

Community Based Efficiency Programs: They Sound Sexy, But Do They Work?

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ABSTRACT

From the Hood River Conservation Project in 1984 through recent efforts around the world, involving whole communities in saving energy have long had an appealing cachet. They hope to effectively leverage community resources and the public will to gather greater energy savings (or renewable energy) more cost-effectively. They also often hope to produce other benefits, such as to increase visibility of program sponsors, build community capacity, or improve local economies. But what makes some work better than others? And how well do they actually meet these various goals?

This paper first briefly defines community-based energy programs and describes the variability of their approaches. It then discusses the methods and results of recent evaluations of two disparate community-based pilot program approaches: the three-month BC Hydro's *Join Team Power Smart Community Challenge (JTPS)* and Energy Trust's year-long *Corvallis CEC (CEC)*. It concludes by discussing common "essentials" to ensure community program success and by circling back to the paper's central question: How well do community-based efficiency programs work?

INTRODUCTION

Community-based energy efficiency programs in the United States have been in operation for at least 25 years¹. While their approaches are diverse, they tend to share some common characteristics, including²:

1. Targeting geographic communities (as opposed to other types of targeting) and leveraging their resources.
2. Partnering with community volunteers to implement the program.
3. Strong training and educational elements such as audits and technical assistance.
4. Depending on community dynamics for marketing the program.
5. Continuing to operate at a local level beyond the funding period.

These commonalities among community-based programs, however, are wrapped in many different guises, including their goals and delivery approaches. Goals for these programs usually include the first one listed, but might include any of the additional goals listed below:

- Cost-effective energy efficiency or renewable energy projects
- Be a platform for wider community sustainability efforts
- Build local cohesion and pride
- Provide a rallying point for citizens and businesses to take action
- Defer expansions in generation or transmission infrastructure
- Build energy independence
- Build visibility for the program sponsors
- Provide economic benefits for the community
- Serve hard-to-reach populations

¹ One of the original community-based programs was the Hood River Conservation Project in Hood River, Oregon, conducted in 1984 and 1985. This program was comprehensive and well documented. Its goal was to try to get maximum participation and savings from 3,500 electrically heated households by providing a full set of efficiency options at no cost to participants.

² Adapted from "Recommendations for Community-Based Energy Program Strategies," by David Hewitt et al, for Energy Trust of Oregon, June 2005, pp.2-3.

- Be a stepping stone for further funding

Programs might focus on urban or rural areas, and all or part of residential, business, and institutional sectors. Utilities or system benefit charge agencies often collaborate with local organizations. Timing of implementation ranges from short (a month or so) to decades, and budgets vary widely. Programs may range from promoting one technology (e.g., lighting changes) to many. Financial encouragement may come in the form of incentives, rebates, and giveaways. Communities might also pass policies -- such as more stringent energy codes -- to further the program's influence. Finally, these programs use many approaches to marketing and communication, from grass roots person-to-person connections to more sophisticated advertising and social marketing strategies. The following sections of this paper talk about two quite different community-based approaches and their results.

PROGRAM DESCRIPTIONS AND EVALUATION METHODS

The BC Hydro "Challenge" Programs



BC Hydro needs to involve local communities if it is to meet its ambitious energy savings goals of approximately 20,000GWh/year in electricity savings by 2025. Part of their local government strategy³ is to help communities develop energy conservation behavioral initiatives that they can implement with their employees and with their constituencies. Both BC Hydro's Turn It Off Challenge (TIOC) and Join Team Power Smart (JTPS) were three month "challenge" pilot programs; TIOC launched in June 2007 and JTPS in October of the same year. JTPS, the challenge program focused on in this paper, followed the popular TIOC, an energy efficiency employee awareness campaign that involved 66 local governments, responding to local government requests for further BC Hydro community involvement programs. JTPS asked 109 eligible local governments in British Columbia to partner with BC Hydro in a campaign to urge their citizens to join "Team Power Smart," an on-line program for residential customers that allows them to set, track, and be rewarded for meeting home energy reduction targets. Targets for the JTPS were to:

- Enroll a minimum of 50 local governments (distributed across small, medium, and large)
- Engage communities in 60% of BC Hydro's service territory
- Enroll up to a 5% of account holders in small to medium communities
- Enroll up to 2% of account holders in the large communities

While BC Hydro promoted TIOC as a challenge⁴ among internal staff, they promoted JTPS as a competition among small, medium, and large local governments. BC Hydro provided a resource toolkit for marketing and advertising and general staff support. Within each size category, the municipality that signed up the highest percent of BC Hydro account holders for Team Power Smart won (as with TIOC) a \$20,000 Power Smart Makeover for a civic building. The evaluation of both programs was based upon six on-line focus groups; interviews with program staff; and a review of program materials.

The consulting team worked closely with BC Hydro staff to develop lists of participants for six mutually exclusive groups, based upon their program scores, the BC Hydro program manager's judgment of their level of involvement (high/medium or low), and the size of the communities. To accommodate the small number of participants as well as their wide geographic dispersion throughout the Province, the focus groups were conducted on-line during working hours. The

³ BC Hydro requires "business cases" to be developed and approved for its conservation programs; while these business cases are not logic models, they lay out the theory and justification for proposed programs.

⁴BC Hydro awarded points based on activities implemented by the local governments. Winning municipalities in each of four size categories received a \$20,000 "Power Smart Makeover" for a civic building.

moderator and participants communicated in writing through an electronic portal, each at their own computers, with each group lasting 1 ½ to 2 hours. The recruitment screener and discussion guides also were developed in concert with BC Hydro; each group discussed a similar set of core questions.

Table 1 shows the make-up of the six groups; 109 unique local governments participated in the challenges, with 30 of these governments (28%) taking part in the focus groups. Our analysis of data for focus group participants suggest the level of involvement and size of community are related.

Of the 10 small communities represented in the groups, almost all (9 of 11) had low involvement. On the other hand, 9 of 12 large local governments had high involvement with at least one challenge, and two of these won prizes.

Table 1: Details of Focus Group Make-Up

Date	Challenge	Involvement Level	Number Available	Number Participating	# Small	# Medium	# Large
July 30	TIOC Only	High/Medium	13	6	1	2	3
July 30	TIOC Only	Low Involvement	24	6	2	2	2
August 5	JTPS Only	High/Medium	6	4	0	1	3
August 6	JTPS Only	Low Involvement	35	6	5	1	0
August 6	Both	High/Medium	17	5	1	2	2
August 7	Both	Low Involvement	14	3	2	0	1
Totals		6 groups	109	30 (28%)	11	8	11

The Corvallis CEC (CEC)



The CEC was a year-long partnership (March 2008 - February 2009) between Energy Trust of Oregon (Energy Trust) and the Corvallis Sustainability Coalition (Coalition). Energy Trust, an independent nonprofit organization helping Oregonians benefit from saving energy and renewable resources, had been looking for a community with the right blend of attributes to foster a community-wide efficiency and renewables effort. Their prior research had suggested that community-based programs could effectively deliver energy efficiency, possibly at a lower cost. The Coalition's mission (a grass-roots organization of 140 associations and businesses) is to bring environmental protection, social equity and economic stability to the people and businesses of Corvallis through a “democratic, highly participative decision-making process”.⁵ Both organizations were ready for a substantial community effort when they “stumbled into each other out of the blue” at the 2007 Corvallis Fall Festival.

To better understand the Corvallis community, Energy Trust conducted a market analysis to inform the potential for energy savings and renewable generation in Corvallis. Various source were used to were depict community demographics, housing stock, building stock, energy use, and existing energy efficiency and renewable energy projects. This report, among other things, showed that Corvallis has a somewhat lower rate of participation in Energy Trust Programs and thus considerable savings potential. On the other hand, it has a high proportion of short term renters, since it is a university town.

Through a series of meeting, the organizations agreed upon these major goals: conducting 1,000 Home Energy Review (HERs); completing 50 small commercial energy efficiency audits; increasing visibility for Energy Trust; positioning the community to apply for further efficiency grants; and seeing if the delivery approach produced greater savings more cost-effectively.

The evaluation approach included review of extensive program documents, including reports, meeting minutes, and memos that tracked the process of the CEC; in-depth interviews and other communication with 15 key CEC actors, including Energy Trust staff and program contractors, city government officials, and members of the Coalition; and analysis of Energy Trust’s FastTrack

⁵ Corvallis is a university town of 58,000 located 90 minutes south of Portland.

database that allowed follow-through rates and energy savings to be compared across time and by geographic areas.

JTPS KEY OUTCOMES

This evaluation, along with a later BC Hydro assessment, revealed that JTPS exceeded its participation goals in terms of the number of communities it wanted to enroll (50) and the proportion of the population it wanted to represent (60%). However, it was not possible to attribute Team Power Smart sign-ups and energy savings to JTPS alone due to another substantial Team Power Smart promotion. Key outcomes for JTPS include:

- Two-thirds of local governments (n=72) enrolled in the JTPS.
- Registered communities represented over 85% of residents in BC Hydro's service territory.
- Of those participating, two-thirds (n = 49) had low involvement, while one-third (n = 23) had medium to high involvement, making the level substantial engagement 21% across all BC communities.
- 4,681 new signups occurred during the JTPS period.
- The weighted average savings for those registered during JTPS was 11%.

JTPS LESSONS LEARNED

Terminology Matters: “Challenge” versus “Competition”

Both TIOC and JTPS included elements of "challenge" and "competition." While the notion of challenge appealed to most local governments, the notion of a “competition” (especially one with a single prize, by size), was less engaging for some, especially those that worked hard but did not win and those that thought their chances of winning were slim from the outset. Overall, the concept of a competition worked better for the internal change challenge fostered by TIOC than for the community change challenge (JTPS).

Although it might seem that small communities would be more able to influence workers or citizens because they have fewer people to influence, less bureaucracy, and more direct access to citizens, the data suggest the opposite. Notably, a greater percent of larger governments, compared to smaller ones, were very involved JTPS and several said the competition and prizes were strong motivations to participate. Smaller local governments were more likely to say they never expected to win, but wanted to take part “for the good of their communities.” Some of these smaller governments were the most satisfied with the challenges, since their level of effort matched the rewards they received.

“Come One, Come All” Approach Can Create Problems

The “come one, come all” approach for JTPS was fair-minded and attracted considerable participation. However, this approach can make it hard to predict and control the amount of response, rewards those who demand the most attention or who are most ready to jump in (or who are told to jump in), and is more reactive than proactive. If response is stronger than anticipated, it can tax program resources, make it difficult to sustain good customer service, and distract program sponsors from in-depth tracking of activities and outcomes.

Local governments were very interested in receiving success stories and best practices from their counterparts, suggesting they look to their peers for leadership and to define “normative” behavior. Taking a more targeted approach to local government behavioral challenges could take advantage of peer influence and make the program easier to manage. At the same time, it would allow the program to encourage and chronicle creative approaches that others will want to emulate.

Local Governments Want Tailored Services and Commitment

This research revealed that most local governments wanted BC Hydro to understand their individual circumstances, including how they operate, what their motivations and resources are, and what their communities are like. While they understand it may be hard to accomplish, they want the utility to fit program offerings in with their priorities, needs, and schedules. Many appeared to be unaware of other utility initiatives and services within their communities, although some knew about incentive programs for changing to more efficient equipment.

Local governments thought JTPS needed to be of longer duration if they were to change behavior, and most behavioral change theories and program experience agree. Local governments also preferred longer term approaches so that they could have them be a visible part of their work plans rather than added on to already busy schedules. (Some said that having both TIOC and JTPS so close together was tiring and beyond their resources.)

Participants liked the idea of partnering with BC Hydro to meet their own sustainability goals (such as reducing their carbon footprints through energy savings) and to pursue projects that make use of the utility's other efficiency programs. They perceived BC Hydro as a worthwhile ally and they didn't want to miss the opportunities that the corporation offered to their communities.

Many local governments embraced the idea of working within their own organizations to save energy, but were generally less motivated to lead the charge to influence behavior change in their community's households and businesses. These reactions stemmed from feeling that their limited resources were being stretched even thinner, that notice and timing were short, that they simply didn't know how to do the job well, and that they perceived communicating about energy efficiency as primarily BC Hydro's job.

Tracking and Documentation Need Careful Thinking

As with many first time program efforts, the program database was developed to serve program operation and not market assessment or evaluation purposes, and even for those purposes was somewhat unwieldy. Using more than one database, having variations in local government names and other variables, and providing limited documentation added time to figuring out how to evaluate JTPS. As time goes on and more initiatives are offered to communities, a sturdier, more complete, and more flexible database will be an asset to both program and to evaluation efforts.

Communities Need Feedback

Evaluation results pointed out the need to provide more feedback to local governments about the results of their efforts – energy and money savings, as well as other benefits that citizens realized from joining Team Power Smart. And politicians like success stories. Providing strong feedback requires a plan to collect relevant information and disseminate it effectively.

CEC KEY OUTCOMES

Meeting Goals

The CEC succeeded in meeting a number of its key goals. Results show it:

- Nearly met its goals of completing 800 residential audits (HERs) and 50 walk-through audits and follow-ups for businesses.
- Created an effective community-Energy Trust partnership to promote energy efficiency in a short, one-year time frame.
- Provided visibility to both the Coalition and to Energy Trust.
- Grew relationships both within the community and between the community and Energy Trust.

- Provided momentum and credibility for the community to apply for Federal stimulus funding to pursue energy efficiency, which it subsequently received.⁶
- Appeared to improve energy savings, during difficult economic times, in the two program areas where the most effort was spent.

However, results also show that the CEC:

- Needed a better system to track key metrics, including the incremental influence of the CEC on energy savings and the cost for those savings.
- Needed more focus on follow-through to energy savings in the time frame available.
- Had a lower one-year follow-through rate (22%) for HER participants taking part in Energy Trust programs to install efficiency measure
- Spent somewhat more money to deliver the savings achieved

Follow-Through Rates

Residential. A HER follow-through site is a home that installed energy saving equipment through an Energy Trust program after receiving a HER; Energy Trust programs provide various levels of financial incentives for installing efficient equipment. As Table 1 shows, the follow-through rate for receiving incentives for energy saving actions was lower in Corvallis at the one-year point of the CEC (22%) compared to most other years. However, as shown, follow-through has tended to increase as years pass, so the one-year measure does not capture all the savings activities.

Notably, many more HERs⁷ were done in Corvallis in 2008 compared to any other year even though follow-through rate was lower. According to feedback from key contacts, the competition to achieve participation, while successful in raising the number of HERs, may have been encouraged by more loyalty to the competing organizations than by energy savings. Feedback also revealed that available contractors may have been in short supply which could have influenced follow-through.

Table 2. % Follow-Through to Savings: Corvallis HER Sites

Year	N	3 Month	6 Month	1 Year	2 Year	3 Year	4 Year	5 Year
2003	64	17%	19%	27%	34%	39%	44%	52%
2004	68	13%	16%	22%	29%	34%	38%	44%
2005	171	24%	27%	35%	43%	51%	53%	--
2006	189	17%	23%	29%	37%	42%	--	--
2007	170	19%	25%	34%	39%	--	--	--
2008	755	10%	16%	22%	--	--	--	--
2009	109	12%	--	--	--	--	--	--

Commercial. Energy Trust's FastTrack system⁸ did not reveal much follow-through from to savings from equipment upgrades based upon commercial audit activities during the first year, but often a one-year time frame is not long enough to capture the steps the businesses may eventually take. The Environmental Center did its own tracking survey and their report⁹ showed that:

⁶ The City of Corvallis has been allocated \$511,600 from the US Department of Energy's (DOE) Recovery Act Energy Efficiency and Conservation Block Grant (EECBG) program. The purpose of the EECBG program is to reduce fossil fuel emissions, reduce a community's total energy use, and improve energy efficiency in government buildings and transportation services.

⁷ During a HER, an energy advisor does a walk-through audit to analyze a home's energy efficiency opportunities. The customer then receives a tailored report for efficiency improvements (e.g., added insulation, more efficient furnace), along with information on Energy Trust incentive programs that will help defray the cost of those improvements. Participants may also be eligible for free energy efficiency items, such as compact fluorescent light bulbs.

⁸ This is a database where Energy Trust tracks a variety of variables about participation in its programs.

- Participants reported they had implemented 42% of energy savings recommendations, both in terms of efficiency measures installed and other actions taken (such as behavioral changes). When this is combined with what businesses reported they intend to implement, follow-through on implementing recommendations would be 76%.
- 19 participants (38%) have either applied for or received Energy Trust incentives, or are in the process of receiving special studies for custom incentives.

Energy Savings and Costs

Savings. As Figures 1 and 2 show, Corvallis did outstrip other areas (Willamette Valley and All Other Energy Trust territory) in terms of the percent increase in measures implemented and electric and gas savings from the previous year to the CEC year. While this improvement is encouraging, we do not have the data to know the incremental effect of the CEC in influencing these positive results. Other factors may be at play, such as program activities from prior years or the activity of large commercial or industrial customers that were not a focus of the CEC.

Figure 1 % Change in Residential Sector, Measures and Savings (Baseline to Program Year)¹⁰

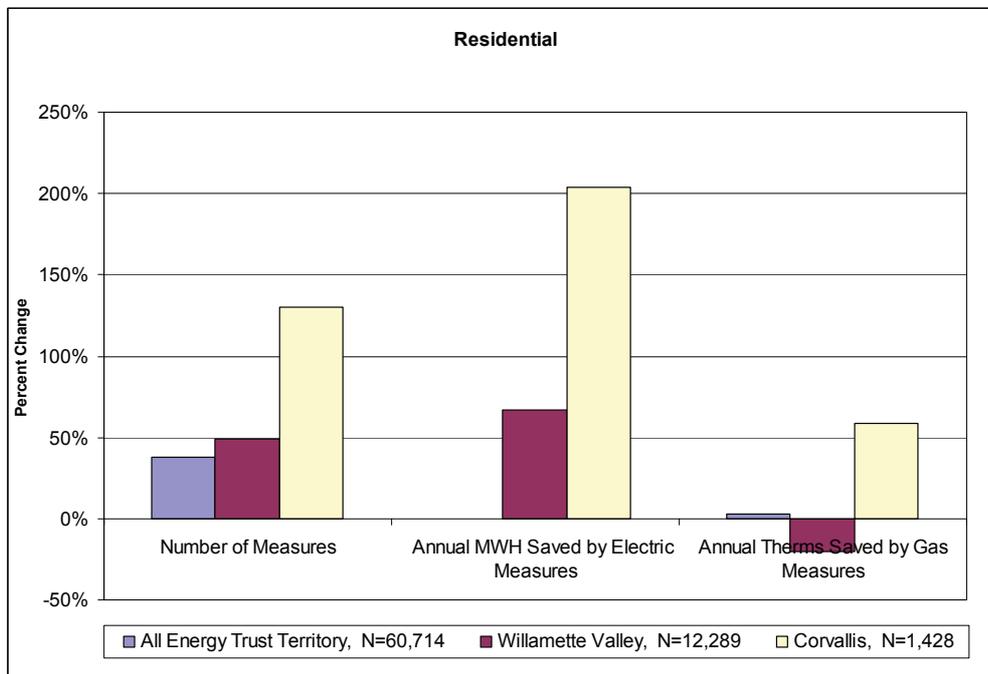
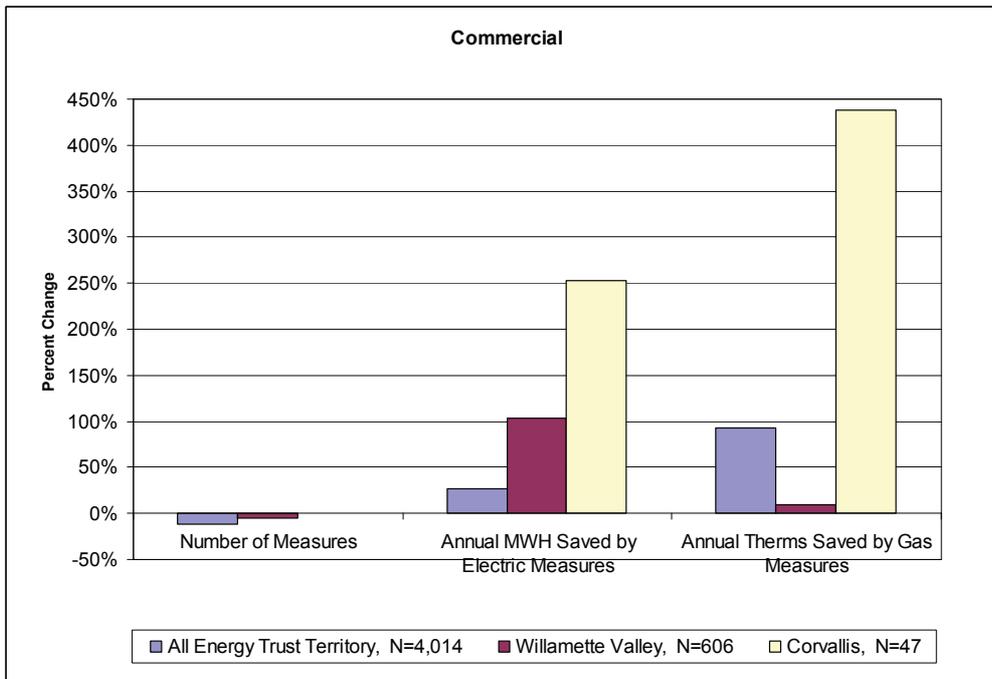


Figure 2 % Change in Commercial Sector Measures and Savings (Base Year to Program Year)

¹⁰ N's reported in the legend are the number of sites participating in each area in the base year prior to the CEC.



Costs. The program cost for achieving the extra savings through the CEC was about \$112,000. Data, without these added costs, show that the program cost per energy unit (kWh or Therm) saved in Corvallis during the program year was slightly lower than for the other two areas. One measure of costs would be to compare how much is spent per account to do marketing for all of Energy Trust’s customers and the cost per account in Corvallis. Based on the 2009 Energy Trust Annual Report, the agency serves 1.5 million accounts. The marketing budget is about \$5.5 million, which translates into about \$3.67 per account. The \$112,000 spread across about 28,000 residential and commercial accounts in Corvallis would add another \$4 per account.

CEC LESSONS LEARNED

Program Logic and Success Metrics Need to Match

While the CEC nearly met its key program participation goals, savings and cost-effectiveness goals were not specified, nor were these metrics able to be clearly tracked, even though these are two “bottom-line” goals for Energy Trust. The logic of the CEC was that raised awareness and more audits would produce more follow-through and more savings; however much past research suggests the link between audits and actions are tenuous if more isn’t done to encourage next steps. If other goals are important, those also need to be clearly delineated. Finally, as discussed in the next recommendation, programs need to build in a plan and budget for gathering and analyzing data that measure success.

Before and After Tracking Is Essential for Community Efforts

Involving evaluators up-front to develop a careful plan for measuring results is especially important for pilot programs, since one basic reason for such programs is to learn what to do in the future. Feedback from the CEC suggests that more was being accomplished in the community than could be measured through Energy Trust’s standard FastTrack system (which only looks at entities who received incentives through programs). No pre- and post- information tracked changes in awareness, intention, motivations and barriers, or actions taken outside of Energy Trust programs. In addition, while some information was available on an interim basis to track progress, a more systematic, robust approach would have provided better feedback and guidance to implementers.

Finally, results suggest that measurement after only one year may be inadequate to show the impacts of this type of program approach.

Be More “Hardboiled” About Savings Goals

The emphasis was on community-wide social marketing, especially involving local people in the process. However, savings goals and costs to achieve them received little attention. Given that the core goal of Energy Trust is to achieve cost-effective energy savings, it needs to be a greater part of planning, marketing, implementation, and evaluation efforts. For instance, marketing and sign-up for HERs need to emphasize that the true goal is to achieve savings and that the audit is only the first step in the process. In addition, some type of pledge to make changes that save energy might be included. While competitions to recruit could still be used, participants who have no intention of acting could be discouraged.

In addition, greater feedback should be given on savings achieved to encourage further action. If the timeframe for the effort is one year, the type of programs offered, the measures emphasized, and the target audiences also need to be carefully weighed for their potential and ability to take action quickly and achieve savings within the allotted timeframe. For instance, greater focus might be put on the most easily amenable target audiences (e.g., government and institutions) and simpler measures.

Reach Beyond The Usual Sustainability Audiences

The great part about the Coalition was its many members and its zeal. However, when sign-ups for the HERs waned, it became clear that the Coalition needed to develop other ways to reach into the community, beyond those who were already concerned with sustainability. This suggests simpler types of programs (like direct install, a brief list of behavioral tips that benefit energy efficiency and sustainability, or giveaways) are needed in addition to more complex services that the CEC provided. A community-wide program does not mean that the only focus should be more comprehensive approaches since not all customers are ready for such activities.

Do Pilot Programs At a More Manageable Scale, Particularly For a 1-Year Time Frame

While community-wide efforts are alluring, especially with an enthusiastic community, it would likely be more “doable” if efforts were phased in over time or if they focused intensive effort on a few measures being implemented. In addition, if possible, it would be good to see if a more experimental design might be incorporated for pilot programs, so that more than one approach might be compared for its impacts.

Be Prepared For Increased Demand

As the HER requests mounted, the ability to serve households in a timely way decreased, resulting in some delays and customer complaints. The level of response needs to be carefully estimated and plans made for how it will be met, both for HERs and for follow-on work to install efficiency measures. A customer’s experience with energy efficiency services needs to be positive in all respects.

Provide More Handholding And Follow-Up

The CEC experience reinforced the need to strengthen the link between information and action. The HER energy advisors are a crucial piece in encouraging action; it is possible to use them both as assessors and advocates. Further prompts and handholding are also needed to get people to the next steps, and perhaps changes in program design as well (e.g., greater incentives for acting in a certain time period, or special events giving products for free, etc). Lists of “approved” contractors could also be developed. On the commercial side, the local presence did concentrate on

hand-holding, but feedback through this evaluation emphasized that they underestimated the level of handholding needed to drive participants to Energy Trust programs.

Clarify Roles and Level of Community Input

Some feedback suggests that the Community expected to have more “line-item” approval than it got on various decisions. While roles were fairly well defined and relationships were positive and cordial, it is important to define how a democratic approach dovetails with getting quick decisions.

Ensure Trade Ally Involvement

Feedback suggests that trade ally availability was much less than anticipated for follow-on work, and that the community wanted to use local firms. While trade allies were not interviewed, respondents thought that trade allies didn’t know about Energy Trust programs and even if they did, that program requirements might be too onerous. This suggests that trade ally training to inform and motivate them to take advantage of program opportunities would have benefited the CEC.

Clarify How “Hard” Audiences and Cross-Sector Situations Will Be Served

It is important to be clear about which audiences are to be targeted with resources for a short-term community effort. For instance, research showed a large population of rental housing with potential for savings; however, reaching these savings are often challenging due to split-incentives and other market factors. To decide whether a segment like the rental market should be addressed, more details about the market are needed, such as information about landlord motivations and investment cycles. In addition, the responsibility for multi-family services needs to be clarified since they have both residential and commercial elements and may fall between programs unless responsibilities are explicit.

CONCLUSIONS

JTPS at BC Hydro and the CEC at Energy Trust, while both community-based programs, were quite different in logic, scope, and outcomes. JTPS was a short effort, which BC Hydro hoped would be fairly turn-key. BC Hydro gave communities tools and encouragement to launch their own efforts to drive households to sign up for Team Power Smart. Communities that signed up the greatest percentage of households received substantial prizes. CEC was more a longer, more complex, and more active partnership between the Coalition and Energy Trust, with Energy Trust providing hands-on marketing help and the potential for residential and commercial customers to get further help (financial and otherwise) through Energy Trust programs.

Still, some common "essentials" for success with community efforts emerged, including the need to:

- Ensure the program and evaluation time frame matches the desired outcomes. For instance, a three-month program may influence sign-ups for a web-based tracking program, but a year-long program may not be enough time for homeowners to follow-through with energy retrofits.
- Tailor program offerings to community desires, needs, capacities, and audiences. The one-size fits all approach for JTPS meant that some communities were very enthusiastic and others were not; CEC, on the other hand, was carefully planned to fit the community.
- Make roles and sponsor support levels clear and preferably longer-term. Most communities will not appreciate a quick in/quick out approach.
- Emphasize "challenge" and working together but not hard competition.
- Have robust evaluation and tracking systems to measure key program effects. Clearly both programs would have benefited from evaluation approaches that looked at community response

before and after the intervention and which were able to control for variables which interfered with measuring the attribution of savings. Both evaluations would have benefited from participant surveys and for ways to measure longer term effects.

- Provide clear and adequate feedback to communities about their progress.
- Assume community programs will require more handholding than anticipated.

In addition, each program shared similar goals. They hoped to leverage community resources to gather more cost-effective energy savings (or renewable energy); to increase the visibility of program sponsors; and to strengthen the community's capacity to take action on its own. The CEC also hoped to help the local economy. But how well did they actually meet these various goals?

Cost-Effective Energy Savings

Unfortunately, the effect of each of the programs upon energy savings is uncertain. In part this is due to the programs' emphasis on fostering and tracking interim activities (e.g., signing up for Team Power Smart or an energy audit) rather than energy saving actions. In addition, the programs were not set up to adequately verify the connection between the program efforts and savings.

While BC Hydro's analysis found households registering for Team Power Smart during the JTPS time period had on average reduced their electricity use by 11%, JTPS could not claim these savings because other substantial Team Power Smart campaigns were underway at the same time. And, while the data for the CEC can attribute the program with an increase in home and business energy audits, the tracking data cannot show that a subsequent uptick in Energy Trust program participation and measure installation is attributable to the program.

Assessing cost-effectiveness was not part of our JTPS evaluation, but BC Hydro program managers wrote in a follow-up memo that the Challenge programs had been "labor intensive." We did collect cost data for the CEC and that analysis shows it cost somewhat more than other Energy Trust programs. However, without knowing the true energy savings, it is hard to assess cost-effectiveness accurately.

Increased Visibility of Sponsors

As with cost-effectiveness and energy savings, the programs and the evaluations were not set up to measure the increased visibility of sponsors. However, in this case the data clearly show that BC Hydro and Energy Trust received were better known after these community efforts. JTPS engaged a high proportion of communities, at least at some level, and put BC Hydro programs on their radar screens. Focus group participants strongly felt the program has raised awareness. As one JTPS local government representative put it "What politician wouldn't want to be associated with the words 'power' and 'smart'? And BC Hydro program managers noted the "challenges" had effectively engaged local governments and that they were well accepted. With CEC, community actors gave enthusiastic credit to the Energy Trust for their support and their ability to raise awareness about sustainability issues in Corvallis.

Increased Community Capacity

While BC Hydro hoped JTPS would help communities become self-sustained energy conservation partners, participants reported that the short-term nature of the engagement, the lack of feedback, and the uncertainty about future community support probably was probably not enough to result in self-sustained activities. However, many BC communities are putting climate action plans in place and connecting efficiency to these activities may be powerful driver in the future.

The CEC clearly provided the momentum and credibility for the community to apply for Federal stimulus funding to pursue energy efficiency; it subsequently received over one-half million dollars in funding.¹¹

¹¹ The City of Corvallis has been allocated \$511,600 from the US Department of Energy's (DOE) Recovery Act Energy

Improved Local Economies

Evidence about these programs improving local economies is either not relevant or slim. JTPS never claimed this goal. CEC, in its efforts to get homes and businesses to improve the efficiency of buildings and equipment, hoped to involve local contractors. However, the evaluation showed that the number of trained and involved local contractors was too small to meet increased demand for HERs, which resulted in some program delays.

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