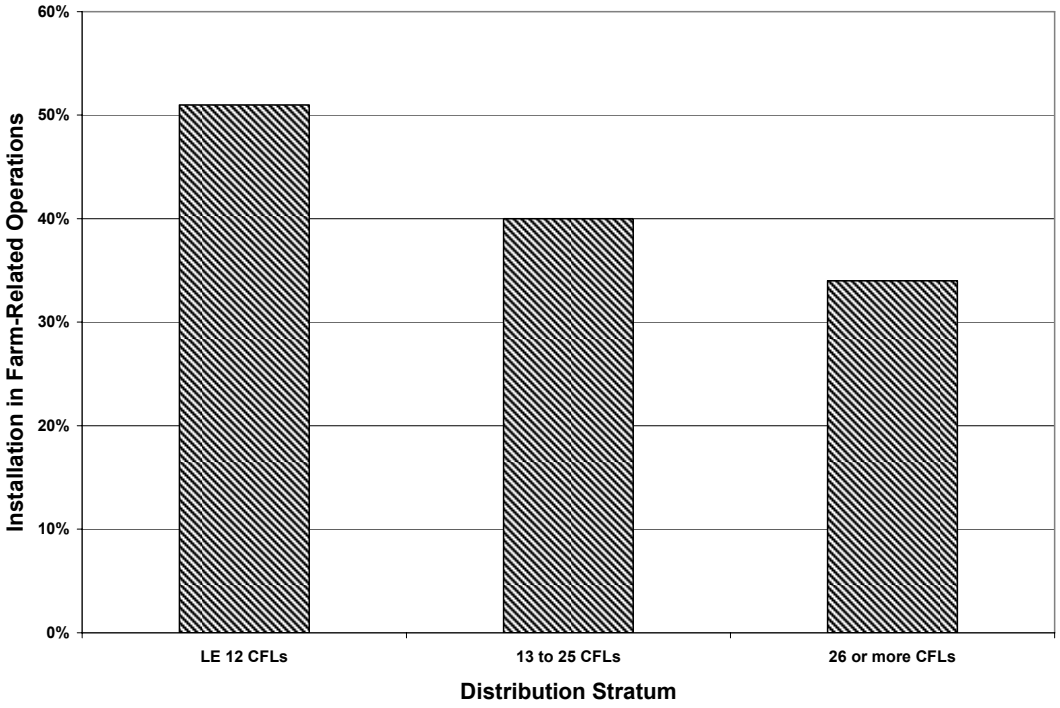

Figure 1. Installation in Farm-Related Operations, as a Function of Number of CFLs Received

Second, whatever approach the program sponsors select for addressing the volumetric issue, an underlying assumption of the program design is called into question. Even when attention is restricted to farms that received a dozen or fewer CFLs, the rate of immediate installations in farming-related operations is well below that found in residential applications.

It was not the role of the evaluators to decide whether this means that the distribution of CFLs to dairy farms should be curtailed: The benefits in demand reduction may outweigh the costs of the initiative. But it was their role to be at the table during the program delivery phase to advise the program sponsors and the implementers of the findings and to provide them with information about program operations, their consequences, and related evidence that will allow the stakeholders to decide on their future course of action.

Lessons Learned

Several lessons emerge from experience with the overall approach to the We Energies 55 MW Plan and the case studies described that may be useful for others who may find themselves in similar relationships. We describe these lessons briefly, according to the perspectives from which readers may view the situation.

Program Sponsors

Bringing evaluators to the table early entails costs. To be effective, the evaluators should have the opportunity to observe and contribute to the development of the program theory, including decisions about implementation methods, and should have the opportunity to provide input regarding their

observations throughout program planning and implementation. This is not inexpensive, but (presumably) will reduce overall costs as the inputs help improve program designs and implementation activities. The value of such involvement is likely to be higher for longer-term programs and for program sponsors with limited internal resources than for short-term programs or sponsors with substantial market research experience.

Program sponsors can greatly facilitate the effectiveness of the evaluation team by communicating their trust in the evaluation team to the implementers. At the same time, the program sponsors must understand the role of the evaluators as contributing to program success through an expert and independent perspective, and must avoid pressing the evaluation team to embrace or reject particular programmatic decisions.

Program Implementers

The added value of having evaluators at the table from the outset of a program derives from eliciting their analysis of strengths and weaknesses of the approach. Accordingly, the cause of the implementers can best be served by ensuring that the evaluators understand the assumptions behind the program decisions as well as the context in which the implementers are working. Insofar as possible, then, implementers should communicate with evaluators as openly as possible about their implementation plans, and in real time. Although the implementers must insist on their responsibility to make decisions about strategy and tactics in conjunction with program sponsors, there is no benefit in limiting discussions with the evaluation team.

Evaluators

Given the additional effort that is likely to be required when evaluators are involved early in the program cycle, research plans are likely to require adaptive management and may well be underfunded when compared with ideal designs, and turnaround time may be short. The ability to provide early feedback may be more important than achieving high levels of confidence.

What is important is that the evaluators keep in mind that their role is to help their colleagues make the best decisions possible with the information available. What they, the evaluators, bring to the table is an independent view of the program and the program elements; it cannot be a commitment to any particular approach. The evaluators must identify issues and options, as well as the information they can gather about those topics in the time available. They must also be as open as possible about the limitations of the information they present for use in decision-making. While not neglecting common standards of excellence, it is the commitment to provide the best information available within existing constraints that is crucial, not achieving the 90/10 level.

Regulators

Programs that remove the wall between evaluators and implementers offer a natural experiment for contrast with the separation model that has dominated the field for so many years. Ideally, separate funding would be available for a meta-review of the process and effects of the different models on the costs and achievements of the programs involved. This would be conducted by a totally separate evaluation entity, preferably from outside the energy efficiency industry.

Lacking such a study, the role of the regulator overseeing programs that allow evaluators to be at the table during program development is to keep current with program modifications and the reasons for those developments, and to signal if and when the program is being ill-served by the evaluators. Regulators must insist on receiving regular reports on program design and findings that affect program

decisions, even if those findings are qualitative or of limited precision, while resisting the urge to micromanage what is being done.

Conclusions

The We Energies 55 MW Plan appears to have benefited from ongoing involvement of the evaluation team in discussions of program components and early looks at program activities and impacts. Specifically, involvement of the evaluation team appears to have helped the sponsors and the implementation team identify information to be tracked and program features that reduce free ridership, as well as initiatives and implementation decisions with questionable cost effectiveness. At the same time, it is clear that the resulting relationships entail additional costs and demand attention to maintaining the independence of the evaluation team. It remains to be seen whether the benefits achieved are limited to situations in which the sponsors are responsible for overseeing both implementation and evaluation, and where the sponsors have limited resources for program development.

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