Are your programs living up to their potential?

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ABSTRACT

This paper describes an innovative approach used in a recent program evaluation conducted on Hawaii Energy during its first year of operations, Program Year 2009 (PY2009), from July 1, 2009 through June 30, 2010. It is common for evaluators to rely on secondary data to inform the evaluation approach and to fill in gaps of primary research. This effort was unique in the priority placed on utilizing secondary data throughout the evaluation – particularly potential study data – and the ability of the evaluation team to successfully combine it with the primary data collected by the evaluation (e.g., participant telephone and on-site surveys) to support the major study conclusions. The study conclusions could then be presented in the appropriate context and provide important insights and answer pressing policy decisions. This unique approach leads to a particularly efficacious use of evaluation resources and could be a model for other states and regions struggling with where to focus evaluation efforts as markets are increasingly penetrated with energy efficiency measures and the causes of that penetration are increasingly complex and interrelated.

The paper presents evaluation results that highlight the value gained by program implementers, planners, evaluators and policymakers from this unique evaluation approach. The paper also documents the policy context that allowed for effective coordination and cooperation among stakeholders and flexibility for evaluators that was key to the success of the evaluation.

Introduction

This paper describes an innovative approach used in a recent program evaluation conducted on Hawaii Energy during its first year of operations, Program Year 2009 (PY2009), from July 1, 2009 through June 30, 2010. The evaluation verified program impacts, assessed program processes, and included a comprehensive market assessment. In particular, we combined evaluation and market research results with potential study data to provide concise, actionable feedback on program progress across market sectors and measures. The findings were used to inform recommendations that will better align the program with its short-term energy savings goals and the state's ambitious long-term strategic and policy goals. This was particularly important for a set of programs fielded by a new implementation contractor charged with achieving aggressive, highly visible savings goals.

Background

In 2006, the Hawaii Legislature authorized the state's Public Utilities Commission (PUC) to transfer the existing demand side management surcharge collected by Hawaii's electric utilities to a third-party administrator. The transferred surcharge would be called the Public Benefits Fee (PBF) and would be used by the contracted third-party administrator to manage and deliver energy efficiency and demand side management programs and services under the oversight of the PUC. By Decision & Order # 23258 (Docket No. 2005-0069) dated February 13, 2007, the PUC established a PBF to promote the development of programs and services that increase energy efficiency, reduce electricity consumption and demand, and ultimately decrease Hawaii's dependence on imported fossil fuels. In 2008, the PUC took further actions to direct Hawaiian Electric Company (HECO) and its subsidiaries, Maui Electric Company (MECO) and

Hawaii Electric Light Company (HELCO) (collectively the HECO Companies to begin collecting a PBF surcharge.

On September 18, 2008, the PUC issued a competitive Request for Proposal soliciting proposals for a Program Administrator for the Hawaii Energy and Efficiency Program. Science Applications International Corporation (SAIC)[1] was selected to administer the PBF through 2013, with an option to extend, by mutual agreement for an additional three year period. SAIC, as program administrator for Hawaii Energy, is strategically placed as a central energy efficiency player in Hawaii and has been involved with many simultaneous activities during PY 2009, in addition to the implementation of the existing Hawaii Energy offerings, including the following.

- American Recovery and Reinvestment Act (ARRA) funding – Hawaii Energy was responsible for administering nearly $7 million in federal ARRA grants beginning in the second half of 2009. These funds were used to create an appliance trade-in program that swapped older, less efficient units for new Energy Star models.
- Energy Efficiency Portfolio Standards (EEPS) and Integrated Resource Planning (IRP) – The PUC called on Hawaii Energy to be an active party in the dockets for EEPS and IRP.
- Hawaii Clean Energy Initiative (HCEI) steering committee member – The HCEI is a collaborative effort between the State of Hawaii and the U.S. Department of Energy (DOE) focusing on transforming the energy sector of Hawaii to a clean energy economy based on 70 percent clean sources by 2030.
- Other roles – Membership/support for the Hawaii Energy Policy Forum (HEPF) and the HCEI End-Use Efficiency Working Group (EUEWG).

Program Overview

The goals for the first year of program operations included the successful transition of the programs from the HECO Companies. The goals also were to offer new programs that supplement the existing program components, engage local stakeholders, launch outreach and marketing, and streamline management and information technology systems.

The PY 2009 Hawaii Energy portfolio consisted of eight programs, with four programs targeting the residential sector and four targeting the non-residential sector. The programs represented a continuation of those offered by the HECO Companies in previous years, and included:

- Energy Solutions for the Home (ESH). Provided prescriptive incentives to residential customers who purchased and installed energy efficiency measures that met or exceeded Energy Star standards. Rebates for high efficiency ceiling fans, clothes washers, dishwashers, air conditioners (ACs) and AC maintenance, refrigerators, and window ACs were provided through an application process. Rebates were not provided for compact fluorescent lamps (CFLs), which had retailer point-of-sale price reductions.
- Residential Efficient Water Heater (REWH). Provided rebates to homeowners, apartment owners and tenants, and military housing agencies replacing existing water heaters with solar and high efficiency hot water heaters. Delivered through solar installation contractors and promotion by retailers.
- Residential Low Income (RLI). Enabled qualified low-income single-family customers to receive installation of CFLs and high efficiency water heating measures at no cost to the customer. Delivered by a network of Community Action Programs and Economic Opportunity agencies.
- Residential New Construction (RNC). Provided rebates to new home builders for solar water heaters (through December 31, 2009), high efficiency electric water heating with peak load timer devices, and Green Homes bundled measures.

[1] In Jnauary 2010, the PUC's contract with SAIC was assigned to R.W. Beck. Inc.

• Commercial and Industrial New Construction (CINC). Provided technical project assistance, financial incentives, and training opportunities to building owners and design teams for new construction and major renovation projects to reach highest achievable energy efficiency levels. Application forms were made available to customers, developers, architects, and engineers.

• Commercial and Industrial Customized Rebate (CICR). Provided custom financial incentives based on calculated savings to commercial, institutional, governmental, and industrial sector customers.

• Commercial and Industrial Energy Efficiency (CIEE). Provided prescriptive incentives for measures including high efficiency lighting; heating, ventilating, and air conditioning (HVAC); and appliances to commercial, institutional, governmental, and industrial sector customers. Rebate application forms were made available to customers and their channel allies.

• Commercial and Industrial Efficient Water Heating (CIEWH). A new program addressing non-residential solar water heating projects with limited activity during Program Year 2009.

Evaluation Overview

Evergreen Economics[2] is currently under contract with the Hawaii Public Utilities Commission to conduct a comprehensive multi-year evaluation of the Hawaii Energy Efficiency Program. The evaluation team includes Energy Market Innovations, Michaels Engineering, SMS Research, InSynergy Engineering, ECONorthwest, Dr. Robert Wirthshafter and Dr. Phil Willems. The results of this analysis serve to meet requirements of SB 3001 (2008), Hawaii Revised Statutes §269-124. During the 2010 calendar year, we conducted extensive research on Hawaii's residential and non-residential sectors to evaluate the effectiveness of the program, assess the state's energy efficiency markets, and estimate energy savings.

Approach

The evaluation was conducted on programs that had just transitioned administration and implementation. The context allowed for a high degree of cooperation among stakeholders and was not constrained by stringent evaluation protocols. The state's history of demand-side management allowed for access to a wealth of historic evaluation and market data. In parallel with the extensive primary data collection efforts, we aligned the secondary data with the primary research to support a comparison of evaluation results with previous estimates of potential by sector and measure.

We collected extensive primary data to support impact evaluation, process evaluation and comprehensive market assessment. We collected, analyzed and identified caveats in secondary data including energy consumption data, potential study analyses and prior program evaluation, policy and planning documents.

Primary Research

We conducted primary data collection during the summer of 2010. As Table 1 below shows, we conducted nearly 3,000 telephone surveys, 175 in-depth interviews, and more than 200 on-site surveys to support the impact, process, and market assessments. For residential participants, the sample design achieved 90/10 sampling precision. For non-residential customers, we contacted all 228 participants to recruit for phone and on-site surveys.

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[2] The analyses for this paper were primarily conducted by Evergreen Economics staff while employed at ECONorthwest. The principle staff that worked on this project at ECONorthwest are currently employed by Evergreen Economics. In December 2009, the PUC contracted with ECONorthwest in response to a competitively issued Request for Proposals for an EM&V contractor for the Hawaii Energy Efficiency Program. InFebruary 2011, the PUC's contract with ECONorthwest was assigned to Evergreen Economics.

Table 1. Primary Data Collection Summary

Customer Group	Participant Phone Survey	Non-participant Phone Survey	Participant Site Survey	Store Visits	In-Depth Interview	Invoice Audit	File Review
Residential	800	1,200	156		0		
Non-residential	144	604	79		60		73
Lighting retailer				14		14	
Trade allies					115		
Totals	944	1,804	235	14	175	14	73

Secondary Research

We reviewed a number of secondary sources to support our evaluation, including prior Hawaii energy efficiency program evaluations and regulatory filings, energy efficiency studies from other states and regions, Census and geographic data, Hawaii potential studies, Hawaii population energy consumption data, and Hawaii Energy program materials and documents.

Prior Hawaii Energy Efficiency Evaluations and Regulatory Documents. We obtained and reviewed information about the HECO Companies programs that were operating in Hawaii prior to Program Year 2009 to inform our evaluation.

Census and Geographic Data. To prepare the maps in the market characterization, we used U.S. Census data and other geographic information system data resources for the state of Hawaii.

Hawaii Potential Studies. We reviewed energy efficiency potential studies conducted for Hawaii to inform our market characterization:

- A 2004 study by Global Energy Partners (GEP 2004), updated in 2008 (GEP 2008) that estimated maximum achievable potential by 2019 by sector and end use (we scaled these results to actual 2009 usage for comparison purposes)
- A 2010 study by Booz Allen Hamilton (BAH 2010) that updated and expanded upon the study listed above, focusing on six sectors that account for 62 percent of Hawaii's energy usage

Because the BAH study only addressed six high usage sectors, we based comparisons to other sectors on the GEP study. Before comparing program savings to those projected by the potential studies, we determined the distribution of both participants and non-participants by business sector (defined by the SIC/NAICS code assigned to the accounts in the Hawaii utilities' customer information systems). Neither the GEP nor the BAH study specifically addressed two sectors that accounted for a significant share of program savings: military non-residential and other non-residential. As a result we had to compare program savings for these sectors to a portion of the "other non-residential" savings estimated by the potential studies. Note that these comparisons were not designed to be used as hard performance indicators, but were meant to provide an indication of the program's relative success by sector as well as problems that could arise down the road because much of the potential has already been tapped.

In the process of comparing actual program savings to the potential identified in the two studies, we worked closely with BAH to understand how their estimates of potential were determined. We learned, for example, that estimates of potential assumed that most large office buildings had already converted from T12 to T8 lighting. Hawaii residents and businesses pay relatively high electricity rates and as a result many businesses have already taken many of the low cost energy efficiency measures such as installing T8s. Much of the potential for future savings in the large office sector was estimated to come from air conditioning. That said, we did not conduct a more detailed analysis to confirm the validity of the potential study estimates; nor did we carefully examine the comparative levels of technical, economic and achievable potential by sector. Instead, we used the potential estimates as a benchmark to determine what percentage of savings had been achieved.

Hawaii Population Energy Consumption Data. We analyzed Hawaii population energy consumption data that was provided by the HECO Companies, via Hawaii Energy, on March 19, 2010. The dataset contained customer information and billing data for all customers between December 2006 and March 2010. We used these data to inform our non-participant sample designs and to update the energy efficiency potential study estimates.

Hawaii Energy Program Information. We reviewed the Hawaii Energy PY2009 plan and annual and monthly reports to gain an understanding of the program design and its operations. (R.W. Beck 2010a, 2010b) We also periodically visited the Hawaii Energy website and joined its mailing list. We reviewed information from Hawaii Energy about the Hawaii Clean Energy road map and the program's administration of federal stimulus (ARRA) funds. We supplemented this information with interviews with key Hawaii Energy program staff from R.W. Beck and Honeywell.

Outside Hawaii Energy Efficiency Studies. We reviewed a number of studies that were conducted at the national, state, or regional level outside of Hawaii to inform the market characterization:

- Energy Star appliance sales figures by state from the U.S. Environmental Protection Agency (DOE 2010b)
- National CFL market profiles – each year D&R International prepares a profile of the CFL market, including sales and market share estimates (D&R International 2010)
- Various CFL industry papers and studies – we reviewed key papers and studies on CFLs from the IEPEC and ACEEE conferences as well as recent evaluations conducted in California and the Northwest (Moorefield 2010; KEMA & ECONorthwest 2010)
- Rankings of state energy efficiency activities from the American Council for an Energy-Efficient Economy (Molina et al. 2010)
- Rebate levels from other regions from the Database of State Incentives for Renewables and Efficiency (U.S. DOE 2010a)
- Program evaluation reports posted at calmac.org, energytrust.org, nwalliance.org, and neep.org

Evaluation Results

The purpose of the market assessment was to determine the relative effectiveness of the program in achieving savings in specific residential and non-residential markets and with specific measures. We knew that Hawaii Energy had consciously focused on lighting as an end use offering significant savings potential. They also recognized that residential customers, who account for 40 percent of usage, would be likely to provide more than their share of lighting savings. Across all sectors, residential customers accounted for almost 60 percent of savings, and residential plus military savings accounted for more than 75 percent of the

total, with military comprising both residential (e.g., on-base housing) and non-residential (e.g., on-base office) applications (see Figure 1).

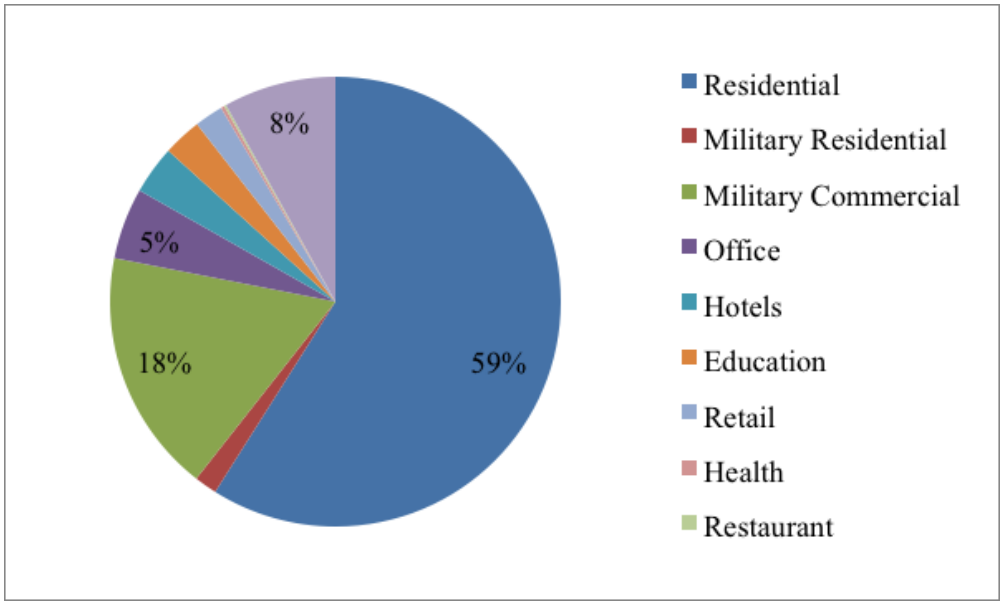

Figure 1. First-Year Savings by Sector, Program Year 2009

In analyzing savings by end use across both residential and non-residential participants, we found that lighting measures accounted for about two-thirds of total savings, as shown in Figure 2. CFLs alone represented 44 percent of total savings, highlighting the pivotal role played by this technology in both the residential and non-residential 2009 programs. (Note that Residential Low Income measures, which accounted for six percent of savings, are almost exclusively also CFLs. So overall CFLs represents 50% of the total savings). No other individual end use accounted for more than 8 percent of savings.

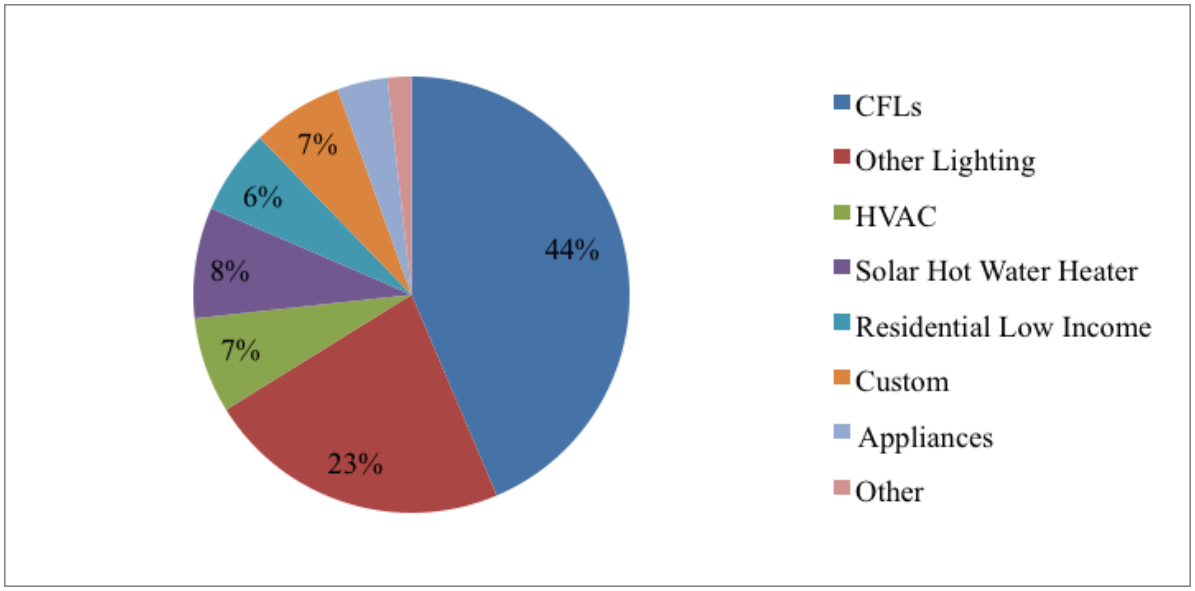

Figure 2. First-Year Savings by Measure, Program Year 2009

To get a sense of how far the program has penetrated targeted markets, both by sector and by end-use, we compared program savings to the achievable savings potential estimated by the studies cited above. As noted previously, both studies provided estimates of potential relative to 2009 baseline usage by end use and market sector, which we adjusted based on actual consumption during the 2009 Program Year and then compared to program savings. Although the resulting estimates provide only a rough measure of market penetration, they are useful for indicating whether the program is allocating its resources effectively or whether it may need to shift its focus or assign more support for some markets/measures.

The comparison of savings to potential found that residential savings were about nine percent of the potential identified in the BAH study, but that non-residential savings were less than five percent of the potential for each non-residential sector except office, education, and military, as shown in Figure 3. For the military sector in particular, savings as a percentage of potential indicates that the program was very effective in identifying and exploiting opportunities in this market but that additional savings are likely to be much more difficult to achieve in the future. The military sector has stringent energy codes and for residential military housing the developers pay for energy usage and they build highly efficient homes.[3]

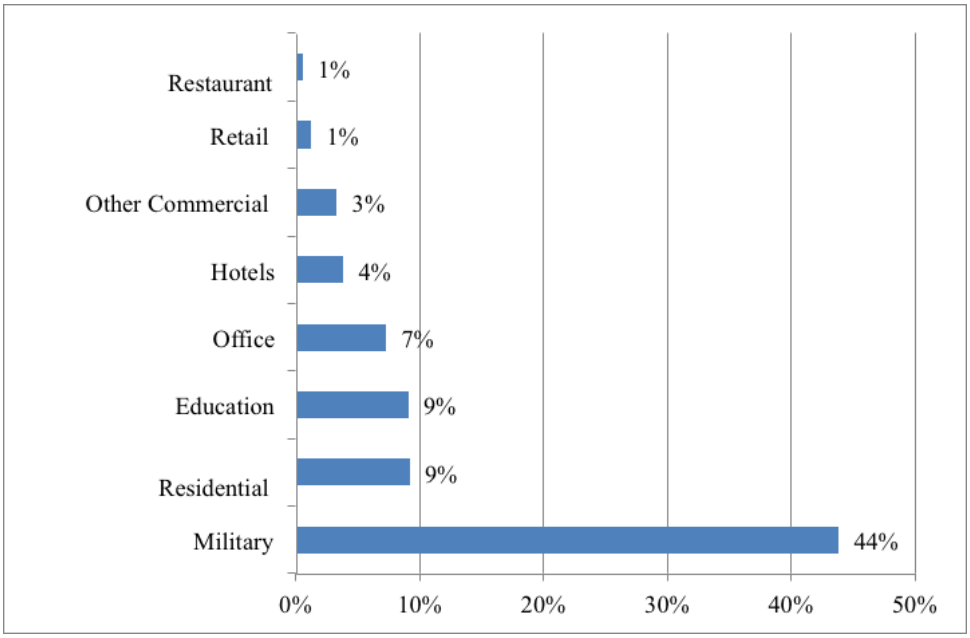

Figure 3. First-Year Savings as Percent of Potential by Sector, Program Year 2009

In a similar analysis illustrated in Figure 4 we compared program savings to potential for both residential and non-residential sectors by measure and found that savings were more than 20 percent of the potential for lighting identified in the BAH study, which is impressive when recalling that potential estimates used a timeline of more than 10 years. On the other hand, program savings were three percent or less of the potential for HVAC and all other measures considered across market segments. This result highlights an excessive dependence on lighting and a relative neglect of the potential offered by other measures.

These findings are not atypical among energy efficiency programs, which tend to start with the most cost-effective savings measures such as lighting. However, programs such as those in operation in Hawaii that have aggressive long-term savings goals need to set the stage for achieving savings from other less cost-

[3] The Hawaii Energy program is supporting a sub-metering initiative for military residents to pay their electricity bills to encourage conservation behaviors, providing information and education.

effective technologies. Based on Hawaii Energy's program savings estimates, residential lighting costs less than $0.01 per kWh of savings versus $0.015 for appliances and cooling measures and nearly $0.03 for solar water heating[4]. A similar result is found on the commercial side, with lighting measures costing half as much per kWh of savings compared to HVAC and other measures.

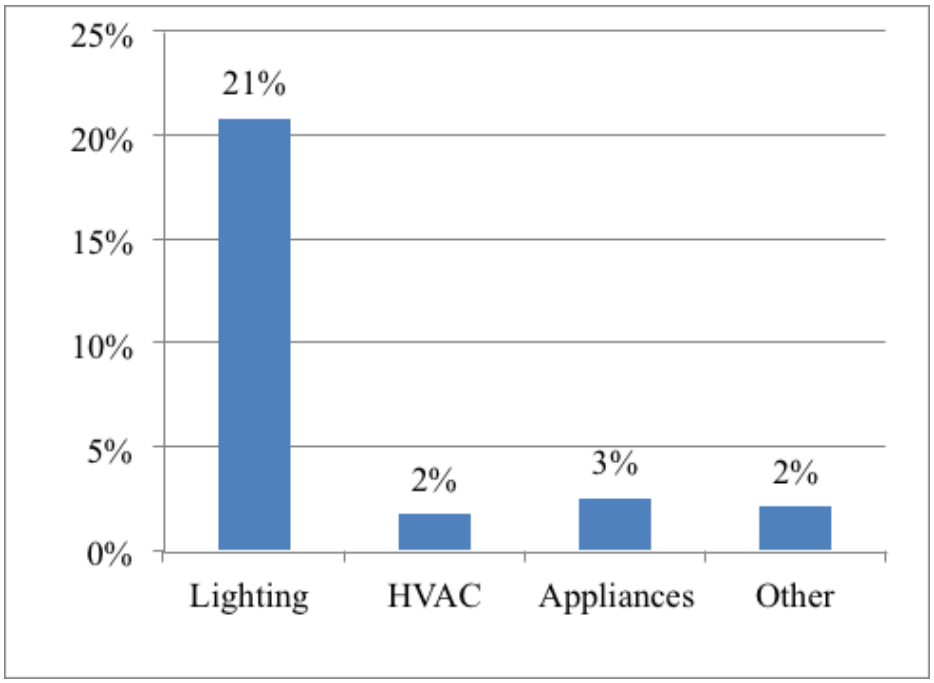

Figure 4. First-Year Savings as Percent of Potential by Measure, Program Year 2009

Residential Sector Market Assessment

The current residential portfolio is dominated by CFL lighting, accounting for 20 percent of the rebates and 78 percent of the first-year energy saving estimates[5]. Solar water heating accounts for another 57 percent of the rebate dollars and 11 percent of first-year energy savings.

Dependence on these two technologies is understandable. Lighting is the dominant technology in every residential program across the United States, while solar water heating provides an opportunity to lock in energy savings for decades. The previous utility-based efforts emphasized these two technologies, and their emphasis is logical policy in this year of transition.

As the program matures, Hawaii Energy will need to expand its portfolio of measures and the share assumed by these other measures in reaching overall program goals. Dependence on lighting and solar water heating will not continue indefinitely, as some sub-sectors of the residential market are reaching the saturation point. In addition, federal legislation to require higher efficiency levels for general purpose lighting will reduce potential energy savings from CFL installations.

Non-Residential Sector Market Assessment

Lighting was the major contributor to non-residential sector program savings, which were highly concentrated by sector (military non-residential, hotels, offices) and technology (T8s and CFLs). Although

[4] Though when solar water heater lifetime is taken into account, it becomes more cost-effective relative to CFLs.
[5] Lighting accounts for a smaller proportion of lifetime savings since CFLs have shorter average lifetimes than solar water heaters and HVAC equipment.

reliance on non-residential lighting to achieve program goals is common, there are problems associated with concentrating in a few business sectors and technologies:

- Reliance on sectors with relatively few, large customers (military, hotels/resorts, large offices) allows energy savings goals to be met without building infrastructure to reach other markets. Because direct program contact with targeted decision makers can yield significant savings at large facilities, program goals that are based purely on energy savings can be met without developing the infrastructure that would support a trade ally driven program.
- Very high penetration of the non-residential military and office sectors relative to the total potential estimated by previous studies suggests that similar lighting savings will be more difficult to achieve in the future.
- Although Hawaii Energy has reached out to contractors to help deliver its programs, relatively few trade allies deliver the bulk of lighting installations and the broader market of potential trade allies has had only limited involvement with the program.
- Measures that account for 67 percent of savings – regular T8s and CFLs – are well on their way to becoming standard practice.

HVAC savings were about one fourth those from lighting, and were less than 2 percent of the 2019 HVAC maximum achievable potential, ranging from less than 1 percent for most sectors to 6.5 percent for education and 11.7 percent for military non-residential. HVAC savings appear to have been achieved by working with a limited number of customers and trade allies in the military, education, and large office sectors, making such savings more difficult to replicate in sectors with less concentrated decision making.

Savings from custom and other measures were concentrated in the military non-residential and other non-residential sectors, with low-e windows in military non-residential new construction projects representing a significant share of these savings. Window film projects, which accounted for about 10 percent of custom and other savings, were concentrated in the medium office sector. Window film contractors are generally aware of the program but say there is little interest because incentives are relatively low.

Evaluation Conclusions

Hawaii Energy, with the cooperation of the HECO utilities, did a commendable job transitioning the program. The data transfer was accomplished quickly with little interruption, and programs underway were effectively absorbed into the new organization and were administered as they had been under the old management with little disruption.

The program is heavily dependent on lighting measures for both residential and non-residential sectors.

To meet the long-term goals set forth by the state in the Hawaii Clean Energy Initiative, Hawaii Energy needs to build its portfolio to include more non-lighting measures and expand its outreach and support to get these measures adopted on a wider scale. Program activity is concentrated such that a minority of firms and households are participating and a few sectors, particularly the military, account for a disproportionate share of all activity. To reach long-term goals, the program must soon develop strategies to reach firms and households that have not traditionally participated.

Moving into Program Year 2010 (PY2010), which runs from July 1, 2010 to June 30, 2011, Hawaii Energy has proposed a number of program changes and new initiatives that should help expand the program offering. These changes are positive steps that reflect a recognition of SAIC/RW Beck's role in expanding the portfolio. The changes for PY 2010 changes include:

- A refrigerator recycling program
- A direct install lighting program
- A policy change that limits rebates for air conditioners to replacement units only

- The addition of solar attic fans and whole house fans as rebated measures
- Tiered incentives for custom non-residential projects
- Pilot programs to address solar water heater maintenance and central plant optimization

The impact of these initiatives will be closely monitored over the next year.

Conclusions

It is common for evaluators to rely on secondary data to inform the evaluation approach and to fill in gaps of primary research. This effort was unique in the priority placed on utilizing secondary data– particularly potential study data – throughout the evaluation and the ability of the evaluation team to successfully combine it with the primary data to support the major study conclusions. For example, the team hypothesized that the future potential for lighting measures and for savings in the military sector was likely being met faster than the other measures and sectors based on anecdotal evidence. For lighting measures, the participant on-sites found a relatively high saturation rate of CFLs and T8s. However, the evaluation did not include comprehensive on-site surveys to provide market saturation data. The participant on-sites likely represented residents and businesses that were more likely to install energy efficiency measures. The potential study data (that incorporated saturation data, measure lifetime and savings data with analysis of technical and market potential) provided the necessary supporting evidence that indeed the program was tapping the remaining lighting measure potential at a much faster pace than other measures. Likewise for the military sector, the evaluation team was aware of stringent military energy codes that were in place that surely must limit the remaining potential. However, we did not measure energy efficient equipment installations among military residential and commercial sites and we could not conclude without the secondary potential and consumption data whether the program was tapping the remaining military sector potential too quickly.

The policy context was a key component of this effort that allowed for effective coordination and cooperation among stakeholders and flexibility for evaluators. The program and evaluation contract managers worked closely to ensure that efforts were coordinated. These same contract managers also support the PUC with the broader initiatives that are underway in Hawaii, with the Hawaii Clean Energy Initiative as the unifying backdrop. The PUC has allowed a great deal of flexibility in the evaluation, allowing evaluators to focus on strategic issues and to devote resources in an effective and efficient manner. The timing of the program implementation and evaluation has also been well planned, with the evaluation lagging the program by about six months with few if any delays in contract execution and approvals. Key staff from program implementation, planning, regulatory, evaluation and stakeholders convene at least quarterly to share results and to facilitate effective coordination and collaboration. A key benefit of this approach was that the PUC, who is new to administering energy efficiency programs, was able to gain timely and useful feedback from evaluation that helped them make policy decisions.

One of the lessons learned during the implementation of this approach was that planning and evaluation work should be more closely coordinated to ensure useful comparisons of results. Specifically, potential studies should use the same sector and size definitions employed by utility billing data and program tracking systems to ensure results that are consistent with the sectors that the program and in turn, the evaluation, define. A key omission from the potential study used in our analysis was the military sector, to which the program paid a large fraction of rebates and accrued a large proportion of its energy savings. We were able to use consumption data from the utility and a prior potential study to fill gaps in the absence of conducting costly comprehensive residential and commercial saturation surveys; however, we felt that our results were better suited for broad interpretation than detailed conclusions. As such, we relied on the evaluation team's market assessment findings to sanity check our results and corroborate the findings. For

example, we reviewed trade ally and program staff feedback regarding the high degree of military sector saturation. Likewise, we reviewed the CFL saturation data that we collected to validate the high penetration of lighting measures. Without the primary research, we would not have felt confident incorporating the results of the potential study analysis at the measure and sector level in the evaluation.

Ultimately, the integration of the potential study data helped to substantiate the underlying evaluation story that on the one hand, the program achieved dramatic success in capturing market potential in some markets and sectors; but on the other hand, that same success left limited potential for future savings in those sectors, while the infrastructure needed to attain a larger share of potential in other sectors had not been adequately developed. The approach also helped to tie together the planning and evaluation work, answering some of the key policymaker questions within the context of the evaluation saving time and resources.

Recommendations

We offer the following recommendations:

- Consider integrating potential study data with program participation and consumption data to provide a more complete context for interpreting evaluation results and to prioritize and reinforce evaluation conclusions.
- Use market data to substantiate the findings since often planning and evaluation work are intended for different purposes and may not be internally consistent.
- Caveat the results to ensure the appropriate take aways – e.g., encourage the audience to use the results to support broad conclusions and to provide useful context for program planning.
- Set expectations such that the client does not expect an updated potential study – instead, an integration of potential study data into the evaluation report.
- Integrate evaluation and potential study/program planning efforts if possible – at least make sure that the data and results are comparable (e.g., using common definitions for sectors/market segments).
- Understand and note the specific assumptions that drive the results of potential studies – notably the assumed current and future penetrations of specific end uses and technologies – to ensure that evaluation findings make sense
- Update potential studies and the underlying data periodically to revisit how evaluation findings fit into program planning – in coordination with evaluation if possible.
- Foster a supportive, cooperative and flexible regulatory context that encourages collaboration and innovation, and regularly convene regulators, evaluators, planners, implementers and stakeholders to facilitate an effective working relationship and information sharing.
- Coordinate the timing of key evaluation, implementation and planning work products to ensure effective collaboration.
- Ensure that programs that are intended to achieve aggressive long-term savings targets do not focus solely on highly cost-effective measures in the early years. Such programs must allocate resources early on to laying the groundwork to achieve savings for less cost-effective measures, such as by developing trade ally networks and building market infrastructure.

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