

Meeting Overlapping Energy Efficiency Goals Through Community/Utility Coordination

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ABSTRACT

While many utilities have been delivering energy efficiency programs since the 1970s, local governments and community-level organizations also have appeared as common actors in delivering energy efficiency services. In order for utilities and these communities to work in parallel in the energy efficiency realm, it is most advantageous for all parties to understand and tailor programs based on each other's strengths and weaknesses. When partnered, community and utility partnerships provide opportunities to enhance credibility, make use of relevant data, and replicate proven program strategies. This paper highlights three communities actively working in the energy efficiency field. Two of them joined forces with their utility to meet energy efficiency goals but did so in different ways. The other community illustrates how a utility and a community with minimal coordination ran into problems. In order to minimize potential threats and make efforts more strategic, utilities can work in conjunction with local governments and communities. Both utility program planners and community energy leaders will benefit from information that identifies why communities are interested in energy efficiency, highlights the types of initiatives communities are undertaking, and defines key attributes to community-utility coordination.

Introduction

Across the country, communities and cities are developing and implementing specific programs to reduce greenhouse gas emissions by saving energy. Not-for-profit groups and/or municipal departments are spearheading hundreds, if not thousands, of local initiatives. Recently, over 2,000 communities applied for Energy Efficiency and Conservation Block Grants (EECBG) and other funding opportunities released as part of the American Recovery and Reinvestment Act (ARRA) in 2009 (Department of Energy, 2010). At the same time, many utilities are offering community members incentives to install energy efficiency equipment.

While utilities have offered energy efficiency services for a number of years, financial and political hurdles make dedicating funds to specific community groups untenable. When utilities partner with communities, public funds can be used jointly with utility funds to create a dedicated budget to engage community members in efforts to promote energy efficiency. At the same time communities can rely on utility data and expertise (Parzen 2009). These partnerships can help local utilities meet their energy efficiency goals and local governments meet their greenhouse gas reduction goals. As communities increasingly become engaged in energy efficiency through ARRA and other major initiatives, their interactions with local utilities are becoming increasingly relevant.

To further investigate the potential benefits and weaknesses of community-utility partnerships, the authors investigated three communities. The next section describes the methods used to investigate community-utility partnerships. Following the methods section, the paper

describes each profiled community. It concludes with a set of observations across the communities and identifies how this research can be used to conduct a more quantitative analysis and ultimately develop a framework for community-utility partnership.

Research Methods

The authors examined three communities through the development of partnership profiles for Palm Desert, Calif.; Vashon, Wash.; and Whatcom County, Wash. The authors chose these particular communities because they each represented different and unique experiences, program strategies, organization structures, funding channels, and outcomes. In addition, each selected community actively worked with residential and business community members, rather than internally within government-owned buildings. The authors conducted at least one in-depth interview with a lead stakeholder from each community partnership and performed secondary research.¹ The research identified a set of organizational, market, and technical attributes to investigate: partnership structure, funding channels, marketing activities, and technical implementation.

These community profiles identify common strengths and weaknesses in utility-community partnerships that might be applicable to other communities. The reader must understand a few caveats in order for this study to be most helpful. Each community in this study, and any community considering energy efficiency partnerships with utilities, has unique political/policy, economic, and regulatory characteristics. This study does not seek to generalize findings to all communities or utilities. Rather it provides utilities and communities with themes to be aware of when considering such partnerships. Lastly, the communities were all located within investor-owned utility territories. As such, relationships between communities and other utility types, such as municipal utilities, are not discussed.

The following sections provide a summary for each of the three community profiles. The summaries discuss the various attributes identified for each community in the following manner: a general background about the community and initiative taken; an overview of the partners and their roles and responsibilities; the relative contribution to the energy efficiency initiative by each financial partner and the benefits and challenges from using multiple funding streams; the marketing activities undertaken to implement the initiative and discusses benefits and challenges from working with multiple partners on marketing activities; the technical support required to implement the initiative and the benefits and challenges from relying on multiple partners for technical services; and lastly a summary of outcomes.

The City of Palm Desert, Calif.

The first community that the authors examined was Palm Desert, California. This section summarizes the community's efforts to reduce energy efficiency.

¹ Findings presented for Palm Desert was based on research conducted for the California Public Utilities in conjunction with Navigant Consulting. See: Navigant Consulting, Inc. Forthcoming.

Community Background

The City of Palm Desert is located in the high desert environment east of Los Angeles, California. The city is known as a wealthy resort community but also includes a number of full time residents servicing the city and tourism industry. Palm Desert has a history of being a leader in water conservation (The City of Palm Desert n.d.). In 2005, the city became interested in expanding their sustainability efforts to include energy conservation. To do so, they united with their utilities, Southern California Edison (SCE) and Southern California Gas (SCG), and a non-profit called the Energy Coalition, an organization that mobilizes community energy efficiency efforts, to form the Palm Desert Partnership. Together they decided to reduce the city's energy consumption by 30% within five years (January 2007 to December 2011).

To meet this goal, the partners developed the following delivery strategies directed to community members:

- Loan financing – applies loans for energy efficiency purchases to property tax
- Upgrades to building codes – created energy efficiency building codes
- Direct install services – installs equipment in residential and commercial buildings
- In-home energy surveys – offers in-home energy surveys to identify energy efficiency opportunities
- Higher utility incentives – offers higher than typical SCE and SCG financial incentives to community members to install energy efficiency equipment
- Incentives for additional technologies – offers financial incentives to install energy efficiency technologies not currently offered by SCE and SCG.

Partnership Structure

To carry out these activities, the Palm Desert Partnership is comprised of city leaders; representatives from electric and gas utilities that service the area, SCE and SCG; and the Energy Coalition. The City of Palm Desert primarily leads marketing and policy initiatives, SCE and SCG primarily provide energy efficiency delivery services, and the Energy Coalition supports the partnership by providing strategic and coordination support. The partnership approach allows each orientation to provide their own expertise, thereby offering a multi-pronged approach to meeting the 30% goals. With so many partners, the partnership does face some challenges specifically with regards to there not being a lead partner to serve as the main decision maker.

Financial Channels

To generate the amount of funds the Palm Desert Partnership needed to meet their goal, the partners rely on both utility and city funding. Relying on these two main funding sources allows the Palm Desert Partnership to use money for different types of activities. For example, municipal resources are used to provide loan financing while utility resources are used to offer rebate checks. Of the total five-year budget (\$64 million), 83% comes from the utilities of which 76% is earmarked for the initiative while the other 7% comes through their traditional incentive programs. The remaining 17% of the budget is funded through the city; these funds are primarily dedicated for the loan financing initiative as well as for city staff time to develop policy and manage program activities.

While funds do allow for diverse activities that could not have been pursued piecemeal by either a utility or the city, the partnership faces some challenges with its heavy reliance on funding from the utilities. For instance, the earmarked funds were only approved for the first two years (2007-2008), though the program goals were for a five-year period (2007-2011). The budget assumes this money would be extended for the entire five-year period, however this turned out not to be the case. In 2009 the CPUC held back approving additional utility funding for the initiative in order to evaluate effectiveness of the initiative. In addition, the CPUC questioned whether dedicating additional funds to an individual community, especially one with a high per capita income, was appropriate. As of January 2010, the city still did not know if the utilities would be able to provide long-term financial support. The City reported that they planned to continue their energy efficiency effort with or without dedicated utility funding but expected that it might take longer than five years to meet their goal if they did not have the planned level of utility financial support.

Marketing Activities

From a marketing perspective, the partners thought coordinating marketing and outreach would add value by providing a consistent, reliable message to community members from the utilities and the city. To do this, the partnership created its own brand called “Set to Save” and they reported positive impacts from having the brand. The partners reported some challenges in coordinating the marketing effort, as the entire process took longer than expected due to having multiple partners. (Southern California Edison 2008)

In addition to marketing the initiative to community members, the partnership allows the utilities to market their suite of traditional energy efficiency programs. The effects of this are evident in the fact that participation in traditional utility incentive programs was ten times higher in Palm Desert compared to other communities once the initiative was active (Navigant Consulting, Inc., forthcoming). The initiative also provides an opportunity for the utilities to market other services to the community. For example, the Palm Desert Partnership has a physical office in Palm Desert, where utility staff assists community members not only on energy efficiency projects but also with questions relating to their electric or gas service.

Technical Implementation

The partnership provides the city with access to the technical/engineering expertise and experience of the utilities. Both SCE and SCG are experienced in delivering energy efficiency services to their commercial and residential customers and the partnership gives the city and the community at large the opportunity to tap into this expertise, such as performing facility energy assessments and working with contractors on energy efficiency measure installations. In addition, the utilities have access to customer utility data and can manage and track the delivery of energy efficiency measures and incentives. Without these technical services, the city claimed they would never be able to reach a 30% energy reduction goal. At the same time, the utility benefits from the partnership because they can apply energy conservation impacts from the earmarked funds towards their overall portfolio energy savings goals reported to the CPUC.

Outcomes

Key attributes, benefits, and challenges associated with the Palm Desert Partnership are summarized in Table 1. In the first two years, the partners developed their strategies and marketing techniques while also achieving 28% of their five-year electric goal, leaving 72% of the savings to achieve over the next three years. In addition, an energy savings comparison between neighboring communities showed, by the second quarter of 2009, Palm Desert achieving almost ten times the amount of per capita kWh savings compared to other communities in the same climate zone. Ultimate success of the Palm Desert Partnership will depend on whether implementers will be able to follow through with the efforts even if funding sources do not pan out.

Table 1. Palm Desert Summary

| | Description | Reported Benefits | Reported Challenges |
|---------------------------------|---|---|--|
| Partnership Structure | <u>Utilities:</u> Southern California Edison and Southern California Gas <u>Community:</u> City of Palm Desert The Energy Coalition | Shared responsibilities Targets different strategies | No clear leader Lengthy process |
| Financial Channels | <u>Utilities:</u> \$48.8 M (76%) earmarked funds \$4.5 (7%) utility-wide incentives <u>City of Palm Desert:</u> \$10.9 (17%) | Variety of funds | Need CPUC approval Economic-equity concerns |
| Marketing Activities | Created its own energy efficiency brand: "Set to Save" Performed direct marketing to customers and trade ally groups | Consistent message Utility demonstrates good public relations | Lengthy process |
| Technical Implementation | Tracking energy savings Program implementation making use of technical experts | Access to utility data Ability to rely on utility experts Ability to record savings | None disclosed |

Communities of Whatcom County, Wash.

The communities in Whatcom County, Wash. provide another example of a region actively working with a utility to deliver energy efficiency services. This section provides findings from speaking to the lead manager of the initiative.

Community Background

Whatcom County is situated near the Northern Cascades of northwestern Washington State and consists of the City of Bellingham as well as several smaller towns between the Cascade Mountains and Puget Sound. Across this county a membership-based, non-profit organization called Sustainable Connections, comprised of independently owned business members in Whatcom County, is spearheading an energy efficiency initiative called the Community Energy Challenge (CEC) through a wide-ranging partnership with local utilities and governments. The CEC was initiated in late 2008 to reduce energy use, boost economic development, and reduce greenhouse gas emissions among businesses and residences in Whatcom County (Sustainable Connections 2010). Delivery strategies include the following:

- Energy assessments for homeowners and businesses
- Energy action plans for homeowners and businesses
- Assistance and advice with installation of energy efficiency measures in homes and businesses such as low-income weatherization
- Financial assistance to commercial businesses
- Educational and training opportunities for local contractors

Partnership Structure

To implement the CEC, Sustainable Connections is partnering with a number of groups in the area including Puget Sound Energy (PSE), Cascade Natural Gas (CNG), towns within the county, the City of Bellingham, and an additional non-profit, the Opportunity Council. Each of these groups has dedicated roles and responsibilities. Sustainable Connections initiated the effort and manages their one-stop-shop services. The municipalities provide community voice, marketing support, and also assists in reporting and oversight. The Opportunity Council, a private, non-profit agency with a purpose of assisting homeless and low-income families, provides low-income weatherization and job training opportunities. The utilities offer assistance in facility assessments and provide training and tools to implement energy efficiency programs. The manager of the CEC program said this collective approach helps each organization bring their expertise to the partnership. The major challenge reported by the CEC manager is that the CEC partners face communication constraints from working with utilities with offices based in other parts of the state.

Financial Channels

In addition to relying on a number of entities to implement the program, the CEC partners rely on a number of different funding channels including primarily state and federal government funds but also utility funds. The combination of multiple funding sources helps generate a wide range of actions intended to boost energy efficiency across the county. Similar to Palm Desert, the CEC manager reported that Sustainable Connections found some challenges in relying on utility funds although challenges took on a slightly different character. The utilities could not dedicate resources to a selected region of their territory; rather their funds and services need to be evenly distributed throughout the territory, which extends beyond Whatcom County.

Marketing Activities

Though the initiative is still in an early stage, it appears that the partnership offers improved marketing opportunities. The partnership is balancing resources from all of the organizations to market the initiative to the community. For example, the partnership is utilizing the logo from the utilities, the large membership of Sustainable Connections, and social marketing techniques. Additionally, many partners have access to social and business networks, such as the membership base of Sustainable Connections. Such access, allows the partners to communicate energy efficiency initiatives to their members in a concerted fashion. In addition, the CEC manager said that marketing the program in conjunction with the utility offers greater credibility to the program (Ramel, Alex 2010). It is unclear what types of challenges this marketing arrangement might create, but with the large number of organizations involved, it will be important to differentiate roles and responsibilities throughout the life of the initiative.

Technical Implementation

There were technical attributes to the CEC partnership as well. To begin, the CEC partnership benefits from utility best practices in energy efficiency. Because PSE and CNG could not dedicate services specifically to the region, CEC adapted one of the PSE energy efficiency programs, the Resource Conservation Manager (RCM) Program. The RCM program serves as a means for businesses to benchmark, manage, and monitor a facility's energy use. The program targets larger businesses with over two million square feet or over \$2.5 million in total electric and gas costs. As alluded to previously, the CEC program replicates this effort and expands it to the Sustainable Connections membership base by offering the same types of services to an aggregated set of businesses rather than one property owner per facility assessor as the case with the RCM program. Besides program implementation, the partnership also helps PSE and CNG seek additional energy savings in order to help them meet the energy savings goals established with their regulatory body, the Washington Utilities and Transportation Commission (WUTC). The CEC is also helping the City of Bellingham meet its climate change mitigation goals as set out in their Climate Action Plan (City of Bellingham 2007). It is possible that barriers, such as the difficulty of evaluating such aggregated efforts with multiple players, may arise as the program progresses.

Outcomes

Key attributes, benefits, and challenges associated with the Whatcom County initiative are summarized in Table 2. According to the program manager at Sustainable Connections, though many of the member businesses have been involved with Sustainable Connections and working on sustainability issues for some time, the CEC Partnership is identifying significant opportunities for energy efficiency even among those businesses on the cutting edge of environmental issues. The CEC partners have been able to work together to identify a substantial level of no-cost or low-cost measures that can be installed in a large portion of businesses and residents throughout Whatcom County.

Table 2. Whatcom County Summary

| | Description | Reported Benefits | Reported Challenges |
|---------------------------------|--|---|--|
| Partnership Structure | <p><u>Utilities:</u> Cascade Natural Gas, Puget Sound Energy</p> <p><u>Community:</u> Sustainable Connections, City of Bellingham other towns in Whatcom County, the Opportunity Council</p> | <p>Multi-pronged approach providing specialized services</p> <p>Aggregation of businesses to reach economies of scale</p> | Communication constraints due to distances |
| Financial Channels | <p>Wash State University Pilot Fund: \$2,790,000 (62%)</p> <p>EECBGs, EPA Grant, and Other Municipal Funding \$1,630,000-1,650,000 (36%)</p> <p>Utility: \$80,000 (2%)</p> | Funds for multiple purposes to align with multiple goals | Utility funds limited due to equity issues |
| Marketing Activities | <p>Shared logo</p> <p>Community outreach</p> | <p>Greater credibility</p> <p>Use of partner outreach channels</p> | None disclosed |
| Technical Implementation | Replicated utility program | Replication of a successful energy efficiency utility program | None disclosed |

The Community of Vashon, Wash.

The last community examined by the authors was Vashon, Wash. This example portrays a community that desired to become more energy efficient but did not initially partner with their utility, Puget Sound Energy (PSE). It includes a summary of unique challenges that the community faced in implementing an energy efficiency program on their own. The findings below are drawn from an interview with a community member of Vashon who would have played a key role in the project if it had progressed.

Community Background

Vashon is a small, unincorporated island community located in the Puget Sound near Seattle. Vashon is primarily a residential community but includes some businesses, agriculture, and vacation homes. In 2005, members of the community group, Sustainable Vashon, completed a study that concluded that energy efficiency in buildings could be enhanced by over 70% (Brown et al. 2005). To reach this goal, Sustainable Vashon decided that a comprehensive effort with dedicated funds would be needed.

Partnership Structure and Roles

Unlike Palm Desert and Whatcom County, Sustainable Vashon initially decided to carry out the effort independently of their utility or governing body for reasons described below.

Financial

Financially speaking, Sustainable Vashon could not turn to their governing body or their utility for dedicated financial support. As an unincorporated community, Vashon did not have any means to use local tax dollars on the effort and countywide tax dollars could not be dedicated to the individual community. In addition, while community members could participate in any of the Puget Sound Energy (PSE) energy efficiency programs, the utility could not allocate additional resources for a single community for fairness purposes at the time Vashon developed its initiative. In addition PSE energy efficiency efforts have to pass a cost effectiveness test, and members of the community believed that such a massive effort would not be considered cost effective under regulatory guidelines (Van Holde 2010; Seattle Times Staff 2006). Because members of Sustainable Vashon knew they needed substantial funds dedicated to energy efficiency, community members tried, unsuccessfully, to create their own public utility district (PUD) to levy public funds for energy efficiency. Community members ultimately voted down the PUD concept because they had a number of concerns including potential property tax levies (Washington Research Council 2006; Seattle Times Staff 2006). Without additional funds that could be used to focus energy efficiency efforts in Vashon, the community did not have the necessary funds to pursue their goal of trying to reach net zero energy use.

Marketing

In hindsight, Vashon community members reported that the community lacked other items needed to implement an energy efficiency program besides funding. To start, community members and others feared that outreach efforts would be hampered without PSE actively supporting their initiative (Van Holde 2010). For example, individuals could receive different messages from their utility and from the community, thereby confusing individuals and potentially decreasing the importance of the Sustainable Vashon's marketing efforts.

Technical

In addition, the community member spoken to reported that the community did not have access to technical data from the utility. For example, Sustainable Vashon did not have easy access to facility-level utility data, which would be required to track energy use over time. In addition, the community member stated that Sustainable Vashon did not have expertise in managing auditing and financial incentive programs. Thus there would be a learning curve, which could be minimized if Sustainable Vashon could partner with their utility in implementing the initiative (Van Holde 2010).

Outcomes

Key attributes, benefits, and challenges associated with the Vashon community experience are summarized in Table 3. The Vashon effort to reduce energy use by 70% was hampered by not having dedicated funds, coordinated marketing, and limited technical data and expertise. Because the community did not approve the energy efficiency PUD, community members re-examined how they could motivate the community to reduce their energy use. The Vashon community created a new organization called WisEnergy, which is now partnering with PSE in a similar way that PSE partnered with Whatcom County. Following abandonment of the PUD, PSE hired new staff to focus outreach efforts to community groups such as Vashon and WisEnergy. As a result, PSE is offering technical expertise and a grant to the community to perform energy efficiency implementation efforts, primarily for residential facility energy assessments. The Vashon community member that the authors spoke to hoped that the strengthening relationship between PSE and Vashon will allow some initial barriers that Vashon planners faced when considering how to implement an energy efficiency program to be overcome, such as accessing utility data and alignment of marketing materials. In addition to utility support, Vashon also sought additional funds from the State, through ARRA, and is actively working with State Congressmen to pass a statewide financing program for energy efficiency upgrades.

Table 3. Vashon Summary

| | Description | Reported Benefits | Reported Challenges |
|---------------------------------|--|-------------------|---|
| Partnership Structure | <u>Utilities:</u> (NA) <u>Community:</u> Sustainable Vashon | (NA) | (NA) |
| Financial Channels | Unsuccessfully sought to levy funds from a proposed energy efficiency utility district | (NA) | No municipal funds County/state funds unavailable due to equity issues Utility funds unavailable due to equity issues |
| Marketing Activities | (NA) | (NA) | Lacked a consistent message |
| Technical Implementation | (NA) | (NA) | Lacked expertise in delivering energy efficiency programs |

Conclusions

This paper documented three communities seeking to engage community members in energy efficiency initiatives. With more communities formally engaged in energy efficiency

through the latest ARRA developments and other grants, it becomes increasingly important to study lessons learned from prior experiences in order to understand trends and best practices. This paper highlights some of the benefits and challenges from community-utility partnerships. The communities studied in this paper embody different partnership experiences, with two communities actively working with their utilities and another community acting independent of their utility. The key findings can be summarized as follows:

- **Coordinating a comprehensive set of energy efficiency services.** In the two cases where a community-utility partnership was forged, stakeholders reported the partnership was beneficial because it offered a comprehensive set of services, which would have been unavailable if the community or utility was acting in isolation. While challenges exist when coordinating with multiple partners, they can be addressed through leadership and communication.
- **Making use of diverse funding channels.** All of the communities required dedicated financial support. The community-utility partnerships brought specialized pools of money together from multiple and diverse sources to fund the effort. Without dedicated funding sources, the one community who did not partner with their utility did not have enough resources to carry out their own initiative.
- **Collaborative marketing opportunities.** Stakeholders from the two communities that partnered with their utilities said the mutual effort provided a greater opportunity to market the initiative. The community that did not partner with their utility said that if their initiative progressed, they would have lacked a consistent message across the utility and community.
- **Reliability of utility technical expertise.** The two communities that partnered with their utility were able to rely on utility experience in delivering energy efficiency. The one community that did not partner with their utility mentioned that they lacked experience to delivery energy efficiency programs.

These community profiles illustrate that coordinated services, diverse financial channels, collaborative marketing activities, and technical expertise each play a role in community-utility energy efficiency initiatives. Researchers can apply these attributes across a larger sample of communities in future studies. This type of research can be used to better understand how future community-utility partnerships can be forged and managed effectively.

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