

Uses of Evaluation Findings: Taking a First-Year Industrial Program to the Next Level

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Abstract

Energy efficiency programs are critical to the ongoing ability of the industry to supply power amidst the growing needs of an advancing global economy. While there is tremendous interest in developing successful programs, most private and public sector investors require methods through which to mitigate financial and commercial risks associated with implementation. Pilot programs provide the necessary insight, at a small scale, with which to guide decision-makers towards solutions. The question remains as to how to take small-scale pilots and new concepts into scalable programs.

This study provides an inside-view of program actors' activities in the months immediately following a first year program process evaluation. This program, known as Trillion Btu, supports commercial and industrial manufacturers wishing to adopt energy efficiency measures by providing a mandatory, yet free energy audit; low-cost engineering studies of promising measures, and a loan structured so that payments are less than the dollars saved on the utility bill. Based in Minnesota, program actors include a local government partner, an investor-owned utility, and a third party not-for-profit energy consulting agency.

The program management team has committed to working together to make critical go-forward decisions using key findings from the evaluation conducted in April – July 2011. This paper will reveal decisions being made and actions taken to sustain this very popular energy efficiency financing program. This work reveals how findings can inform decisions, process management, and decision-making at a critical stage gate as program actors decide: How can this program realize its full potential?

Introduction: Evaluation Utilization

In general, a key concern with evaluation is whether the findings will be used. "Evaluation utilization" or "evaluation use" refers to the degree to which the findings of evaluation influence the programs, processes, or policies investigated, or affect the organization in which these occur (Peters, 2007). When evaluation findings are not used, opportunities are missed. Evaluation findings can guide program managers in making decisions about timely adjustments which may be needed in program planning, design, and implementation, in order to improve program performance.

In 2006, a poll was conducted by TecMarket Works, which sent a communication to the 25 members of the planning committee of the International Energy Program Evaluation Conference asking for assistance in identifying whether any organizations have a policy requiring that program administrators or managers respond to evaluation findings and report whether or not they are implementing the recommendations. The majority of organizations reported that recommendations were expected from evaluators, but there were few or limited requirements for response to the

recommendations on the part of program staff and administrators (Peters, 2007). Interestingly, program staff in general did not think there was a requirement to respond to the evaluation recommendations.

The Trillion Btu program team had a different opinion and after reviewing evaluation findings, made a unanimous decision to take action on their evaluation recommendations.

Program History

Trillion Btu is a first year, indirect program intended to increase participation in Xcel Energy's existing commercial and industrial manufacturing energy efficiency programs. Federal stimulus funds included in the American Reinvestment and Recovery Act (ARRA) of 2009 made the Trillion Btu program possible through a \$5 million allocation approved by the Minnesota Legislature. The Saint Paul Port Authority successfully secured these funds for economic development, creating a revolving loan program focused on energy efficiency projects within the industrial manufacturing sector, to be used for such features as heating and cooling upgrades and lighting projects. This effort was spearheaded by the St. Paul Port Authority, along with the Center for Energy and Environment, in partnership with Xcel Energy.

The Trillion Btu program was formally launched in May 2010. The program was designed to complement Xcel Energy's existing commercial and industrial programs by accomplishing two objectives: 1) Provide financing through the Saint Paul Port Authority in partnership with other economic development authorities (EDAs) to commercial and industrial customers for energy efficiency projects that might not otherwise get done; and 2) Provide outreach through EDA's and other organizations to identify conservation opportunities and guide customers into Xcel Energy's existing programs.

This program was designed to include a marketing and outreach campaign to bring the program to the attention of potential customers and trade allies, and convince them of the inherent value offered to them. Once a potential customer is aware of the program and interested in obtaining the benefits, the potential for a project arises. Projects may be viewed as progressing through several phases, and a decision to continue is made by the customer at the end of each phase (Caruth, Gerard, & Barker Lemay, 2011).

Process Evaluation Methods

The Minnesota Public Utilities Commission ordered that the program be evaluated in 2011. In April 2011, Integrative Growth began a four-month process evaluation of Trillion Btu to document program operations and to identify and recommend improvements in design and implementation. The tasks included:

- A review of program artifacts including marketing campaigns and brochures.
- In-depth interviews conducted with program staff and partners to assess the processes involved in delivering the program, the perceived effectiveness of those processes, and the basic theory on which the program was designed.
- Development of a process flow diagram that accurately depicts how the program is delivered to customers and trade allies.

- Development of a logic model that documents market barriers, market effects, and expected outcomes of the program.
- Interviews conducted with customers and trade allies who were currently participating in the program to assess their experiences with the program and how it was operating in the field.
- Interviews conducted with customers and trade allies who were not currently participating in the program to assess market barriers to participation.

Evaluation Utilization Stages: A Case Study

The Trillion Btu program team, consisting of the Xcel Energy program manager, a representative from the Center for Energy and Efficiency, and a representative from the St. Paul Port Authority, began acting on their evaluation findings in August 2011 using the following process. Within each stage, the team studied evaluation findings and recommendations, developed an action plan, and implemented key priorities for improved program performance.

A representative of Integrative Growth has been following the efforts of this team and tracking their progress to date.

Stage 1: Program Team Reviews Process Evaluation Deliverables

The Trillion Btu program team began the process with a debrief meeting to review and discuss the various process evaluation deliverables, including the program process flow, logic model, and final report. Their review of findings including suggested recommendations to act on, were documented. The team developed an internal communication plan and committed to meet monthly to review and discuss their action planning efforts.

The evaluation findings revealed a high level of support for the Trillion Btu program amongst all stakeholder groups: program staff, customers, and trade allies. When participating customers were asked to rate their satisfaction on a scale of 0-10, where 0 is “Very Dissatisfied” and 10 is “Very Satisfied,” customers rated the program an average of 8.5 out of 10, with 91% of them rating it positively (i.e., 6 - 10 out of 10). Participating trade allies rated the program an average of 7.7 out of 10, with 80% of them rating is positively. The evaluation also identified areas in which the program could expand and improve as it continues to develop. The evaluation recommendations for improvement included (Caruth, Gerard, & Barker Lemay, 2011):

- **Enhance program marketing efforts:** Develop customer-focused promotional materials that Xcel Energy account managers and trade allies can use to inform potential customers about the program. Include the program purpose and benefits, application details and eligibility criteria, a list of authorized projects, case studies, scope and availability of funding, and contact information for key personnel.
- **Target mid-sized commercial and industrial manufacturing customers** who may be more likely to participate in the program. Larger companies often have more layers of bureaucracy that may create communication barriers, as well as more resources, and therefore less need for a program like Trillion Btu.
- **Leverage the program through trade allies in order to reach customers** directly and raise awareness about the program. Educate contractors in the field through professional associations and events, monthly newsletters and emails, and one-on-one relationships with

Xcel Energy account managers. Equip trade allies with effective print materials and online/email resources that they can share with the public.

- **Leverage partnerships with other agencies** such as the Center for Energy and Environment, the University of Minnesota's Minnesota Technical Assistance Program, and trade ally professional associations to support program services, including outreach to potential customers.
- **Pursue repeat customers** by developing long-term relationships with past program participants. Inform former participants that funding remains available for additional projects and proactively explore possibilities with them.
- **Adjust the financing tool to include a lower interest rate on loan terms** to compete with other low or no interest loan options that are available.
- **Streamline loan payments** by incorporating payments into customers' Xcel Energy utility bills.
- **Develop additional sources of funding** for future program growth.
- **Expand rebates** to cover a broader range of energy efficiency and conservation measures.
- **Provide clear marketing guidelines and objectives to program staff and report regularly on outcomes.** Ensure that Xcel Energy Account Managers and other program staff are communicating the latest program information including funding availability; ensure that they are receiving accurate marketing guidelines, objectives and outcomes.
- **Enhance program tracking processes and build a more robust database** including tracking and reporting the following: evidence that the program has led to additional projects through the use of the financing tool, overall energy savings against program objectives, and jobs created and retained as a result of the program.

After reviewing findings and recommendations together, the team documented which recommendations they would act upon. They developed an internal communications plan and committed to meet monthly to review and discuss their action planning efforts.

Stage 2: Program Team Develops Action Plan and Sets Priorities

Next the program team developed an action plan to implement key recommendations from the process evaluation. The action steps were noted in conjunction with the final evaluation report recommendations from which they were taken. Any recommendations not adopted (for example, on-bill financing) were noted with an explanation.

Within the constraints of limited time and resources, the team chose five recommendations to focus on in the first six months. Action items were prioritized based on the greatest potential impact in terms of strengthening and expanding the program. The team then submitted their action plan to the Minnesota Department of Commerce, Division of Energy Resources (DER) for review.

The recommendations selected by the program team to implement first include:

1. **Enhance program marketing materials.**
2. **Target mid-sized commercial and industrial manufacturing customers.**
3. **Leverage the program through the trade allies to reach customers directly.**
4. **Pursue repeat customers and inform them of additional funds available.**
5. **Strengthen communications among the program management team made up of**

three unique entities.

Stage 3: Program Team Implements Evaluation Recommendations

The Trillion Btu program team implemented the following actions items.

Action Item 1: Enhance program marketing materials

The process evaluation findings revealed that the lack of formal marketing materials to promote the program was a significant barrier to program participation. Program staff, customers and contractors all indicated that enhanced marketing materials could help raise awareness and program participation. When asked to rate the information and materials first received about the program, participant and non-participant satisfaction varied. Whereas participating customers gave an average rating of 8.3 out of 10, the average rating for non-participating customers was 6.1. A non-participating customer reported, *“It sounds like a great program. I still need to learn more. I hope I get in there before all the money is given away.”* (Caruth, Gerard, & Barker Lemay, 2011)

In response to the evaluation recommendation to improve marketing efforts, the program team developed enhanced marketing brochures, which now focus more on the customer and what the program can do for them. The previous brochures were more policy-focused (i.e., how the program will help create more jobs). The new brochures are also branded to include all three organization partner logos (Xcel Energy, The St. Paul Port Authority and Center for Energy and Efficiency). The brochures inform customers about the program purpose and processes, and include case studies, application details and eligibility criteria, a list of authorized projects, availability of funding, contact information for key personnel, and customer testimonials.

The strategy adopted by the program team is consistent with best practices identified by American Council for an Energy-Efficient Economy, which conducted a survey of efficiency loan programs throughout the nation. Their research revealed that investment in ongoing marketing efforts throughout the life of a program can make a significant difference in program participation; sophistication and extent of marketing strategy can effectively raise public awareness of the opportunity provided by the financing mechanism and legitimize the program in the eyes of the target audience; and effective and strategic marketing efforts may help to achieve participation goals and maintain public interest in financing programs (Hayes, 2011). This is particularly important when interest rates for private loans are at a historic low. In cases where business owners already have access to comparable financing resources via the private sector, the study also found, efficiency loan financing programs can end up competing for participants with private lenders. Attractive financial terms of the program alone are not enough to gain participation.

Action Item 2: Target mid-sized commercial and industrial manufacturing customers

The process evaluation recommended targeting mid-sized commercial and industrial manufacturing companies, who may be more likely than larger companies to participate in the program. The process evaluation findings revealed that in addition to having more layers of bureaucracy that create communication barriers and encumber the process, larger companies often have more resources, and therefore less need for a program like Trillion Btu.

In response to the evaluation recommendation to target mid-sized commercial and industrial

manufacturing customers, one program partner, Center for Energy and Efficiency (CEE), is actively engaging with this market segment to increase program participation. Whereas Xcel Energy account managers only handle the utility's larger accounts of customers over 400 kW, informing them about energy efficiency and conservation programs, CEE staff will now play a similar role for smaller accounts.

Toward this end, the program team is also leveraging partnerships with business and trade associations that already have relationships with this market segment.

The team's efforts to focus resources on mid-sized businesses, represents another best-practices strategy consistent with findings of the American Council for an Energy-Efficient Economy's national study of efficiency loan programs. Tailoring program marketing efforts toward businesses that are more likely to have a need for a financing program is an efficient way of utilizing limited program resources, according to their research. The report stated that in order to maximize a program's limited resources, potential target participants for a financing program should include mid-sized businesses (Hayes, 2011).

Customizing revolving loan programs to the needs of a target audience was also identified as a best practice by the U.S. Department of Energy (DOE), which authored a report for state and local officials about revolving loan funds (U.S. Department of Energy, 2012)

Action Item 3: Leverage the program through trade allies to reach customers directly and raise awareness about the program

Trade allies play an essential marketing and outreach role, as they have significant influence on the customer's choice of energy equipment and projects. They may also serve as advocates for energy efficiency programs in terms of educating customers about program benefits and processes. Energy efficiency programs are selling tools for some trade allies who may be able to use the program to sell products that would not have otherwise been funded. In some cases, the program may help to ensure that the contractor will get paid for the services they provide.

In the Trillion Btu process evaluation, non-participating contractors were asked about their main reasons for not currently participating in the Trillion Btu program. Three out of twelve responses related to lack of customer demand or awareness and three contractors reported they did not know enough about the program. Lack of participation does not indicate lack of interest, however, as several have attempted to participate or plan to apply when the right opportunity presents itself. Two reported the client had decided not to proceed, suggesting that the contractors are interested in program participation and simply have not yet had the opportunity. Similarly, two other contractors responded that they had just found out about the program, with one adding, *"It's early on. As we talk to more people, I carry this around with me and show people. It's nice to have a little flyer to pull out and show people that this money is available."* (Caruth, Gerard, & Barker Lemay, 2011).

In the Trillion Btu process evaluation, both participating and non-participating contractors were asked about the program as an opportunity to increase sales. Nine out of nine trade ally respondents who had not participated in the program said they perceive the program as a way to enhance company sales, and seven out of ten trade allies participating in the program reported they had actually used the program to enhance company sales. One of the non-participants said,

“Programs like this can provide financing over a period of time where energy savings can offset the cost of financing and pay back the note. It's basically a vehicle to get these upgrades done.” A participating contractor echoed this perception by saying, *“We just use it as a way to get projects moving that have been stalled out due to limited financing, so it's a perfect tool for that.”* These perceptions indicate that marketing strategies involving the use of trade ally and business partners can play an important role in guaranteeing the success of an energy efficiency program (Caruth, Gerard, & Barker Lemay, 2011).

As the Trillion Btu program team developed their new customer-focused marketing materials, the trade ally partner role was a key consideration. The new program brochure is not only designed with customer interests in mind, but also serves to educate contractors who may acquire these materials through professional associations and events.

Developing trade ally-specific materials is a future action item for the program team. These will include a trade ally brochure and additional online/email resources that trade allies can share with the public for easy access to program information. These new resources will augment the relationships that Xcel Energy account managers already have with trade allies to provide support and answer questions about the program.

Action Item 4: Pursue repeat customers and inform them of additional funds available

According to the process evaluation, another way to increase program participation is to reach out to those who have already participated, since customers who have experienced the benefits of the program first hand may have additional energy efficiency projects to implement in the future. The evaluation revealed that participating customers were more likely than non-participating customers to say that the Trillion Btu program prompted them to make additional energy-efficient improvements. Nine out of eleven participants (82%) said participation in this program did affect their decisions to invest in other energy efficiency or conservation measures. One program participant reported, *“It's led us to move forward on many of those that we might have otherwise deferred or put off. It's indicated to us that the scope of many of these improvements could be greater than we originally thought.”* In contrast, only two out of ten non-participating customers (20%) said their awareness of the program had the same effect (Caruth, Gerard, & Barker Lemay, 2011).

In response to the evaluation recommendations, the program team has taken steps to foster long-term relationships with past program participants, informing them of remaining funds available for additional projects, and proactively exploring new opportunities.

Action Item 5: Strengthen communications among the program management team made up of three unique entities

The program management team is made up of three different entities, which can present challenges in communicating and coordinating program activities. While strengthening communications among the program management team was not a direct recommendation from the process evaluation, it is one the program team decided to implement in order to optimize the potential for program growth through coordinated action. The team now meets on a monthly basis to discuss the program, their collaborative planning efforts, and any challenges they encounter.

The team has also strengthened communications by enhancing information-sharing among the three entities. For example, the representative from CEE now provides updated lists of program participants on a regular basis, making it possible for Xcel Energy to cross-reference its other programs for impact analysis purposes.

Taking a New Concept Program to a Strategic Level

The Trillion Btu program team has made incremental improvements to the program by acting on key recommendations from the process evaluation, including improving marketing materials, targeting mid-sized commercial and industrial manufacturing customers, leveraging the trade ally community in reaching customers, pursuing repeat customers for future participation, and improving internal communications among the program team made up of three unique entities.

The Trillion Btu program team is planning to file for a continuation of the program in 2013 – 2015, at an increased scale. The program will include a new pilot component focusing on reaching and increasing participation among mid-sized commercial and industrial manufacturing companies. Projects such as these have a long lead time, so with increased outreach efforts, as prosed in the filing, loans dispersed and annual energy savings should increase during 2013 – 2015, perhaps as much as double current levels.

Conclusions

If acted upon in a timely and strategic way, evaluation findings can guide program managers in making decisions about adjustments in program planning, design, and implementation that can improve program performance.

The Trillion Btu case study illustrates this point. The program team, consisting of the Xcel Energy program manager, a representative from the Center for Energy and Efficiency, and a representative from the St. Paul Port Authority, began acting on their evaluation findings in August 2011. The team studied the evaluation findings and recommendations, developed an action plan, and implemented key priorities for improved program performance. The program team will continue pursuing their current action items based on the evaluation recommendations, and as they are completed select new ones to act upon.

The Trillion Btu program team has made strategic program improvements through coordinated action on key recommendations from the process evaluation. A formal continuation proposal includes a new pilot component focused on reaching and increasing participation among mid-sized commercial and industrial manufacturing companies. Team leaders from the three collaborating entities will continue to meet in an ongoing effort to reach the full potential of this promising new program.

Tables

Table 1 illustrates the action plan developed by the Trillion Btu program team based on the 2011 program evaluation findings.

Table 1.
Trillion Btu Program Action Plan Resulting from 2011 Process Evaluation Recommendations

Process Evaluation Recommendation	Action Items Developed by Program Team
1. Enhance program marketing materials.	<ol style="list-style-type: none"> a. Develop customer-focused promotional materials that Xcel Energy account managers and trade allies can use to inform potential customers about the program and its benefits. b. Develop separate marketing brochures for trade allies to inform them of the program and its benefit to them. c. Include Xcel Energy and program partner logos on all materials. d. Upload all marketing pieces to the Xcel Energy website.
2. Target mid-sized commercial and industrial manufacturing customers.	<ol style="list-style-type: none"> a. Market program more actively to mid-sized commercial and industrial manufacturing companies through: <ul style="list-style-type: none"> • Leveraging partnerships with business and trade associations that have existing relationships with this market segment. • Tailoring marketing materials to include case studies and other information relevant to this market segment. • Center for Energy and Efficiency to engage with this market segment to increase program participation, similar to the Xcel Energy Account Manager role for larger accounts.
3. Leverage the program through trade allies to reach customers directly and raise awareness about the program.	<ol style="list-style-type: none"> a. Develop trade ally focused marketing materials to educate contractors in the field through professional associations and events. b. Enhance newsletter including program updates and news articles sent to Xcel Energy trade allies on a quarterly basis. c. Leverage partnerships with trade associations in order to reach the trade ally community and inform them of the program. d. Xcel Energy trade managers and account managers get on the agenda at various trade association meetings to speak about Trillion Btu.
4. Leverage partnerships with other agencies to support program services.	<ol style="list-style-type: none"> a. Leverage partnerships with Center for Energy and Efficiency, and the University of Minnesota's Minnesota Technical Assistance Program, to support program services including outreach to potential customers. b. Xcel Energy trade managers and account managers get on the agenda at chamber meetings to speak about Trillion Btu.
5. Pursue repeat customers and inform them of additional funds available.	<ol style="list-style-type: none"> a. St. Paul Port Authority to foster long-term relationships with past program participants, informing them of available funds remaining for additional projects, and proactively exploring opportunities.
6. Adjust the financing tool to include a lower interest rate on loan terms, if feasible.	<ol style="list-style-type: none"> a. Make lower rates available on a case by case basis as long as customer can prove that their borrowing rate is less than four percent (program standard). b. Evaluate financing concepts for energy efficiency in other states within the service territory for future program use.
7. Streamline loan payments by incorporating payments into customers' Xcel Energy utility bills.	<ol style="list-style-type: none"> a. Evaluate financing concepts for energy efficiency in other states within Xcel Energy's service territory. b. Not pursuing on-bill financing at this time.
8. Develop additional sources of funding; develop staff resources for this purpose.	<ol style="list-style-type: none"> a. Continue to develop additional sources of funding for Trillion Btu. Since the program launch in 2010, funding has increased from \$5,000,000 to nearly \$9,000,000 and plans to increase funding to \$20,000,000 by the end of 2012.
9. Expand rebates to cover a	<ol style="list-style-type: none"> a. Xcel Energy to continually seek out new and innovative cost effective

broader range of energy efficiency and conservation measures.	measures to expand Trillion Btu.
10. Provide clear marketing guidelines and objectives to program staff and report regularly on outcomes.	<ul style="list-style-type: none"> a. Provide clear marketing guidelines, objectives and outcomes to program staff via quarterly status updates. b. Communicate program status and program funding updates to program staff. c. Provide internal program training for Xcel Energy account managers.
11. Enhance program tracking and database.	<ul style="list-style-type: none"> a. Develop a more accurate tracking system that includes project data, as well as data to report economic development objectives. b. Using rebate information associated with each loan, track the energy saved according to number of projects/year, kWh saved/year, kW (demand) peak reduction, Dt (decatherms) natural gas saved/year. This is converted to Billions of BTU's saved annually and Tons of Carbon Dioxide (or equivalent) emissions avoided.

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