CORVALLIS ENERGY CHALLENGE EVALUATION

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≈ EXECUTIVE SUMMARY≈

INTRODUCTION

The Corvallis Energy Challenge (Energy Challenge) was designed as a year-long partnership (March 2008-February 2009) between Energy Trust of Oregon (Energy Trust) and the Corvallis Sustainability Coalition (Coalition). Energy Trust had been looking for a community with the right blend of attributes to foster a community-wide efficiency and renewables effort. Corvallis, a university town of 58,000 located 90 minutes south of Portland, had embraced sustainability as a challenge and goal and was ready for a project to focus their efforts on.

The key goals of the Energy Challenge were to (1) learn more about how to design and implement a community-wide initiative and (2) test whether such a focused initiative could increase energy savings at an equal or lower cost compared to other delivery mechanisms. In addition, the partners hoped other benefits would result from a community-based approach – such as boosting local economies, long-term relationships, and positive public relations.

The Energy Challenge was a substantial social marketing effort, using hundreds of volunteers as well as expertise from Energy Trust, to involve the community and raise awareness about and interest in energy efficiency and renewables, and to achieve a targeted level of participation in some of Energy Trust's existing programs, with the greatest emphasis on:

- **Completing 1,000 Residential Home Energy Reviews (HERs),** mostly of owner-occupied single family homes, that recommended energy efficiency improvements and urged participants to follow-through with taking action through Energy Trust's residential retrofit program. Coalition members organizations participated in a competition to recruit the most households.
- **Completing 50 walk-through assessments for small and medium-sized businesses,** provided by a local firm; the assessment included a written report and follow-up contacts at 90 days to assist businesses in taking action through Energy Trust's commercial retrofit program.

Later in the pilot, the Energy Challenge launched the **Greek Challenge** – a competition that rewarded the participating fraternity and sorority house that took the most energy saving actions. In addition, some events were targeted to trade allies, industrial customers, and multi-family property owners, and workshops on residential solar applications and home weatherization were held. Energy Trust also offered its

standing programs on solar energy to households and businesses interested in solar energy, and industrial customers.

This evaluation is based upon extensive review of program documentation; in-depth interviews with 15 key Energy Challenge actors, including Energy Trust staff and program implementation contractors, city government officials, and members of the Coalition; and information from Energy Trust's FastTrack database which tracks program participation and estimates savings.

SUMMARY OF KEY FINDINGS

The Corvallis Energy Challenge:

- Nearly met its key program participation goals by completing almost 800 HERs and completing all 50 walk-through audits and follow-ups for businesses.
- Partnered a motivated community with Energy Trust in an impressive community-wide effort to promote energy efficiency in a short time frame.
- Provided visibility to both the Sustainability Coalition and to Energy Trust.
- Established and 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.[1]
- Appeared to improve energy savings, during difficult economic times, in the two program areas where the most effort was spent.

However, results from this evaluation also show that the Energy Challenge:

- Needed a better system to track key Energy Trust metrics, including methods to determine the incremental influence of the Challenge on energy savings and the cost for those savings.
- Needed a greater focus on how to effectively get the community to follow-through to savings in the time frame available.
- Had a low one-year follow-through rate (22%) for HER participants taking action through Energy Trust programs compared to other years.
- Spent more to deliver the savings achieved, based upon the information available.

[1] 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.

METRICS OF "BOTTOM LINE" SUCCESS

Follow-Through Rates

Residential. A HER follow-through site is a home that installed energy saving equipment and received an Energy Trust incentive after receiving a HER. 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 Energy Challenge (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 HER ratings were done in 2008 compared to any other year even though follow-through 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 1. % 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%	--	--	--	--	--	--

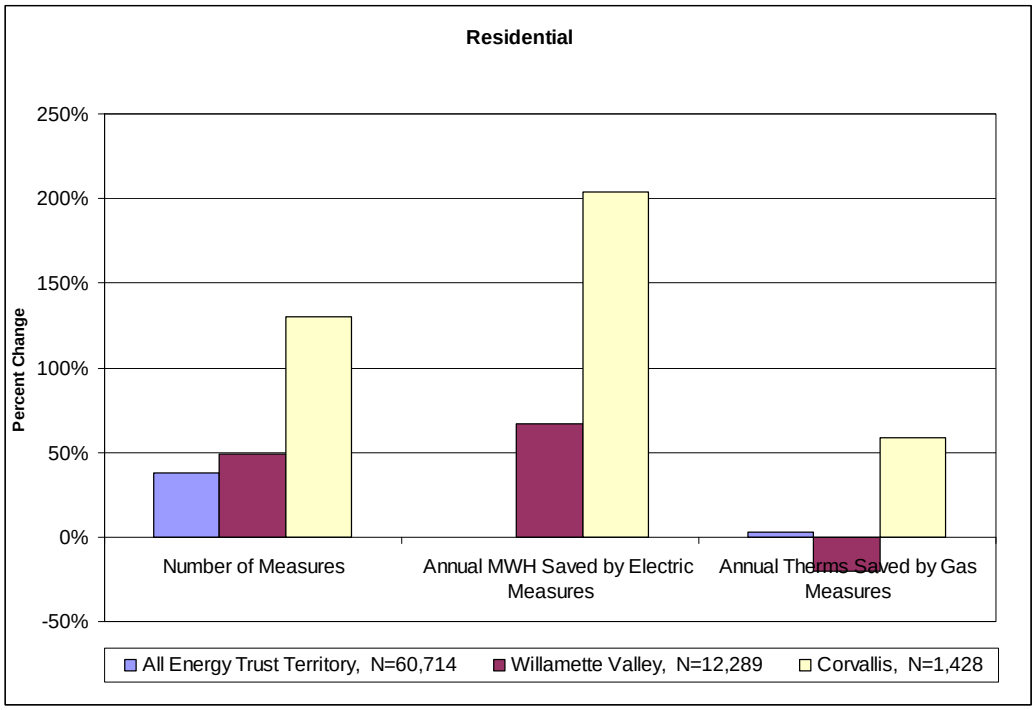
Commercial. Energy Trust's FastTrack did not reveal much follow-through from to savings from equipment upgrades based upon commercial audit activities during the first year, but often a one-year time frame is often not long enough to capture the steps the businesses may eventually take. The Environmental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

- Participants reported they had implemented 42% of energy savings recommendations. 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

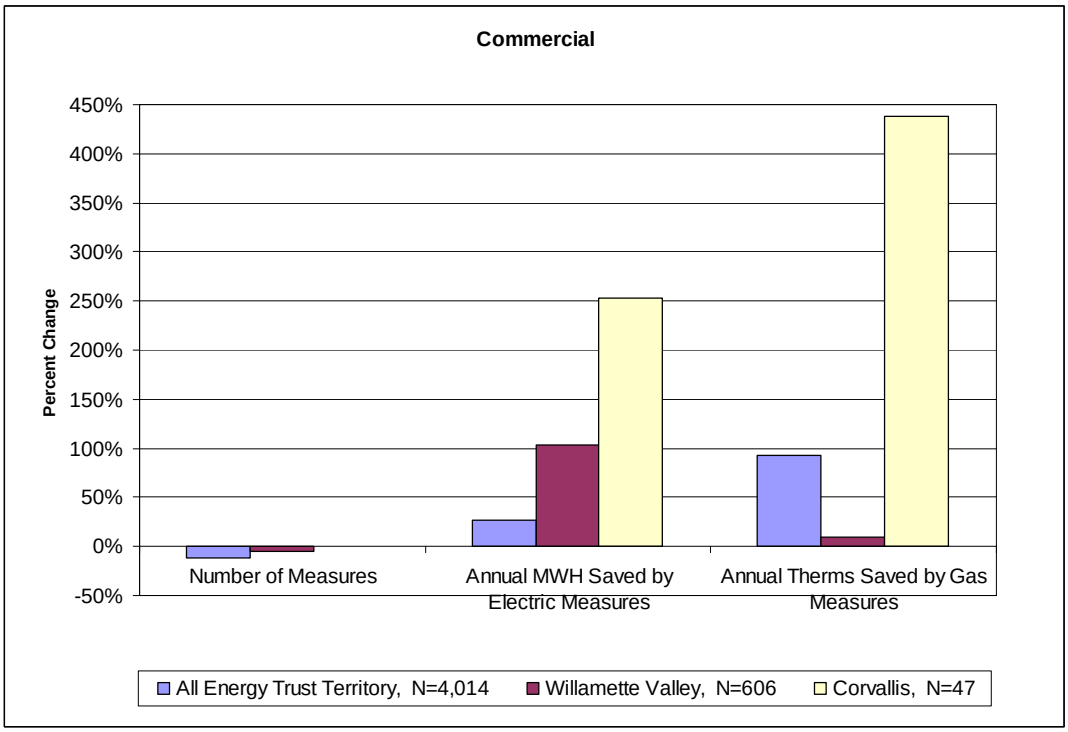
Savings. As Figures 1 and 2 show, Corvallis did outstrip other areas (Willamette Valley and All Other Energy Trust territory) in terms of the percent increase in measures taken and electric and gas savings from the previous year to the Energy Challenge year. While this improvement is encouraging, we do not have the data to know the incremental effect of the Energy Challenge 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 Energy Challenge.

Figure 1 % Change in Residential Sector, Measures and Savings (Base Year to Program Year)[2]



[2] N's reported in the legend are the number of sites participating in each area in the base year prior the Energy Challenge.

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



Costs. The cost for achieving the extra savings through the Energy Challenge was about $112,000. Data, without these added costs, show that the 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.

RECOMMENDATIONS

Based on these findings, key recommendations for the Energy Challenge include:

1. **Clarify what success is.** While the Energy Challenge 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 Energy Challenge 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.

2. **Have an evaluation and tracking system that gives a better before and after look at community efforts and provides more in-depth insights into the influence of the Energy Challenge.** 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 Energy Challenge 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.

3. **Be more "hardboiled" about articulating and reaching 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.

4. **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 Energy Challenge provided. A community-wide program does not mean that the only focus should be a more comprehensive approaches since not all customers are ready for such activities.

5. **Do pilot programs at a smaller, more manageable scale, particularly for a 1-year time frame.** While community-wide efforts are alluring, especially with an enthusiastic

community, it would likely to 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.

6. **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.

7. **Provide more handholding and follow-up.** The Energy Challenge experience reinforced the need to strengthen the link between information and action. The HER raters 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 they underestimated the level of handholding needed.

8. **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**.**

9. **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 Energy Challenge.

10. **Clarify if and how "hard" audiences will be included and how 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.