PROCESS EVALUATION OF SELECTED CALIFORNIA 2005 DEMAND RESPONSE EDUCATION, AWARENESS AND OUTREACH PROGRAMS

Submitted by:

Summit Blue Consulting, LLC
1766 Lacassie Ave., Suite 103
Walnut Creek, CA 94596

Project Managers:

Patricia Thompson
pthompson@summitblue.com
925.935.0270

Kevin Cooney
kcooney@summitblue.com
720.564.1130

Contributing Authors

Nicole Wobus, Summit Blue Consulting

Mark Thornsjo, Summit Blue Consulting

Bill LeBlanc, Boulder Energy Group

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This report was the result of group effort within Summit Blue and its team members. Although all team members contributed to the preparation and writing of this report, we would like to call special attention to the specific and additional contributions of the team members: *Nicole Wobus,* who spearheaded the substantial applied literature review and; *Mark Thornsjo,* who developed the survey and interview guides and provided an experienced voice regarding administration of utility programs, *Bill LeBlanc* of Boulder Energy Group, who led many of the focus groups used in this project and diligently debated marketing theory with the rest of the team; and *Professor Andrew Isaacs* who reviewed preliminary results and suggested alternative frameworks for identifying actionable recommendations.

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EXECUTIVE SUMMARY

This executive summary highlights the key findings and recommendations from the process evaluation of the Education, Awareness, and Outreach Programs for SDG&E, SCE, and PG&E. The programs include a portfolio of efforts at various stages of development. The unifying theme of the programs is their focus on increasing consumer awareness and educating consumers about demand response (DR) program opportunities and strategies for curtailing load during periods of peak demand. In general, the programs are targeted to businesses with peak demands under 200 kW. However, programs targeting children, the general public, and large businesses are also included in this evaluation.

The PAC directed the Summit Blue team toward an *evaluation of the channels* utilized by the utilities in their outreach, education, and awareness efforts.[1] A channel in this context is the vehicle through which the utility sought to deliver their messaging. In this set of programs, various channels of different types (direct contact, government and trade channels) were utilized and engaged to help deliver messaging. The shift toward a focus on the channels was due to a consensus by the PAC at project kick-off that some of the programs were not ripe for an extensive end-user survey of customer satisfaction such as is often employed in evaluations of more mature programs. The following programs were included in this review:

<u>SDG&E</u>
- Community Partnership Program
- Peak
- Energy Orb

<u>SCE</u>
- Integrated Energy Efficiency/Demand Response Audit
- Local Community Demand Response Demonstration
- Institutional Demand Response Partnership Demonstration

<u>PG&E</u>
- CRWA Channel Specific Outreach
- Events: Clean Energy and Air Quality Exposition
- Walk, Knock, and Talk

Evaluation Methods

The project team identified a number of research issues important to understanding the effectiveness of each program effort to date. These research issues varied by program, and focused on two key areas; the *effectiveness of the message* in raising awareness and the benefits of that awareness, and whether the *channel was effectively engaged*, e.g. was access to the target audience achieved? Did the outreach materials match the needs of the channel? The evaluation approach was to apply qualitative interview, focus group and survey research techniques to understand how the information delivery channels utilized by the utilities' outreach and education programs was received, and to collect information on the effectiveness of the programs to date in relation to these delivery channels.

The evaluation was conducted on three coordinated tracks: a *direct contact* track, a *trade* track and a *government* track. These tracks correspond to the categories of channels used to increase awareness of DR among California electricity customers. Although these tracks played a significant role in how the research was conducted and data collection instruments were developed, it was *not* the evaluation's intent to grade the efficacy of an outreach to trades over outreach to government. Instead the tracks were used to

[1] The PAC then consisted of Bruce Kaneshiro, CPUC, David Hungerford, CEC, Kevin McKinley, SDG&E, Ed Lovelace, SCE and Susan McNicholl, PG&E.

reduce duplication of efforts in issue identification and research approach. Overall, the basic approach to the evaluation was to:

- Review program targets, program participant data, marketing methods and materials and collateral materials.
- Conduct a literature review to evaluate how messaging might be better designed or targeted in the future based on what could be understood from the current practice and knowledge in the EE/DR community, and then applying the literature review findings to the current evaluation's research issues
- Review existing internal evaluations by the utilities, such as the PG&E CEMP outreach survey and SDG&E's project close-out sheets.
- Conduct in-depth interviews with program and implementation staff, contractors, developers of technologies utilized and channel partners.
- Conduct focus groups with program intermediaries and customers. For example, intermediaries, such as utility representatives, were interviewed in a group setting on how a product or service may be more appropriately offered or positioned in the future. Customer focus groups included discussions of program messaging, with an eye to developing a better understanding of how messaging is received.
- A telephone survey of participating customers in SCE's Business Solutions (Palm-based integrated energy efficiency and demand response (EE/DR) Audit program.
- Presentation of interim results to a business expert in opportunity recognition at the Haas School of Business to discuss and refine the findings and implications of this research.
- Consider the viewpoints collected from each data collection activity with respect to the overall effectiveness of successfully delivering the DR message through the chosen channel.

Key Findings

The typical utility customer must move through several stages before taking action on demand response. These stages are the same basic ones that marketers must move any customer through in order to get them to buy their product: <u>*awareness* -> *knowledge* -> *preference* -> *action.*</u> In many cases, including energy efficiency programs, the focus is on the preference and action stages of this continuum. In the case of DR, the action would be to actively participate in a DR event. Since the education and outreach programs are primarily designed to increase *awareness and knowledge* regarding demand response, the effects tend be less measurable. But without first establishing awareness, no later *preference or action* is likely.

All of the programs in this review are carrying a relatively new message, and many are delivering that message through new channels. In addition to a core focus on small business customers, the programs included a broad range of programs targeting the general public, children, and large businesses. The unifying theme of the programs is their focus on increasing awareness and educating customers about demand response program opportunities and strategies for curtailing load during periods of peak demand. Many of the common threads uncovered during the course of the evaluation are endemic to new programs within large organizations. A few of the overarching findings, by issue area, include:

<u>Pilot & Utility Organization/Administration</u>
The organizational processes of the pilot studies must continue to evolve. Most pilots lacked a feedback loop to let the representatives that are carrying the EE/DR messaging know how they are doing. They also

failed to provide feedback to the channel once it was engaged (e.g., BOMA, Ontario, CRWA) to let them know how a channel effort was progressing. Additional ongoing training, check-ins, ride-alongs[2], or facilitation of meetings with community contacts would provide feedback that a channel may be missing some low hanging fruit, or where individuals have failed to comprehend the message, or need additional training to be effective.

On the utility side, the organization must continue to adapt to address DR issues and evolve practical strategies for DR. Often, the DR programs' innovator was a "one-man innovation shop" in a large organization. The innovators that attempt to carry projects alone or piggy-back efforts onto existing EE sales struggle with how to invent, proselytize, recruit, manage, and continue creating, all at the same time. These individual product/service champions need to be nurtured and supported in the organization.

<u>Timing</u>

Universally, all of the utilities' implementation staff and the contractors to which they outsourced specific program delivery functions feel they managed to do quite a bit in a very short amount of time. The utilities reported that receiving funding in March left little time to create marketing plans, bid, evaluate, staff, and implement projects prior to the summer peak. Some also reported that the lack of an established institutional framework for DR program support also contributed to difficulty in administering the programs.

<u>DR Terminology and Messaging Challenges</u>

The pilot efforts show that it is logical to pair EE and DR, because most customers desire one-stop shopping. Most reps will not lead with or get to a DR message when calling on customers because it is perceived to be the most complex and technical idea in their sales arsenal. Future efforts should tap the experience of field personnel to discover what works when designing communications about DR. Since DR programs and strategies appear to be heavy on complex details and light on financial benefits, it is a challenge for utilities to motivate businesses to take action.

A good example of this utility-centric messaging is in the EE/DR Audits, where representatives have been discussing the Summer Discount Program with small businesses. In this program "enhanced" AC cycling seems at first glance to refer to enhancements for the <u>*utility*</u>, not the <u>*customer*</u>. Similarly, on a semantic level the majority of end-user-representatives interviewed as part of this effort thought that the term "demand response" was confusing. Some believed the term referred to actions taken on the part of the utility - not the consumer. Simple, specific language is needed that makes it clear that the utility is asking for a shift in customer usage patterns during times of high energy demand.

<u>Market Segmentation</u>

Some of the efforts used traditional event approaches and some of the programs used canvassing techniques with customers that had never seen a utility representative in person before. The small business outreach initiatives almost universally suffered from three critical barriers:

- An unengaged market, where small businesses appear to be too busy and too bottom line oriented to respond to demand signals – moreover, some segments are very busy during peak times
- If they were interested, there isn't a clear value proposition to sell them on
- Some representatives are not convinced that small businesses are worthwhile demand response targets, and so even internal to the utility, DR is not yet sold across all customer segments.

[2] A ride-along is when the contracting utility goes out with the field representatives during the field efforts, in real time.

However, small businesses were pleased to receive attention and interest from the utility, and within more targeted segments, messages could be better tailored to the desired audience. Actual DR program offerings to the small business segment, which provide focused incentives and support for specific end-use energy and demand management actions, are few.

Effectiveness of Communication Methods and Materials

Trade associations and utility field representatives alike believe that brochures and print materials need to use less text and more images. Most small and medium businesses and residential customers will not take the time to read energy-related literature. Different materials should be developed for the different stages in the customers' decision process. For example early on, materials should be geared simply toward grabbing the audience's attention, by including testimonials from businesses within the target audience that have benefited from implementing DR behaviors, and then direct them to further resources. One option would be to shift the focus from providing information, to using the channels developed as a means of linking consumers with actual one-stop-shopping services and actionable programs. Such a shift would address the inability of current information-only programs to "close the sale." If more programs were available, there would be a more specific call to action. The phrase "all dressed up and nowhere to go" is perhaps an apt way to think about where information-only programs leave both utilities and customers.

Program specific effectiveness

As the evaluation team gathered information, some common metrics of effectiveness emerged. Table E-1 provides a quick snapshot of how each program did in regard the following factors:

- *Goals defined?* How well were program goals defined?
- *Target audience defined?* Was the target audience well defined? Is it an appropriate target for the goals of the program?
- *Access to target audience?* Does the program channel provide sufficient access to the target audience? Is it an appropriate channel?
- *Message content*? Is the content of presentations and brochures appropriate to the audience? Is it understood? Is it motivational?
- *Message delivery*? Are the materials and delivery methods effective? Is it the right presentation, format, and medium for this type of marketing and educational materials?
- *Customer/partner satisfaction?* If applicable, were the customers and/or partners satisfied with what the program achieved?
- *Program administration?* Was the program effectively supported from within the utility organization? Did it have the time and resources to adequately deliver the message and track activities?

Table E-1. Program Effectiveness in Key Areas

	SDG&E			SCE			PG&E		
	CPP*	PEAK	Orb	Audit	Community Demonstration (Ontario)	Institutional Demonstration (BOMA, SCAG)	CRWA	Events	Walk Knock and Talk
Goals defined?	●	●	◓	●	●	●	●	●	●
Target audience defined?	●	●	○	●	◓	◓	●	◓	◓
Access to target audience?	●	◓	◓	●	●	◓	●	◓	◓
Message content clear, understandable, and appropriate to target audience?	◓	◓	○	◓	◓	◓	○	○	◓
Message delivery effective?	◓	○	○	●	◓	◓	◓	○	◓
Customer/Partner satisfaction?	●	◓	◓	●	●	◓	◓	◓	◓
Program administration?	◓	◓	◓	◓	○	○	◓	◓	◓

* CPP = Community Partnership Program

KEY:

● = working well as currently implemented

◓ = potential for improvement, utility should consider making recommended changes in this area

○ = improvements in this area are critical to effective implementation of the program

Recommendations

Three types of recommendations were developed during the evaluation: overarching recommendations applicable to most of the programs (summarized below); specific program recommendations (see section 4.3 of the report); and recommendations for further research to enhance programs (summarized below).

Overarching Recommendations for Statewide Efforts

- Do not give up easily. To succeed in educating the public about demand response, as with any new concept, will require time and exposure before demand response takes hold.
- Coordinate statewide messages to avoid confusing customers and inundating them with potentially conflicting marketing collateral and materials.
- Print multilingual materials, especially Spanish and Asian languages.
- Since small businesses are such a difficult target market, creating a one-stop, simple-to-participate, simple-to-understand program would help reach these customers. This is true in particular for demand response programs that are naturally more complex than energy efficiency programs.

- Businesses could be grouped by type rather than by location, in order to hone in on the small businesses with the greatest load-shedding potential
- EE and DR are both seen as ways to lower energy bills, and EE and DR should be presented as part of a spectrum of options to help business customers manage their energy bills.
- Keep it simple! When first reaching small business customers with a DR message, materials should present simply-stated messages that are *customer-centric* and not utility-centric. The content should feature *testimonials* from businesses that have successfully implemented demand response strategies. These testimonials must be appropriate to the size and business type of a given audience, and are more effective if community leaders or small business owners speak about their DR experiences.
- Presentations and materials should promote *a few specific actions* that are customized to the specific small business sector. Those specific actions should include signing up for a DR program or directing the business to a specific resource to accomplish that action.
- General messages are not well received, and messages that are not applicable (such as lighting messages for water utilities) can be a negative.
- The key message for small businesses should be *financial savings* off the energy bill and control of their escalating costs due to rising prices. Secondary messages should be targeted by market sector if possible, and may include messages about avoiding blackouts, and helping the community.
- The message may be ahead of the offerings. It appears that there are not many program options for small businesses at this time, and it would be better to offer customers a choice of DR program opportunities that allow for participation at an appropriate level given their specific capability and desire.
- Set program regulatory approval filings and approvals on a schedule that enables utility staff to make timely program marketing and sales plans so that each program can be better developed and have a more timely effect in the market.
- Provide a technical “trouble shooter hot line” to answer questions regarding DR participation.

Recommendations for additional Research

- A detailed baseline study on understanding of and behavior around DR issues should be completed for the small business and residential market. Through such a market research study, changes due to utility efforts can be measured and their costs evaluated.
- Develop methods to track the effectiveness of education, and to allow combination and possible correlation of this information with the ultimate impact evaluation of getting DR sign-ups.
- It may turn out that the cost of gaining DR megawatts from the small business sector is too expensive compared to the cost of getting significantly more megawatts in the large customer sector. In other words, it is worth taking a close look at whether it’s cost effective going after the small business sector for true DR as opposed to efficiency.
- If small business DR outreach is to go forward, research should be conducted to develop a more thorough understanding of its unique challenges and work should be done to isolate the specific DR opportunities available to different types of small businesses (i.e. restaurants, florists, ice-cream shops, convenience stores, etc.) so that utilities can focus on promoting *specific behaviors and technologies* for each business type.

Many of the programs reviewed in this research effort show promise, though a few efforts were less successful and could be improved. The biggest challenges the programs face are the difficulty of preparing a compelling message around DR and the lack of administrative support in program delivery. For a detailed review of the programs, please see the report for the results of the Summit Blue team's research.

1. INTRODUCTION

This evaluation effort included a broad range of programs. The main unifying theme of all the programs is the focus on increasing consumer awareness and educating consumers about demand response program opportunities and strategies for curtailing load during periods of peak demand. The programs vary significantly in their stages of implementation and delivery mechanisms. In general, the programs are targeted to businesses with peak demands under 200 kW. However, programs targeting children, the general public, and large businesses are also included in this evaluation.

It is important to bear in mind that the education and outreach efforts that were within the scope of this evaluation support DR programs that are either very young or planned for implementation in 2006 and beyond. Therefore neither the outreach nor the DR programs themselves are likely to see large immediate effects or impacts.

Although this statement tempers impact expectations somewhat at this stage, it also highlights the importance of fine-tuning the understanding of how customers interact with the DR messaging and pilot programs early in the upcoming 2006-2008 program cycle. If efforts are to be successful at creating awareness that eventually results in a consumer purchasing preference for an EE/DR solution, outreach program efforts must effectively focus on key junctures in the consumer decision making process. The results of the evaluation of these education and outreach studies will contribute to an emerging body of research that will shed light on the true value of current programs, as well as strategies for increasing the effectiveness of education and outreach initiatives in the future.

1.1 Project Background

The Request for Proposal (RFP) let by the utilities stated that the overall goals of the process evaluation were to be:

- Identify key indicators of program effectiveness.
- Evaluate the effectiveness of program communication efforts and recommend ways to improve these efforts.
- Determine if messages have been put forth accurately, and whether consumers understand the messages being delivered.
- Provide a proposal on how efforts should be shaped in the future.

However, during the project kick-off meeting, on November 9, 2005 in San Diego[3], the Program Advisory Committee (PAC) overseeing this process evaluation shifted the focus toward an *evaluation of the channels* utilized by the utilities in their outreach, education, and awareness efforts. In large measure this was due to a consensus that some of the programs were not ripe for an extensive end-user survey such as is often employed in evaluations of mature programs. There was a consensus that statistical issues were less important than qualitative issues for this evaluation.

In response to the PAC's direction, the evaluation was conducted on three coordinated tracks: a *direct contact* track, a *trade* track and a *government* track. Although these tracks played a significant role in how the research guides were developed, e.g. it was suspected that similar concerns would be experienced by

[3] The November 9th kick-off meeting was attended in person or on telephone by utility implementation and evaluation staff. Also in attendance were PAC members, David Hungerford of the CEC and Bruce Kaneshiro of the CPUC, as well as the Summit Blue project team.. A summary of the kick-off is contained in the November 15, 2005, *Process Evaluation Project Kick-off Meeting Notes & Summary of Programs*.

governmental channels as compared to trade associations, these tracks were not used to develop an overall rating. It was not the evaluation's intent to grade the efficacy of an outreach to trade channels over governmental channels. Instead the tracks were used to reduce duplication of efforts in issue identification and research approach. Also, it was recognized that within each of these tracks, different channels were used by the three utilities. For example in the Government track, the SDG&E reached out to several cities in their territory using the Orb program, and SCE reached out to LA County and the City of Ontario.

Although the research issues varied by program, and two key themes were focused on; the *effectiveness of the message* in raising awareness and the benefits of that awareness, and whether the *channel was effectively engaged*, e.g. was access to the target audience achieved? Did the outreach materials match the needs of the channel?

The evaluation approach was to apply qualitative interview, focus group and survey research techniques to understand how the information delivery channels utilized by the utilities' outreach and education programs was received, and to collect information on the effectiveness of the programs to date in relation to these delivery channels.

1.2 Program Summary

Following are brief summaries of each of the programs covered in this evaluation. At the end of each summary the program is attributed to one or more *outreach channels: direct contact, trade or government channel.* In *direct contact channels* a utility representative or designee meets with a customer at their place of business or home. In *trade channels* the utility communicates their messaging through a trade intermediary or at a trade show-styled function. In the *government channel*, cities and quasi-governmental entities become the conduits though which information is released. Channel attribution is also included in the research methods section below.

1.2.1 SDG&E Programs

Community Partnership Program

Working with cities, community organizations, and trade affinity groups, SDG&E staff and representatives disseminated information about demand response and energy efficiency strategies, and program opportunities. Primary activities included presentations to city agencies and chambers of commerce, participation in board and membership meetings of partner community organizations, distribution of information through partner organization newsletters and email lists, and event displays. To gain a sense of the level of effort: Over 80 presentations were made reaching 1,200 plus businesses, with an additional 64 presentations during non-energy events, reaching an additional 4,000 attendees. Ten E-mail and flyer distribution "events" reached SDG&E's "top 40 trade groups." Approximately one quarter of the presentations made focused specifically on demand response. The extensive outreach efforts completed as part of this program are documented in a detailed spreadsheet. These efforts utilize *government and trade channels* predominantly.

PEAK

The goal of this program was to instill a "smart energy management" consciousness in San Diego's youth by distributing educational workbooks highlighting the problem, "the energy traffic jam," as well as a variety of simple ways students can be part of the solution by shifting their household energy use to off-peak periods. The workbook was created by a third party implementer, The Energy Coalition. The workbook uses a highly visual format, and focuses on the battle between two good and evil characters, "Bulbman" and "Energy Sucker." Educational content is mixed with crossword puzzles, word searches and other games. A drawing for a free trip to Disneyland was used as an incentive for students to complete a postcard or an online action checklist, describing the strategies they will pursue at home to shift their energy use to off-peak periods. In June of 2005, 120,000 workbooks were distributed to 3rd through 5th graders. This program doesn't fall conveniently into a "channel" as the only pure educational effort, it could be treated in it's own category, however it does piggy back on the credibility of quasi – governmental entities: public schools in San Diego, and thus could be considered in the *government channel.*

Energy Orb

During the summer of 2005, SDG&E installed orbs at seventeen city facilities throughout San Diego County, primarily in under-served communities with an additional temporary use at a trade show. The grapefruit-sized devices glow in red, blue, or green depending on the electricity rate in effect at a given time. With *a primary goal of educating the public* about energy conservation and demand response opportunities, the orbs were placed in high-traffic areas of facilities such as city halls, libraries, and community centers. The energy orb program as SDG&E implemented it utilizes cities and public places with an intent to increase awareness and to educate customers, therefore it can be attributed to the *government channel*. The orbs were in place for one month during summer peak pricing, which ends in September.

1.2.2 SCE Programs

Integrated Energy Efficiency / Demand Response Audit

This program seeks to deliver energy efficiency and demand response information during on-site facility audits of customers with peak demand less than 100 kW. Using the features of a hand-held EnerPath Palm system, an auditor can immediately present audit participants with customized load curtailment recommendations. The auditor educates customers about curtailment strategies for peak demand periods and provides information and enrollment forms for demand response programs. The demand response component of the program was added in February of 2005. Some 300 hundred audits were completed in six months with only a few dozen opting to receive the demand response information. Because a utility representative is directly contacting a customer at their place of business, this program relies on a *direct contact channel*.

Local Community Demand Response Demonstration

SCE works in partnership with local government and non-governmental agencies to deliver energy efficiency and demand response information to large customers. The program seeks to reach forty customers with demand greater than 500 kW. By sending invitations under the name of the city, and hosting events at government facilities, the program leverages the credibility and communications channels of government for message delivery. This program is being pilot-tested in the City of Ontario and is in its initial stages of implementation. A memorandum of understanding with the City of Ontario is in place, and businesses have been recruited and presented to. However, individual businesses have not yet signed up for demand response programs as a result of the program. Although nongovernmental entities are utilized in this effort, this is primarily a *government channel*.

Institutional Demand Response Partnership Demonstration

This program uses affiliations with institutional organizations to disseminate demand response educational messages to the "virtual" communities served by these organizations. Organizations include LA County, Southern California Association of Governments (SCAG), and Building Owners and

Managers Association of Greater Los Angeles (BOMA-GLA). The program leverages the credibility and communications channels of associations for message delivery. This program is also in the very early stages of implementation. Several partnerships with institutional organizations have been established and the media outreach process is underway. However, customer enrollment in programs has just begun. This program is of a *trade channel* type.

1.2.3 PG&E Programs

Event Outreach

Bakersfield business trade show. PG&E sponsored this event and brought information on EE/DR, audits, Flex Your Power Now, and TOU management. These materials represent an "approved set" of marketing/outreach material that PG&E developed for this kind of deployment and have been used in all of PG&E's outreach. Flex Your Power Now flyers were used because most of the businesses contacted are not eligible for DR programs yet, so the focus was on increasing awareness and education. Although hundreds of attendees were at this event, approximately 40 businesses actually stopped and interacted at the booth and dropped off business cards. PG&E also placed an impromptu radio spot for free to promote the event. This is an example of using a *trade channel* to increase awareness.

Paso Robles, Chamber of Commerce. PG&E made a presentation to the Chamber on November 15, 2005 and handed out the same pre-approved materials. This outreach attempts to build on the Chamber's relationships and had a goal of reaching about 60 people. This is another example of using a *trade channel* for messaging.

Paso Robles, Vintners Association. This outreach was postponed due to conflicts with harvest season.[4]

Bakersfield Energy and Air Quality Trade Show. PG&E cosponsored this trade show-styled event with SCE, and SCG which occurred on January 19, 2006 in Bakersfield. The event included key note addresses by PG&E's Director of Customer Energy Efficiency on the 2006-2008 IDSM portfolio, and by the California Secretary of Food and Agriculture on Air Quality. There were breakout sessions for continuing education, the California Rural Watershed Association, the Bakersfield Chamber of Commerce, as well as one breakout for each utility. Messages focused on EE and DR again, but since many attendees were not eligible for specific DR programs, the main focus was on Flex Your Power Now. Example topics in PG&E's breakout room included HVAC & IDSM, Pacific Energy Center and the tool lending library. The event was affordably priced at $12 per ticket, and attendance was approximately 750 over the course of the day. The event was closed out with a mixer to which all San Joaquin Valley customers were invited. The same paper survey described for the Paso Robles Chamber of Commerce event was used. This channel appears to use both quasi-governmental actors such as utilities and trade groups such as the CRWA and Bakersfield Chamber of Commerce. On balance it is most appropriately treated as a *trade channel*.

"Community" based outreach

California Rural Water Associations (CRWA). PG&E trained ten representatives from the CRWA and provided the same bundle of approved messaging used in other outreach. In addition, the reps received a basic script to make sure they covered all topics. PG&E pays the CRWA an incremental amount to

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[4] Paso Robles is one of the largest and most diverse wine regions in California due to its distinct soils, microclimates, moisture, and topography. It boasts the "fastest growing American Viticulture Area (AVA) in California: 26,000 vineyard acres and nearly 100 mid-size to boutique wineries. In the last ten years, Paso Robles has seen an increase from 35 to nearly 100 wineries." From Paso Robles Wine web page at http://www.pasowine.com/media/presskit.php

conduct this outreach to its membership while the rep is already visiting on water business. PG&E therefore piggybacks on the time and credibility of the rep. CRWA reps filled out visit forms after their contact to indicate interest in additional contact and preliminary potential for EE and potential DR awareness and participation. The goal was to reach some 60 water systems. PG&E conducted a phone survey in December 2005 as part of an internal evaluation of this effort. PG&E is exploiting a trade relationship in this program so it is clearly attributed to the *trade channel.*

Placer County Economic Development. PG&E targeted this area in part because growth rates along the Highway 65 corridor have been extremely high.[5] A local support person created a contact list of customers with demand less than 200kW. Three reps of incremental labor from PG&E were utilized for the outreach which consisted of an in person contact by a PG&E rep who discussed and distributed the approved set of marketing materials. About 350 customers were reached in this manner. A telephone survey was conducted to evaluate this project in December of 2005. This effort falls into the *direct contact channel* because PG&E representatives contacted customers directly at their facilities.

Santa Maria & Stockton. Approximately 7,000 customers were reached in Santa Maria and Stockton in total, by 15 Staples Marketing representatives in this “Walk, Knock and Talk” program. One week prior to contact, a postcard was sent to announce that the representative was going to contact the business. The representatives were trained similar to the CRWA training, with additional role-playing exercises. The same approved marketing collateral was used. The representatives also were instructed to mention that DR programs may be available to smaller businesses in the future. In Stockton, The Great Valley Center was also utilized as a partner. Site visit sheets were collected and any customers wanting follow-up calls/visits from PG&E for energy audits or other issues were handled by PG&E. Approximately 150 signed up for audits. A phone survey occurred in December of 2005. These efforts utilize a *direct contact channel*. Although as subcontractor was utilized to do the walking and knocking, a face to face “talk” was a focus of the program.

1.3 Layout of the Report

This report is organized as follows:

- Section 2 discusses the evaluation methodology, including a discussion of research issues as they pertain to each channel – direct contact, trade channels, and government, and the data collection methods (focus group, interviews, and surveys) specific to each program.
- Section 3 presents the evaluation findings. A discussion of overarching statewide issues and a summary table of findings for each program is followed by a detailed discussion of the findings for each program reviewed, by utility.
- Section 4 presents conclusions and recommendations derived from evaluation findings.
- Appendices (provided in separate volume) include:
    - A – Literature Review
    - B – Focus Group Guides
    - C – In-depth Interview Guides
    - D – Survey Instrument

[5] According to the US Census Bureau, Placer County and the city of Rocklin have experienced over 23 to 29 percent growth rates during the 2000-2003 time period. U.S. Census Bureau, State and County Quick Facts. URL http://quickfacts.census.gov/qfd/states/06/0662364.html and http://quickfacts.census.gov/qfd/states/06/06061.html

2. RESEARCH ISSUES

The overall research approach involved identifying key research issues along three coordinated tracks and then into issues specific to the primary marketing channel used by the utility to disseminate the education, outreach and information, with further specification of the various methods to be used to obtain information.

2.1 Research Issues

The project team identified a number of research issues important to understanding the effectiveness to date of the programs being evaluated. These were organized into three general tracks, and then again by the specific delivery channels as described in the evaluation approach (Section 2.2). The research issues were addressed through a variety of methods to gather associated information. Table 2-1, Table 2-2, and Table 2-3 below identify the key issues that drove the design of the evaluation research instruments.

Table 2-1. Direct Contact Track Research Issues

Programs include –SCE Integrated EE/DR Audit and PG&E Outreach (Placer County, CRWA, Staples)	Research Instrument	Other Data Sources	Desired Outcome of Research
For Field Representatives: • Usability of the Palm tool or marketing collateral, constraints in field use? Impact of tool or materials on customer interaction? Best and worst case field experiences. • Customers perceived interest in DR/TOU management versus EE. What barriers do customers bring up? What additional information might they need? • Perceived usefulness of curtailment strategies recommended by Business Solutions Audit EnerPath Palm tool and marketing materials? Are there missed opportunities in this direct contact, or in the strategies used or presentation of results? *For Customers:* • Are you getting all the information needed to move ahead with EE/DR improvements? Need help selling to internal management? • Is the messaging you are receiving clear and credible? Which concepts were easily understood, and which weren't? Would follow on visits help? *For SCE EE/DR Palm audit recipients:* • Compare the Business Solutions Audit Palm tool to other audit experiences. Results credible? Messaging clear? Which concepts were easily understood, which not? Compare DR comprehension with EE. *For PG&E Outreach:* • Did post contact audit affect likelihood EE/TOU planning reported?	In-depth interviews with field representatives (PG&E, SCE, CRWA and Staples) Additional interviews with SCE audit recipients (pre and post-audit). As well as a telephone survey of audit recipients. Focus groups with SCE field representatives additional focus groups with CRWA and Staples field reps.	Sample EnerPath report on DR strategies. Communication with EnerPath module developer. Program records of participation Review of PG&E's phone survey results, and customer interest in follow on audits.	EE/DR Audit: Special emphasis on the integration of the DR process. Compare and contrast with the EE process to understand why DR uptake is low and address possible program improvements Knock and Talk by PG&E: Identify if customer response differs when message is carried by PG&E representative, outsourced community based marketer (Staples) or trade association (CRWA)?

Table 2-2. Trade Track Research Issues

Programs include –Community Partnership Program, Institutional DR Partnership Demonstration, PG&E Single Event Outreach.	**Research Instrument**	**Other Data Sources**	**Desired Outcome of Research**
For Trade Representatives: • What benefits will come to the organization from their involvement? • Has the information provided been at an appropriate level? Has it been motivating? What additional information do you need so that members can better understand DR/TOU messaging? What barriers do your members perceive? • What could be better from a communications standpoint? What support is needed to make this program successful? • What is the best way to influence members' behavior when it comes to energy management? What messages are the strongest motivators? • What venues/meetings/delivery methods are most effective? • Are their possibilities for excellent demonstration projects? What are they? • Are there leaders that should be contacted so they can become evangelists? *For Bakersfield Attendees:* • Are you getting all the information needed to move ahead with EE/TOU management improvements? Need help selling to internal management? • Is the messaging you are receiving clear and credible? Which concepts were easily understood, and which weren't? Would follow on visits help? • Did you attend the previous Bakersfield event?	In-depth interviews with field representatives (SDG&E, PG&E, SCE) and trade group representatives. Focus group with representatives from SCE's institutional DR partnership associations.	Program records of participation. Review of PG&E's paper survey results, customer interest in follow on audits.	Community Partnership: The literature suggests that one time meeting presentations are not the most effective way to message. Is the sheer volume and repetition of SDG&E's outreach hitting home? Institutional DR Partnership: Provide insight into management structure of the trades so as to improve logistics of next program and increase penetration in existing program. PG&E Single Event Outreach: Are there differences in perceived value of the conference between the different utility customers (PG&E, SCE)? Why?

Table 2-3. Government Track Research Issues

Programs include Community Partnership Program, PEAK, Energy Orb, Local Community DR Demonstration	**Research Instrument**	**Other Data Sources**	**Desired Outcome of Research**
For Government Customers & SDG&E field representatives (Chamber & City contacts, teachers, Orb Keepers, City Leaders): • What benefits did/will program bring to the community? Is the community/classroom engaged in a meaningful way? How is SCE/SDG&E as a partner? Could communications improve? Is the messaging being used appropriate? What kind of information do “customers” need to better understand DR issues? • Will/did the program work as designed? Why or why not? What worked and what didn’t? How would you change the program? Are there indications that customers/students will reduce demand? What barriers are perceived? *For City of Ontario* • Does the City have the right amount of control over this program? Why is the link between the City and customers important? Why couldn’t it come straight from the utility? • What kind of city-based communications are most influential? What other groups should be involved with this project now, in the future? *Issues for the PEAK Program Teacher Focus Groups:* • How did students like the characters? What kinds of stories came back from students and parents? Any complaints from parents? Is more repetition needed? How much? *Issues for the Orb Program Groups:* • Was the orb simply a novelty item? Did it explain the facts about power issues? Were there missed opportunities? What are the pros and cons of using the orb vs. other devices or just an information kiosk (possibly using a video, for example).	In-depth interviews with SDG&E, and SCE representatives and implementers. Focus groups with PEAK teachers, Orb recipients, and City of Ontario.	Program records of participation Review of internal survey results, project close out worksheets.	*City of Ontario:* Assess how the initial stages of the program are progressing? *PEAK:* Most useful to understand from teachers perspective how curriculum might be presented/designed in the future. *Energy Orb:* Understanding what city staff with the most exposure and experience surrounding the orbs think of the program and how to modify it for future deployment. Were orb cities more likely to use other city oriented messaging – e.g. memos on energy conservation and draft energy conservation plans prepared by SDG&E?

2.2 Evaluation Approach

The project team identified a number of research issues important to understanding the effectiveness of each program effort to date. These research issues varied by program, and focused on two key areas; the *effectiveness of the message* in raising awareness and the benefits of that awareness, and whether the *channel was effectively engaged,* e.g. was access to the target audience achieved? Did the outreach materials match the needs of the channel. The evaluation approach was to apply qualitative interview, focus group and survey research techniques to understand how the information delivery channels utilized by the utilities' outreach and education programs was received, and to collect information on the effectiveness of the programs to date in relation to these delivery channels.

The evaluation was conducted on three coordinated tracks: a *direct contact* track, a *trade* track and a *government* track. Although these tracks played a significant role in how the research guides were developed, e.g. it was suspected that similar concerns would be experienced by governmental entities as compared to trade associations, these tracks were not used to develop an overall rating. It was not the evaluation's intent to grade the efficacy of an outreach to trades over government. Instead the tracks were used to reduce duplication of efforts in issue identification and research approach. Overall, the basic approach to the evaluation was to:

The evaluation approach was to apply qualitative interview, focus group and survey research techniques to the information delivery channels utilized by the various utilities' outreach and education programs, and to collect information on the effectiveness of the programs to date in relation to the information delivery channels. As discussed in the executive summary, the purpose of using a "channel" approach to the evaluation was to try and better understand how information being disseminated through education and outreach programs can best be channeled to target audiences, particularly with respect to the use of non-utility marketing partners.

The kick-off meeting confirmed that the top priority objective of the evaluation would be to evaluate the different channels used by the utilities to conduct outreach, education and awareness-raising activities. Thus, the evaluation was conducted on three coordinated tracks: a *direct contact* track, a *trade* track and a *government* track. Coordinating the research along these tracks allowed Summit Blue to develop research instruments along these tracks, which was cost effective. Instead of developing 14 independent guides for each outreach effort, this approach allowed the project team to develop four layered interview guides to compare variations in effectiveness within each channel, thus enabling them to be evaluated within a consistent framework for each track..

The research effort for each channel was designed to address the evaluation objectives and issues stated above in Table 2-1 through Table 2-3. Each of the three evaluation tracks evaluated several channels and was subjected to a variety of evaluation tools, including: informational interviews, in-depth interviews, focus groups and surveys. In estimating the number of interviews, surveys and focus groups that needed to be conducted, Summit Blue used information on events, numbers of participants and appropriate market actors provided by the utilities, and from the desired research outcomes stated in Table 2-1 through Table 2-3. A comprehensive sampling plan was developed from this information, as discussed further in Section 2.2.2.

2.2.1 Methodology

Several methods were utilized to conduct the evaluation, based on the target audience and the information sought. The methods included the following:

- Reviews of program targets, program participant data, marketing methods and materials and collateral materials.

- A literature review to evaluate how messaging might be better designed or targeted in the future based on current practice and knowledge in the EE/DR community. The review went beyond reciting appropriate literature findings by also applying those findings to the current evaluation's research issues. This effort, along with the review of program documents noted above, guided the final scope of work and development of the various research instruments used.

- Reviews of existing internal evaluations by the utilities, such as the PG&E CEMP outreach survey and SDG&E's project close-out sheets.

- In-depth interviews with program and implementation staff, contractors, market actors and topical experts.

- Focus groups with program intermediaries and customers. For example, intermediaries, such as utility representatives, were interviewed in a group setting on how a product or service may be more appropriately offered or positioned in the future. Customer focus groups included discussions of program messaging, with an eye to developing a better understanding of how messaging is received.

- A telephone survey of participating customers in SCE's Business Solutions (Palm-based integrated EE/DR) Audit program.

General design considerations for these evaluation methods include:

- Establish final sample frames, expected interview/focus group/survey focus and time, and develop survey respondent and interviewee contact information;
- Draft and test survey, focus group and interview instruments;
- Operational oversight and coordination amongst team members; and
- Data management and analysis.

These were specified for each channel and are discussed further in the Sampling Plan, section 2.2.2.

The results of the interviews and focus groups were summarized according to the issue topics and a qualitative analysis of each was performed to identify patterns of strengths and weaknesses in the channels being used and the information flowing through them.

The telephone survey instrument used for the survey of SCE's Business Solutions Audit participants also was based on the research issues identified by the project team and utility staff. The survey results were tabulated and a qualitative analysis of the data was performed, including examination of selected cross-tabulations to identify response patterns according to various segments and topics of interest. A fully detailed field services report describing the complete telephone survey operations process is available under separate cover.

2.2.2 Sampling Plan

A comprehensive sampling framework was developed to cover the broad range of utility territory, marketing channels, associated market actors and research methods being utilized. The samples were developed as follows for each channel being researched. Table 2-4 summarizes the overall sampling framework, and includes supplemental information referring to related internal research the utilities have conducted. The utility staff coverage shown in the following discussion was consolidated to recognize the overlapping responsibilities of staff across marketing channels.

Direct Contact Track

Interviews and Focus Groups, Interviewee Identification

The in-depth interview sample for the Direct Contact Channel track included the following implementers, designers and evaluators (totaling 21 interviews).

- PG&E, SCE Program Design and Implementation Managers (9 interviews – overlapped with Trade and Government channel coverage)
- PG&E Field Representatives in Placer County (2 interviews)
- PG&E Outsourced Field Representatives from CRWA, Staples (3 interviews, 1 focus groups)
- SCE EE/DR audits (9 interviews)
- SCE Field Representatives (2 interviews, 1 focus group)

Trade Track

Interviews and Focus Groups, Interviewee Identification

The in-depth interview sample for the Trade Channel track included the following implementers, designers and evaluators (totaling 37 interviews).

- SDG&E, PG&E, SCE Program Design and Implementation Managers (9 interviews – overlapped with Trade and Government channel coverage)
- SDG&E Trade Group Representatives chosen from their “Top 40 list”(10 interviews)
- PG&E Trade Group Representatives, e.g. Paso Robles Vintners, Paso Robles and Bakersfield Chamber of Commerce (14 interviews)
- SCE Trade Group Representatives, e.g. SCAG, BOMA-GLA, County of LA (4 interviews, 1 focus group)

Government Track

Interview Focus, Interviewee Identification, and Contact Information

The in-depth interview sample for the Government Channel track included the following implementers, designers and evaluators (totaling 14 interviews). For distribution of interviews between utility efforts please refer to Table 2-4 below.

- SDG&E, SCE Program Design and Implementation Managers (7 interviews – overlapped with Trade and Government channel coverage)
- PEAK Teachers (2 interviews, 1 focus group)
- SDG&E Orb Recipients (2 interviews, 1 focus group)
- City of Ontario (3 interviews, 1 focus group)

Table 2-4. Quantity of Interviews, Focus Groups, and Surveys

Utility	Program / Outreach Effort	Delivery Channel Type	In-Depth Interviews	Focus Groups	Phone Survey	Internal Evaluation by Utilities or Subcontractors?
SDG&E	Community Partnership Program	Government and Trade	10			Yes, Detailed tracking system of events.
	PEAK	Government	2	1		Yes, internal debrief in “project closeout”
	Energy Orb	Government	2	1		Yes, internal debrief in “project closeout” and online survey
SCE	Integrated EE/DR Bus. Solutions Audit	Direct Contact	9	1	68 (90% CI, 10% Precision)	No*
	Local Community DR Demonstration	Government	3	1		Yes
	Institutional DR Partnership Demonstration	Trade	4	1		Yes
PG&E	Events: Bakersfield Business Trade Show, Paso Robles, Energy & Clean Air Expo	Trade	14			No
	Placer County Economic Development	Direct Contact	2			Phone survey December 2005
	CA Rural Water Association (CRWA)	Direct Contact	4	1		Phone survey December 2005
	Staples Marketing Outreach. Walk, Knock and Talk in (Santa Maria, Stockton	Direct Contact	5	1		Phone Survey December 2005

*SCE did do an evaluation on the Summer Discount Program, but the work is still in progress.

2.2.3 Survey, Focus Group and Interview Guide Development

Generalized in-depth interview guides and focus group interview guides were developed for each channel, such that they could be adapted to the particular interviewee or focus group's perspective including probes for matters of particular importance to each interviewee. The guides addressed each channel and specific program implementation issues listed above as appropriate to the channel and issue area. The questions incorporated were prioritized according to the expected time available to conduct the interviews, to both ensure critical information was gathered and to enable greater depth where warranted.

The guides were reviewed by the Project Manager and Project Advisory Committee for their feedback. No explicit pre-testing was done because each respondent was unique. Instead, an adaptive approach was used, with callbacks made to interviewees as needed to clarify or supplement initial responses.

The telephone survey instrument for the SCE Business Solutions Audit was developed to get feedback from audit participants on their experience with the program, including an assessment of the Palm device features in providing instantaneous information for customers to consider for taking energy management actions, and also to determine their understanding of the demand response concept.

The interview guides were designed for interviews expected to run from 30 to 60 minutes, depending on the interviewee. Greater depth and interview time was anticipated for program staff interviews. Focus group guides were designed for sessions expected to last 1 to 2 hours depending on the usefulness of the information being learned. The SCE Business Solutions Audit telephone survey was designed to average 15 minutes in length.

2.2.4 Data Collection Logistics

Information collected from in-depth interviews and focus groups was summarized from transcripts and notes. The resulting information then was analyzed qualitatively for response patterns and insights gained from the interviews.

Data from the telephone survey were collected using a computer-aided telephone interviewing (CATI) system entered into statistical and spreadsheet databases from the CATI system. The data were then cross-tabulated by selected variables to enable subsequent analysis of the results.

3. FINDINGS

3.1 General Findings Across All Programs

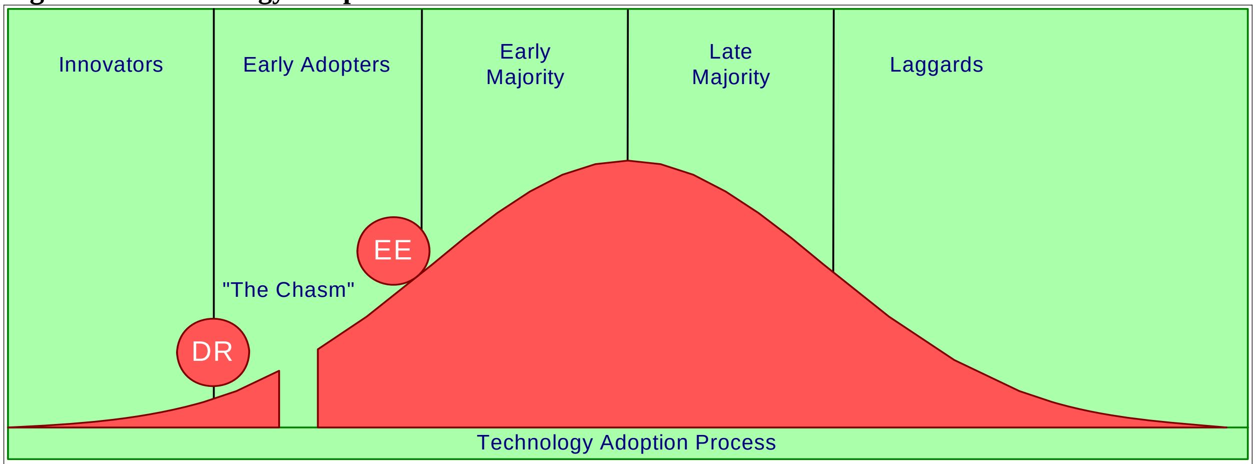
3.1.1 A Common View of Adoption

All of the programs in this review are carrying a relatively new message, and many are carrying that message in a new vehicle. While this review aims to kick the tires and the message to see what shakes loose, it is important to remember that many of the common threads of difficulty identified in the forthcoming section are simply endemic to new programs and change management within and among large organizations.

Building awareness and interest in DR is the anchor of what education and outreach effectiveness is all about. Generally, when demand response value is discussed, the value is placed on the later stages along the ‘purchasing decision’ continuum (awareness –> knowledge -> preference -> action), the *preference* and *action* components. Customer action in response to demand response program offerings results in MW curtailed at needed times. The value of this response can generally be calculated based on temporal wholesale market power costs and other power market factors. If we look at the goals of the outreach and awareness programs, it is the *awareness* and *knowledge* the programs are mostly seeking to build. If the ultimate goal is to get enough participants to take DR action to make a substantial contribution to reduction of peak power demands, one way to look at the effect of outreach and education is to consider DR as a new product entering a market. The technology adoption or diffusion curve principle used in product develop is an effective way to demonstrate the effects of *awareness* on *action*. Figure 3-1 below shows where DR and EE would likely fit on a traditional adoption curve, assuming we are referring to actions instead of purchases. Energy efficiency has effectively crossed the chasm in California, and the early majority are starting to embrace it in their purchasing decisions. Demand response, on the other hand, still requires significant awareness and understanding changes to move to a place of broader acceptance. *Basically, you can’t move up the adoption curve to action unless you increase awareness and interest.*

Use of a technology adoption curve is well accepted among proponents of EE market transformation programs, where many of the ‘progress indicators’ used to measure the success of market transformation efforts are awareness and interest criteria. Actual energy savings attributable to the increases in awareness and interest may not occur until years later. In a similar manner, effectively communicating the DR message to potential early adopters has a significant effect later on the MWs that DR programs can achieve over time.

Figure 3-1. Technology Adoption



- ◊ Limited customer value propositon
- ◊ DR comprehension low
- ◊ DR perceived as complex, technical.
- ◊ Few programs, DR efforts ride on EE shoulders.
- ◊ Lack of critical infrastructure and plug and play technologies.

- ◊ Value proposition clear and articulated
- ◊ Although still technical in nature, resources to affect decision-making are readily available
- ◊ Substantial programs and product suites exist
- ◊ Regulatory and utility infrastructure aligned to support investment.

Which of the barriers facing DR can education and outreach address?

- ◊ It cannot articulate a value proposition if one does not exist.
- ◊ It can better explain DR concepts and reduce perception of "technicality."
- ◊ It cannot sell programs where none exist.
- ◊ It cannot create technologies, programs or reduce regulatory barriers.

The **normal approach to product development**, and that's really what is going on with the development of DR, is to go through a stage-gate process. While some companies have 64 Product Development steps, they all pretty much have the same 4 key elements, which are:

1. Concept Development: Brainstorming, coming up with ideas.

2. Concept Screening: Culling the longer list, usually utilizing market research to do so.

3. Product Demonstration/Pilot Phase: The concept is developed and proven through test marketing.

4. Commercialization or Production: Full scale implementation.

Between stages 2 and 3 and stages 3 and 4, there are decision (gates) regarding whether to continue or go back to the drawing board. Most of the programs reviewed in this effort are at one of those two earlier stages or in the pilot phase with a limited roll out.

In the following section, we discuss project findings by category.

Pilot & Utility Organization

The organizational processes of the pilot studies must continue to evolve. For example, most pilots lacked a feedback loop to let the representatives that are carrying the EE/DR messaging know how they are doing (e.g., CRWA). They also failed to provide feedback to the engaged channel (e.g., BOMA, Ontario, CRWA) to let them know how a channel effort was progressing. Once engaged, channels typically need feedback on how efforts are progressing. Additional ongoing training, check-ins, ride-alongs, or facilitation of meetings with front facing community contacts would provide feedback that a channel is missing low hanging fruit (Ontario, CRWA) or where individuals have failed to comprehend the message (Orb) or need additional training (CRWA) to be maximally effective. On the utility side, the organization of the utility must continue to adapt to address DR issues and evolve practical strategies for DR. In both PG&E and SCE, the DR programs innovator was a “one-man innovation shop” in a large organization. The innovators that attempt to carry projects alone or piggy-back efforts onto existing EE sales struggle with how to invent, proselytize, recruit, manage, and continue creating, all at the same time. These individual product/service champions need to be nurtured and supported in the organization.

Timing

Universally all of the utilities and outsourced participants feel they managed to do quite a bit in a very short amount of time. The utilities reported that receiving funding in March left little time to create marketing plans, bid, evaluate, staff, and implement projects prior to the summer peak. Some also reported that the lack of an established institutional framework for DR program support also contributed to difficulty in administering the programs. An example of the compressed timing concern might be that, had there been time and awareness, an incubation cycle could have permitted more fact finding before fully launching pilots and, in some cases, a shifting of resources to the more successful partnerships (i.e., from SCAG to BOMA in the case of SCE).

DR Terminology and Messaging Challenges

These pilots show that it is logical to pair EE and DR, because most customers desire one-stop shopping. Most reps will not lead with or get to a DR message when calling on customers because it is perceived to be the most complex and technical idea in their sales arsenal (EE/DR Audits; Walk, Knock and Talk). In fact, many reps will admit to not using the phrase DR or the marketing collateral at all (Audits, PGE Single Small Events). Complexity of topic and reading level were typical reasons given for not using marketing collateral. Future efforts should tap the experience of field personnel to discover what works when designing communications about DR (EE/DR Audits, Single Events, and CRWA). Since DR programs and strategies appear on the surface to be heavy on complex details and potential comfort drawbacks (EE/DR Audits), and light on benefits (i.e., financial incentives), it is extremely challenging for the utilities to motivate businesses to take action. A good example of this utility-centric messaging is in the EE/DR Audits, where “enhanced” AC cycling seems to refer to enhancements for the utility, not the customer. Similarly, on a semantic level the majority of end-user-representatives interviewed as part of this effort thought that the term “demand response” was confusing (Community Partnership Program (CPP herein)). Several people believed the term referred to actions taken on the part of the utility (responding to demand changes), not the consumer. A number of people suggested using specific, simple language that makes it clear that the utility is asking for a shift in usage patterns during times of high energy demand.

Segmentation

Some of the efforts used traditional event approaches (Bakersfield Expo) and some of the programs used canvassing techniques with customers that had never seen a utility representative in person before, e.g., small businesses (Knock and Talk). The small business outreach intiatives almost universally suffered from three critical barriers: 1) an unengaged market, where small businesses appear to be too busy and too bottom line oriented to respond to demand signals – moreover, they are very busy during peak times (Community Outreach, EE/DR Audits); 2) if they were interested, there wasn't a clear value proposition to sell them on (Knock and Talk, Community); and 3) some representatives are not convinced that small businesses are worthwhile demand response targets (EE/DR Audit), and so even internal to the utility, DR is not yet sold across all customer segments. However, small businesses were pleased to receive attention and interest from the utility (Knock and Talk, Community). Also within more targeted segments, messages could be better tailored to the desired target (CRWA). Actual DR program offerings to the small business segment, which provide focused incentives and support for specific end-use energy management actions, are almost non-existent.

Effectiveness of Communication Methods and Materials

Trade associations and utility field representatives alike believe that brochures and print materials need to use less text and more images (Knock and Talk, Community). Since most small and medium businesses and residential customers (essentially anyone for whom energy management is not a professional responsibility) often will not take the time to read energy-related literature, some interviewees recommended that materials should be geared simply toward grabbing the audience's attention and directing them to further resources. Several interviewees believed that materials should include testimonials from businesses within the target community that have succeeded in and benefited from implementing DR behaviors. Furthermore, some interviewees recommend shifting the focus from providing *information*, to using outreach and awareness channels as a means of linking consumers with actual one-stop-shopping type services and actionable programs. Such a shift would address the inability of current information-only programs to "close the sale." If more programs were available, there would be a more specific call to action: " sign-up for a program and follow through with the DR and EE actions prescribed by that program" (Ontario, BOMA). The phrase "all dressed up and nowhere to go" is perhaps an apt way to think about where information-only programs leave both utilities and customers.

3.1.2 Summary of Program Effectiveness

As the evaluation team gathered information, some common metrics of effectiveness emerged. Table 3-1 provides a summary of how each program did in regard to the following factors:

- *Goals defined?* How well were program goals defined?
- *Target audience defined?* Was the target audience well defined? Is it an appropriate target for the goals of the program?
- *Access to target audience?* Does the program channel provide sufficient access to the target audience? Is it an appropriate channel?
- *Message content*? Is the content of presentations and brochures appropriate to the audience? Is it understood? Is it motivational?
- *Message delivery*? Are the materials and delivery methods effective? Is it the right presentation, format, and medium for this type of marketing and educational materials?
- *Customer/partner satisfaction?* If applicable, were the customers and/or partners satisfied with what the program achieved?

- *Program administration?* Was the program effectively supported from within the utility organization? Did it have the time and resources to adequately deliver the message and track activities?

Sections 3.2, 3.3, and 3.4 provide the details of the evaluation findings for SDG&E, SCE, and PG&E programs respectively.

Program	Goals defined?	Target audience defined?	Access to target audience?	Message content clear, understandable, and appropriate to target audience?	Message delivery effective?	Customer / partner satisfaction?	Program administration?
SDG&E Community Partnership Program	Yes: Leverage the credibility and existing communication channels of community and trade organizations to educate small businesses and city agencies and encourage them to engage in demand response activities.	Yes, but the audience is broad: small businesses <200 kW demand and city agencies.	Since small businesses don't have time to focus on messages coming from outside their existing network of communications, community and trade organizations are an effective way to get through to this hard to reach audience. It is unclear whether the channel has been as effective at reaching energy management staff at city agencies.	The demand response message is overshadowed by energy efficiency and conservation messages. However, coupling the three messages together may be necessary and appropriate for the small business audience. The diversity of the target audience has made it challenging for the program to reach each segment with targeted messaging.	The audience is generally happy with the literature being used, though they think less text should be used and success stories should be highlighted. Presence at community events has been very effective.	The audience appreciates the attention that SDG&E has paid to them and they are generally very happy with their partnerships with the utility.	Since there were only two staff people dedicated to this program, they are limited in their ability to effectively build relationships in the 20 communities across the utility territory.
SDG&E PEAK Program	Yes: instill a smart energy management consciousness in San Diego's youth, focusing on strategies to educate students on how to reduce energy usage during peak demand periods.	Yes: children in 3rd through 5th and their parents. Parents are involved in filling out the response cards to win a free trip to Disneyland.	Working through schools has the potential to provide effective access to students and their parents. However, as currently implemented, the program is not effectively leveraging this potential.	Content of materials should include more direct standards-based applications (i.e. use graphing activities that relate to math curriculum). Unfamiliar terms should be more clearly defined. Messages should focus on making students feel empowered to improve the environment. The target audience is broad enough (i.e. knowledge and learning styles are different at each end of the age range) to warrant sub-targeting of messaging and content within the program in the future.	Based on teacher feedback, the strategy of distributing workbooks at the end of the school year with no in-school activity does not appear to be an effective way to reach students and their parents. Assemblies and classroom activities would be much more effective methods for reaching the target audience and causing the audience to retain the key messages.	Based on responses from students who returned contest entries, and the enthusiasm of students who attended the ice cream social hosted by SDG&E, it appears that students are satisfied with the themes of the program. Though focus group participants were not actually involved with the delivery of the 2005 program, they expressed great support for the concept of teaching energy management themes, but were dissatisfied with the way the program was delivered in 2005.	There was not enough time to facilitate full implementation of the Energy Coalition's PEAK program. Further, SDG&E staff responsible for managing the program did not have enough time to plan for or manage a more comprehensive program. All agreed that in-school activities and teacher involvement will be key elements of future program activity.

Program	Goals defined?	Target audience defined?	Access to target audience?	Message content clear, understandable, and appropriate to target audience?	Message delivery effective?	Customer / partner satisfaction?	Program administration?
SDG&E Energy Orb Program	The broad goal was fairly well defined: to educate the general public about the importance of using less energy during periods when demand for and pricing of energy is the greatest. However, due to inconsistent messages about the target audience and insufficient information accompanying the Orb displays, these goals were not well communicated.	No: Different materials and information pieces described different target audiences. The general public is an appropriate target audience for this application, but the program format and associated materials will need be more accessible to the whole audience, and targeted messages and materials should be made available to the variety of sub-classes within the target audience (i.e. residential, city agencies, small and large businesses).	Yes: public buildings receive heavy traffic by the general public and use of the Orb is an effective way to grab the public's attention.	No: materials and information accompanying the Orb displays did not clearly explain the applicability of the Orb color scheme or ways that visitors can curtail energy usage during peak periods. Use of commercial pricing periods as the basis for changes in Orb color was not an appropriate theme given the broad audience exposed to the Orb and the limited materials explaining how pricing periods relate to residential visitors. In the future, the Orb program should be based on a theme that relates to a broader audience, i.e. level of strain on the electric grid, or cost of producing energy at different times. Further information on peak demand issues and strategies for using less energy during peak periods should be included in Orb display materials.	The Orb displays did not effectively deliver the peak demand messaging due to insufficient educational materials and confusion about the meaning and applicability of the Orb colors.	Most city representatives were very pleased with the Orb as a means of capturing the public's attention and would be willing to host an Orb again in the future. However, many were dissatisfied with the materials accompanying the display, and the amount of preparation they received for fielding questions from the public. In addition, some were dissatisfied with the technical support they received when they encountered problems with the function of the Orb.	Timing issues delayed the distribution of Orbs so that the public's exposure to the Orbs was limited in duration and not well-fit to the summer peak demand season. Technical problems hindered the effectiveness of the Orbs in a small subset of participating communities. City representatives did not provide sufficient training and preparation to city staff.

Program	Goals defined?	Target audience defined?	Access to target audience?	Message content clear, understandable, and appropriate to target audience?	Message delivery effective?	Customer / partner satisfaction?	Program administration?
SCE's EE/DR Audit	Yes: provide small and medium businesses with customized information and recommendations for implementing EE/DR strategies in their facilities.	Yes: small and medium non-residential customers who are typically under the jurisdiction of Edison's Small Business Solutions group.	Yes: certain customers trust and rely on the utility as a source of information about money saving opportunities. Several businesses also learned about the program through word of mouth from other businesses or an SCE representative. Businesses contact SCE directly with questions and interest in receiving an audit.	Messaging here relates to the information delivered via the audit. For the most part the recommendations are clear, providing specific information on the dollar value and benefits of suggested measures. 82% of respondents reported they had the information they needed to take the next steps in implementing recommendations. Of those who did not feel they received sufficient information, the most common problem was that they did not know which equipment was needed or who to call to take the next steps toward implementing measures.	Yes: most respondents reported that their auditors were professional, knowledgeable and skilled at communicating the recommendations. Rate of implementation of recommended measures, just one indicator or effective message delivery: 68% said they have budgeted to take lighting-related actions within the next year. 16% have budgeted to take space conditioning actions within the next year.	Nearly 70% of respondents gave the program a very positive satisfaction rating (either 4 or 5). Only seven percent gave the program a low rating (1 or 2). Those who received follow up visits reported higher levels of satisfaction.	Positive for the most part, however, program should track Summer Discount program sign-ups resulting from audits, improve upon and increase face time during audits, and take full advantage of the range of technological capabilities of the Palm device, including sending a follow-up email.
SCE's Local Community DR Demonstration (Ontario)	Yes: engage community leadership to promote the adoption of DR programs to businesses in the community.	The program defines the target audience as businesses in Ontario. However, members of Ontario's working group do not believe that ideal candidates for DR programs have been defined well enough.	Yes: community leadership possesses the right communication channels for getting through to businesses in the community.	The DR message is delivered to community leaders through informational presentations which, for the most part, are highly rated, though some members wish the information could be more concisely communicated. Community leaders deliver the DR message to businesses in the community, and for the most are equipped with the tools to provide effective and appropriate messaging. However, community leaders feel they would benefit from more case studies and additional avenues for engaging businesses on the DR topic: i.e. business networking events, newspaper/magazine articles and ads, etc.	To a large extent, yes. However, community leaders are not actually asking businesses to sign up for DR programs, an important element of the program's message.	Yes: partners were very satisfied with their relationship with SCE. They did mention some ideas for improvement in the future, but these were all items that can be easily addressed as the program matures.	A number of issues were identified, including the lack of "selling" participation in DR programs, SCE reps' lack of follow-up with contacted businesses, and lack of feedback to the working group on which businesses are taking action.

Program	Goals defined?	Target audience defined?	Access to target audience?	Message content clear, understandable, and appropriate to target audience?	Message delivery effective?	Customer / partner satisfaction?	Program administration?
SCE's Institutional Outreach (BOMA, SCAG, GLA)	Yes: use existing outreach channels of institutional partnerships to encourage members to participate in DR programs and implement DR measures.	The target audience is broadly defined to be the members of institutional partners. However, this broad definition requires further refinement in the case of SCAG.	BOMA offers strong access through existing communication channels (i.e. workshops, awards ceremony). SCAG does not provide the same level of access.	Key materials were training presentations for institutional partners and their members. In general, the presentations were on-target and effective.	In the case of BOMA, yes. Message delivery was less effective by SCAG, since they do not possess as many business communication channels and are not seen by businesses as a source of information about building management strategies.	Both were generally happy with the partnership but expressed dissatisfaction with a number of program administration issues.	Substantial problems exist in this area, including insufficient follow through communications by SCE and its consultants, and insufficient feedback from SCE on which members go on to participate in programs and take DR actions. In addition, SCAG's lack of decision-making power limited its ability to introduce programs and activities to get the word out about DR.
PG&E's California Rural Watershed Association Outreach	Yes: Provide EE and DR information and strategies to member water and wastewater utilities.	Yes: members of CRWA—rural water and wastewater utilities. Note, though that the possibility for further refinement of the target audience was identified, as it is apparent that certain water utilities (i.e. those with storage capacity or backup generation) are better equipped to implement DR measures.	Yes: CRWA reps already meet regularly with member utilities and are a trusted source of information.	Materials do not clearly define the DR message and are not specific enough to the unique needs of water and wastewater utilities. Messaging that relates water and energy demand issues more closely to one another was requested, as well as more water utility-specific collateral materials.	For the most part, yes. While CRWA reps were somewhat confused by the DR message and did not believe they were well enough informed to effectively educate their members on DR, CRWA members were more likely to actually implement DR measures than customers contacted through other PG&E outreach channels.	CRWA reps wish to continue the partnership with PG&E but identified a number of areas of dissatisfaction related program materials and administration.	For the most part, program administration is efficient and effective. However, CRWA reps expressed a need for better training on DR, more consistent activity (i.e. avoid gaps in activity due to funding approval cycles), and feedback on which utilities were following up with DR measures.

Program	Goals defined?	Target audience defined?	Access to target audience?	Message content clear, understandable, and appropriate to target audience?	Message delivery effective?	Customer / partner satisfaction?	Program administration?
PGE's Event Outreach (i.e. Bakersfield Energy / Air Quality Expo)	Yes: provide EE and DR information to event attendees	The target audience was generally defined as small businesses. However, based on event promotional materials, the target audience included city officials and a much broader audience.	For those businesses that attended the event, the vendor booths were a positive means of communicating information about products and services. However, a key element of the event, the breakout sessions, were not well attended. Furthermore, based on interviews for other programs, it is clear that energy-focused events are not a preferred means of accessing the small business community.	Vendors did generally deliver strong messaging about DR. However, program promotional materials had many weaknesses; they were not well prepared or sufficiently descriptive.	No: keynote speakers did not deliver a succinct enough message about DR, and breakout sessions had such low attendance that they were ineffective at message delivery.	Levels of satisfaction were mixed. Participants enjoyed learning about what other businesses were doing to manage energy issues, but wished there had been more case studies and testimonials. Some participants wished the keynote addresses had been more targeted to DR / EE issues. Vendors thought the event provided them with many low-cost leads.	There were several weaknesses in this area including poor organization and promotion of breakout sessions. However, the event did a great job of obtaining free media coverage, and the fact that it was scheduled to overlap with a GBCC evening event was positive.
PGE's Walk Knock and Talk Outreach	Yes: educate small businesses about opportunities to save money and energy through EE / DR measures.	The target audience was broadly defined as businesses with peak demand under 200 kW. However, there was insufficient additional targeting to reach small businesses with the greatest potential to implement DR / EE measures.	Access was insufficient since PG&E and outsourced reps generally arrived unannounced and businesses were unable to devote attention to the reps on such short notice.	Collateral materials had too much text and not enough compelling content (i.e. no testimonials, insufficient focus on money-saving opportunities, and not enough images). Materials also failed to provide strategies specific to the varying needs of different small business segments. Reps felt unable to communicate the complex DR message during such short contacts with businesses.	No: contacts with businesses were too brief to deliver the complex DR message.	Reps did not feel that the program structure and materials afforded them the opportunity to effectively deliver the DR message.	Several weaknesses were identified in this area: there was difficulty keeping reps on the job in some areas since they were paid on a per-complete basis and it was difficult to achieve completes. Further, information provided to reps was often insufficient (i.e. they received incorrect addresses and were unsure about the information they needed to collect from businesses). Reps also would have benefited by wearing clothing with a corporate identification.

Color code for tables: white = positive as currently implemented; light grey = potential for improvement, utility should consider making recommended changes in this area; dark grey = improvements in this area are critical to effective implementation of program

3.2 SDG&E Programs

3.2.1 Community Partnership Program

Program Administration

In the spring of 2005, SDG&E's demand response implementation department rapidly grew from just a few employees to over twenty. Under the new direction of a Manager of Demand Response Implementation, demand response education and awareness staff were tasked with creating and launching summer 2005 outreach initiatives in a very short period of time.[6]

The decision authorizing the DR programs covered in this evaluation was final on January 27, 2005. However, additional labor resources were required to fully implement the programs as envisioned. The hiring of additional labor could not be started until after Commission approval. In addition, the process to hire new personnel takes time, as the new manager himself was only able to take over implementation in February. He then had to pull together a team to develop the customer communications plan and conduct DR education and outreach in time for the summer pricing season.

It's not a simple matter of one hire per program. In reality, it is necessary to shift the staff resources to the programs as they finally shape up. This means within a few months the newly created team was responsible for developing the communication plan, issuing RFPs, negotiating and finalizing contracts with third-parties, creating and printing communication material and then finally contacting customers to make them aware of the programs.[7]

The statewide Flex Your Power campaign presented an additional timing concern for staff. They felt it was important to coordinate the timing of their messages around those of the statewide campaign to avoid inundating and confusing their customers. The statewide nature of the Flex Your Power campaign also complicated the efforts of the DR outreach staff. Flex Your Power Now! Alerts were issued across the state, despite the conditions in each specific utility territory. In July for example, Flex Your Power Now! Alerts took place when it was cool and cloudy in SDG&E territory.

Outreach presentations on "the summer outlook" and DR programs began in early April for businesses, trade associations and chambers of commerce, as they were the target market for the DR programs. However, there was added emphasis and outreach activity provided to the cities, which occurred in August and September. This placed a great deal of pressure on staff to reach the 18 target communities in their service territory in such a short period of time. While various program staff provided assistance with outreach to trade and community organizations, the majority of city and chamber of commerce outreach was conducted by just two individuals visiting these communities in person. Staff reported feeling challenged by the task of building relationships with such a large number of geographically wide spread community representatives during such a short period of time. They felt a responsibility to the account representative who had established the relationships with these communities to put forth the highest quality communications possible so that they would enhance, rather than detract from, the valuable relationships that existed with community contacts.

Another major challenge for demand response outreach staff was to balance and coordinate their messaging with other related initiatives. Recognizing that the demand response concept was new and of

[6] Don Wiggins took office as Manager of Demand Response Implementation in February 2005.

[7] Personal communication with Susie Sides and Don Wiggins of SDG&E.

limited value to their target small business audience, staff took a holistic approach to their messaging. They coupled demand response concepts with conservation and energy efficiency messages in hopes that their target audience would find greater value in broad energy management solutions than just demand response on its own. As a result of taking this integrated approach, demand response outreach staff needed to be knowledgeable on all programs and services the utility had to offer to small businesses. They reported that, for many small businesses, the most valuable information they received from the utility was about the level payment plan which enables businesses to pay consistent monthly bills and avoid high bills during certain months.

Perhaps the most substantive challenge for demand response staff was getting their audience to understand and act upon the demand response message. Outreach staff that had come from the energy efficiency side of SDG&E were used to promoting programs with substantial financial incentives, and that were based on more simple, well-established concepts. In the realm of demand response, their target audience was small businesses and city representatives who had never before been exposed to the term "demand response." The newness and complexity of the demand response concept would have made it difficult to communicate even in the absence of other complicating factors. But, unfortunately for staff, several other barriers existed. During the summer of 2005, there were only a limited number of demand response programs available to small businesses, and the value propositions for these programs were limited. The majority of demand response programs are geared toward large businesses capable of shedding more load than is even used by many small businesses. Since few program opportunities were available to small businesses, and since small business owners are so focused on overcoming the everyday obstacles they face, it was hard for outreach staff to compel businesses to take action on the demand response front. The existence of "one-stop-shopping" type programs would help tremendously in this area, so that little effort would be required of small businesses to participate in demand response programs and practices. (One-stop shopping in this context would mean that a program sign-up, audit and any necessary enabling technology could be purchased or signed up for in one transaction.)

Another factor that limited the success of the demand response outreach initiative was the fact that the demand response message was overshadowed by other messages that were easier for businesses and communities to understand. In fact, most community organizations interviewed were unfamiliar with the term "demand response." This could very possibly be due to the fact that over six months have elapsed since the end of the summer demand response outreach campaign, and the message could have faded in people's memories over time. Furthermore, it takes a long time for any new concept to take hold and these organizations have only been exposed to the demand response concept for one season, and some for just the month of September 2005. However, there is little doubt that the demand response message gets somewhat lost in the broader energy management message. And this situation will likely persist in future years. The fact that the demand response message gets subsumed under the broader discussion of energy management is not necessarily a problem since it appears to have limited value to smaller customers when it stands on its own, particularly in the absence of substantive programs. For small customers, the most practical and appropriate way to convey the principles of demand response may be to incorporate them into the broader discussion of "smart energy management" strategies.

As a result of the complicating factors described, the demand response concept did not gain solid footing during the summer of 2005 to the small business customer target, and staff will continue to face substantial challenges in their upcoming summer demand response outreach initiatives.

Marketing Collateral

The primary marketing collateral pieces for the Community Partnership Program consisted of:

1) A PowerPoint presentation titled "Summer Outlook 2005";

2) A brochure, titled "Demand Response—Improving Power Reliability," that was geared toward small business customers;

3) An Energy Management Pyramid flyer providing a visual representation of how conservation, energy efficiency and demand response combine to form an integrated energy management strategy; and

4) A brochure detailing the utility's Peak Day 20/20 program.

The literature review and interviews with trade and community organizations produced several findings of value to the analysis of SDG&E's marketing collateral.

First, <u>presentations and outreach materials should present simply stated messages and promote a few specific actions</u>. The most effective flyers and program literature are those that are light on text and heavy on visuals. More <u>content-rich flyers or booklets can be warranted as supplementary sources of detailed information, but should not be used as the "lead" pieces for broad distribution</u>. The few key ideas highlighted in broadly-distributed collateral materials should be in large, bold print. Content should <u>focus on compelling features or messages</u>, like financial motivations, to grab the audience's attention. Interviews with staff and community and trade organizations overwhelmingly found that <u>financial incentives are the single most important motivator for demand response actions and program participation</u>. One trade association representative even suggested focusing on the money businesses would leave on the table by not participating. Of course, <u>compelling financial incentive structures must exist</u> for demand response programs to make it possible to highlight such features.

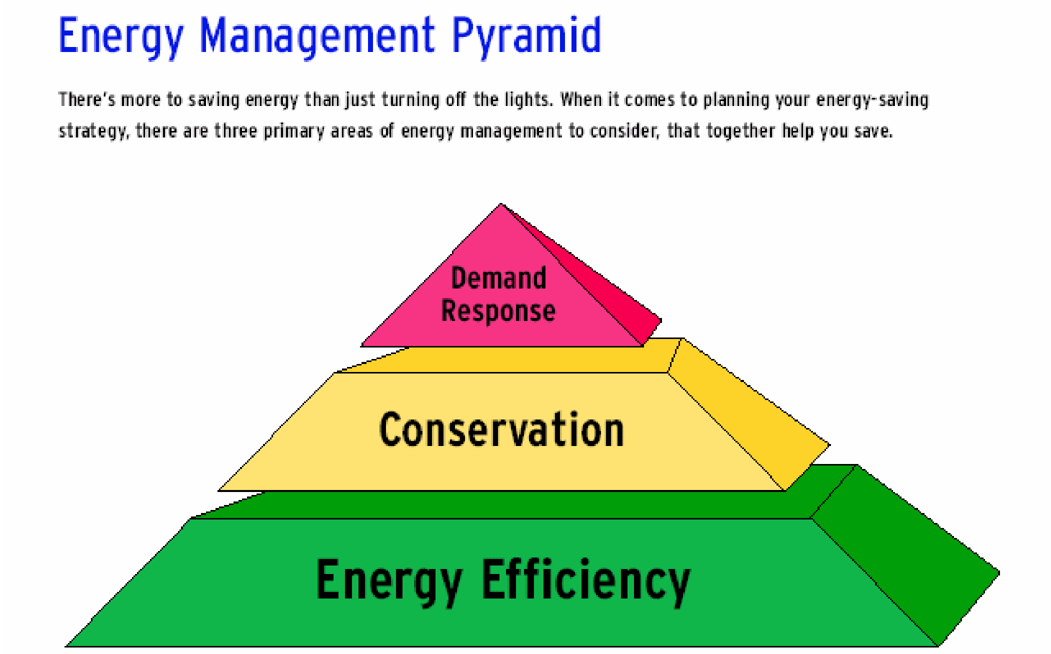
The limited content in <u>collateral materials should also feature testimonials from businesses that have successfully implemented demand response strategies</u>. Many community and trade organizations attested to the importance of this strategy. If decision-makers at small businesses see that other businesses with which they can relate are reaping the benefits of energy management programs and strategies, they will be much more likely to follow suit. These testimonials must be <u>appropriate to the size and business type of a given audience</u> to be effective. Stories of large corporations overcoming energy management challenges will not compel small businesses to act.

To the extent that the outreach materials promote participation in demand response programs, those <u>programs should be explained in as concise a manner as possible with an emphasis on making program participation sound simple and rewarding</u>.

The guidelines described here are particularly relevant for a small business audience, since small businesses are so inundated with information and solicitations, and because the decision-makers at these businesses are often also responsible for dealing with the everyday stresses of keeping the business afloat.

<u>SDG&E's materials are generally consistent with these guidelines</u>. The "Demand Response—Improving Power Reliability" brochure is concise and effective, providing a straightforward explanation of the meaning of demand response and its importance, as well as brief summaries of program offerings and basic energy saving tips (broken down into air conditioning and lighting categories). The <u>Energy Management Pyramid flyer is also a valuable communications piece</u>. It uses a very simple and familiar visual aid to highlight how demand response, conservation and energy efficiency can fit together to form an effective energy management strategy. The flyer also <u>describes the differences between the three concepts</u> and <u>provides examples of a few simple demand response actions</u> businesses can take.

Figure 3-2. Energy Management Pyramid



The Peak Day 20/20 Program flyer focuses specifically on describing how the program works and eligibility requirements. The flyer is organized in a simple question and answer format, but the content is dense. Since the audience includes small businesses, the complex language and heavy use of text is problematic. Based on the flyer, the program could be construed as confusing and of marginal financial appeal. The response to the question "How will the 20% credit be calculated and applied?" is particularly complex, and use of utility terminology such as "direct access" customers would confuse small businesses. Perhaps the flyer could be adapted to focus more on the clever "20/20" concept on a very basic level, highlighting a few key benefits before diving into the description of program details. The current flyer reads more like a "terms and conditions" document than a promotional piece. Given the complexity of the program, perhaps two separate pieces would be more effective - one to grab the attention of potential participants, and a second piece to describe the program details. One can assume that the flyer would be distributed along with other literature that describes demand response and example actions businesses can take, so those may not need to be dealt with in the flyer.

SDG&E's template Demand Response presentation "Summer Outlook 2005" possesses several positive characteristics. The presentation provides a simple explanation of demand response and its importance and it puts the need for demand response in context by describing the drivers of power system constraints, and forecasting future demand growth and points of particular weakness on the power grid. City staff and chambers of commerce were the primary audiences for the presentation. The content was generally appropriate for these audiences. However, the presentation could be enhanced by including more visuals, examples of specific demand response opportunities for small businesses and/or city facilities, and testimonials from businesses and communities that have successfully implemented demand response strategies.[8] Examples of demand response opportunities and strategies, as well as testimonials, should be targeted to the appropriate audience.

[8] While the power point presentation does not include any mention of specific demand response strategies for businesses, it does include the Energy Management Pyramid. One can assume that the presenter would describe the pyramid and examples of each of the concepts highlighted, but it would be beneficial for the presentation to make example strategies more explicit to reinforce the concepts and so that attendees can refer back to the presentation or share it with colleagues in the future.

Another way to bolster the impact of future presentations would be to invite community leaders or small business owners to speak for a few moments about their demand response experiences. Social marketing theory holds that those with applied knowledge, but little commercial interest, tend to be the most compelling sources of information.[9] By highlighting success stories, city representatives and small businesses will develop positive attitudes toward demand response and energy efficiency practices, and will get the sense that energy management strategies are gaining traction in the mainstream.

Other important lessons from the literature review and interviews with relevance to SDG&E's Community Partnership Program outreach materials are notable as well. There is great diversity in the needs and decision-making frameworks of business owners and managers. Many small businesses feel unable to curtail their load during peak demand periods, as doing so will, they believe, drive away prospective business for lack of comfort or visual aesthetics. While turning off lights and cycling off air conditioning units (the most typical end uses that are tied to comfort and aesthetic concerns) are the most broadly applicable demand response strategies for the general public, these are not acceptable options for many small businesses. Trade and community association representatives reported that their member businesses include restaurants and clothing shops where lighting is part of the décor. Since the peak demand hours of 11 a.m. to 6 p.m. coincide with peak business hours for many small businesses, many of these businesses believe that demand response is not an option for them.

The utilities should conduct research to develop a more thorough understanding of the unique challenges and opportunities available to different types of small businesses (i.e., restaurants, florists, ice-cream shops, convenience stores, etc.) so that they can focus on very specific behaviors and technologies for each business type. Some may be skeptical that additional research could still be useful. However, Summit Blue has found in other sections of this report (see 3.3.1) that a more through understanding of behaviors and technologies by business type can lead to better sales penetration in energy efficiency sales and it seems to also be assisting in closing DR sales as well. In particular we refer here to the EE/DR audit program by SCE, where a field rep focused on the cooling needs of the convenience store market segment. She reported that this had substantially contributed to her success. Presentations and materials could be adapted to address the specific needs of different business types. Specific events could be planned and targeted to audiences for which demand response activity is most feasible or appealing.

Another relatively simple but important step SDG&E can take to increase the impact of its marketing collateral is to print materials in Spanish and some Asian languages.

Outreach Activities

SDG&E made use of conventional mass media strategies, including radio and print ads, as well as community-based outreach activities. The most frequently used community-based outreach activities included presentations to city representatives and chambers of commerce, participation on boards of community organizations, publication of articles in the newsletters of community organizations and trade groups, and distribution of collateral materials. A limited number of compact fluorescent light bulb trade-in events took place as well. These are events in which incandescent bulbs are exchanged for either a coupon or an actual CFL bulb.

The goals of the mass media advertising were to introduce the demand response concept to the general public and to get the message out quickly to a very large audience. The radio ads used the analogy of a

[9] Kiefer, K., LeBlanc, W., & Feldman, S. 1994. "Social Marketing: The Road to Maximizing the Sustainability of Energy Efficiency and DSM Savings." *Proceedings of the 1994 ACEEE Summer Study,* pp.1.91-1.10. Consumer Behavior Theory, Methodology for Evaluation

traffic jam, or a congested freeway, to convey the concept of peak demand periods. These ads were simple and straightforward and, if played frequently enough, had the potential to be a positive first step toward launching the demand response concept. The evaluation team did not review any sample print ads as part of this research effort.

The goals of the community-based outreach activities were to gain access to existing communication channels (i.e., websites, newsletters, events, and regular meetings), and to leverage the credibility of community and trade organizations as a means to reach and educate cities and small businesses about the demand response concept and related opportunities. In interviews with trade and community organizations, presentations received mixed reviews as a potential method for educating small businesses. Most interviewees reported that their constituents would not have time to attend presentations at a specialized, energy-focused conference. However, a presentation that occurred as part of a meeting that the member businesses would have already planned to attend was believed to be more effective than print advertising. A number of interviewees reported that their member businesses do not have time to attend events outside of their existing schedule or to read literature they receive in the mail. Rather, they rely on their chamber of commerce, trade association, or cultural affinity group as a trusted source of information.

In many cases, a utility representative didn't make any formal presentations, but their participation on the board of an organization provided them with an opportunity, on a monthly basis, to stand up in front of the business leaders in a community and briefly highlight energy issues of relevance to the audience. These monthly meetings, as well as attendance at other events hosted by the organization, were opportunities to distribute marketing and educational collateral materials.

SDG&E made most of its formal presentations to city and chamber of commerce audiences as opposed to trade and community organizations due to the limited staff resources and time available to them during the summer or 2005. But it is worthwhile to note that presentations can be an effective tool for reaching the small business audience when they are targeted and compelling, and when they occur in the appropriate forums. A number of interviewees indicated that delivering information through one-on-one or small group communications, as opposed to through print materials, was the most effective way to reach the small business audience. Furthermore, several interviewees made it clear that the utility's presence at events where small businesses would already be present (i.e., trade, cultural association meetings) was a key strategy.

> ***"You've got to reach these small businesses where they already are. [SDG&E] can't expect them to read and act on the information in a brochure just because it's handed to them."***

Several community and trade associations reported that the primary activity that formed the basis of their partnership with SDG&E was the placement of articles in their newsletters. SDG&E provided organizations with electronic files ready for inclusion in newsletters or for email distribution. In some cases, the organization included the article in the exact format provided to them by the utility. In other cases the organization thought SDG&E's template material was too long, complex, or lacking of compelling content. In those cases, the organization formulated their own condensed version of the content, highlighting the money-saving opportunities available to their members.

None of the organizations interviewed as part of this research effort had taken part in CFL turn-in events, so it was not possible to gauge the effectiveness of that activity.

According to interviews with SDG&E staff, a strategy that has been very effective for medium and large businesses, and could be applied to small businesses as well, is that of public recognition. SDG&E has run print ads in trade journals thanking businesses for helping the community by participating in their demand response programs. Customers recognized in these ads have provided very positive feedback to account representatives. While small businesses may not read trade journals, they would likely benefit from and appreciate recognition in local newspapers. This is a relatively low-cost strategy that could provide great value to the utility. It strengthens relationships with active demand response participants, while educating and setting an example for other businesses in the community. Furthermore, it provides the public with another exposure to the demand response concept and boosts SDG&E's image as an organization working to support the community.

Channel Effectiveness

Interviews with staff as well as trade and community organizations revealed that community partnerships are an effective and efficient channel for reaching small businesses and city facilities. Both the utility staff and the community representatives recognized the trust that exists between the organizations and their members is a critical element in linking the utility to their target audience. Representatives from several organizations explained that their members look to them for guidance and information. Remarks by the director of a cultural chamber of commerce convey the strength of the relationship which exists between his organization and its members.

> ***"If I encouraged my members to attend a utility workshop and told them they could save money by listening to what they utility had to say, they would go…. When I walk around and visit the businesses in my community, the owners sometimes complain about their high energy bills. I tell them about the ideas I've learned from our SDG&E representative."***

Representatives from partner organizations believed the benefits of the partnership to be reciprocal. The utility benefits by gaining access to hard-to-reach customers, and the organization benefits by being viewed as offering yet another valuable resource to its members. Furthermore, SDG&E helps the organizations fulfill their missions by lowering the electric bills of their member businesses and enabling those members to focus more of their resources on their core business goals.

Lessons from the literature review confirm the importance of using public channels for delivering information about energy conservation and demand response. By presenting energy information in the public sphere and having the messages delivered by trusted entities other than the utility, business owners and operators may begin to see conservation and demand response behavior as a valued and positive social norm. [10] This should increase the likelihood that they will adopt such behaviors in the future.

Though using community partnerships appears to be an effective way to get cities and small businesses to listen to SDG&E's messages, it does not mean that the cities or member businesses will necessarily understand or act upon those messages. As discussed earlier, the demand response concept is more complex than the concepts of energy efficiency and conservation, and it is also very new. The majority of community organization representatives who were interviewed were unfamiliar with the term "demand response" and its meaning. These interviewees generally understood that the term meant there was some strain on the power system, but they thought that the "response" related to the actions the *utility*, rather than customers, would need to take to bring the system back into equilibrium. Many interviewees believed that their constituents would not understand the term "demand response," though some thought their members might understand if the concept were explained to them. Most interviewees suggested that SDG&E use different or supplemental terms that convey that the utility is looking for a behavior change on the part of customers.

[10] Kiefer, K., LeBlanc, W., & Feldman, S. 1994. "Social Marketing: The Road to Maximizing the Sustainability of Energy Efficiency and DSM Savings." *Proceedings of the 1994 ACEEE Summer Study*, pp.1.91-1.10. Consumer Behavior Theory, Methodology for Evaluation; and Ajzen, Icek. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.

Furthermore, as discussed earlier, there were only a limited number of demand response programs available to small businesses during the summer of 2005, and the value propositions for these programs were limited. Programs available to small businesses in SDG&E's territory are highlighted in Table 3-1 below.

Table 3-1. Demand Response Programs Available to Small Businesses in SDG&E Territory, Summer 2005.

Program	Description
Peak Day 20/20	Provides a 20% discount on customer's bill when they use 20% less energy on specified summer days between the hours of 11 a.m. and 6 p.m.. For small, medium, and large businesses.
20/20	Provides a 20% bill credit for reducing electricity costs by an average of 20% from July to October. For small businesses.
Summer A/C Saver	Rewards businesses with an annual bill credit for allowing SDG&E to automatically cycle their A/C during critical times during the summer. For small and medium businesses.

Several interviewees reported that their member businesses do not have the time, resources, or knowledge to pursue demand response or energy efficiency opportunities. Some argued that if such actions are important to SDG&E, the utility should be more proactive, providing more significant financial incentives, and more comprehensive assistance to link small businesses with demand response solutions.

One interviewee suggested that the utility work neighborhood by neighborhood to conduct small business energy audits. The utility representatives would announce that they would be coming to the neighborhood and would take the initiative to schedule audits with neighborhood businesses. After the audits, the utility would follow up with installation and other technical measures necessary to implement audit recommendations. Alternatively, businesses could be grouped by type rather than by location, in order to hone in on the small businesses with the greatest load-shedding potential. The utility could send a letter to all florists, for instance, announcing that they have identified several key money saving strategies for that business type, and that they would like to conduct an audit to help the business identify and pursue opportunities. A hand-holding or "one-stop-shopping" approach was repeatedly cited as an important feature for programs targeting small businesses. Furthermore, all interviewees rated financial incentives as the most important tool for motivating their members to engage in demand response activities. One difficulty here is in approaching small businesses who are tenants in their place of business and do not pay directly for their electricity consumption and may not be rewarded for sufficiently for reductions in demand.

SDG&E appears to have already picked up on some of the weaknesses of its small business offerings, as a few interviewees mentioned the Small Business Super Savers program that was recently launched by the utility and described it as a step in the right direction. The program offers businesses the opportunity to receive a free energy audit. Of particular significance is the fact that the program links participants with information on vendors who serve specific business types and it provides rebates to defray the cost of equipment upgrades. Community representatives and utility program staff both expressed excitement about this new program.

So while the community partnership channel is strong, SDG&E should work on using terminology that conveys the demand response message in terms to which small businesses can more easily relate. Furthermore, SDG&E should increase efforts to offer small business customers more substantive demand response programs which require little action on the part of the customer. And the utility should not give up easily on its efforts to educate the public about the concept of demand response. Like any new concept, it will take time and many exposures for demand response to take hold. This is confirmed by the findings of the literature review which indicate that the longer a campaign is carried out, the more likely it is to produce results.[11] Energy efficiency programs have been in place for decades and, while mainstream America is still not acting on the concept, it is at least well-understood by many. In order to maximize the effectiveness of demand response outreach initiatives, SDG&E's outreach programs should maintain a sustained level of activity over a period of several years.

Conclusions & Recommendations – Community Partnership Program

- Conclusions:

  1) The Community Partnership Program had insufficient time to be adequately developed and launched to anticipate and have an effect on summer peak resource needs.

  2) The program's relatively complex, technical messages (for the primarily small business market being targeted) will require multiple exposures before customers fully understand the demand response concept. These challenges associated delivering the demand response message to small businesses may take years to overcome.

  3) The program appears to be burdened with too many objectives, is heavy on utility jargon, and does not provide action options that are specific enough to the needs of different types of small businesses.

  4) SDG&E's materials generally focus on the simple concept of smart energy management (the pyramid concept is particularly effective in this regard).

  5) Tenants in leased space continue to exhibit major split-incentive barriers to taking EE actions. DR actions may be more saleable but not unless the customer pays the energy bill.

  6) The Small Business Super Saver's program is addressing a number of the recommendations suggested below, and may be a good base on which to build further.

- Recommendations:

  1) Recognize in planning that the program will take years to have its full effect and plan program development and field activities accordingly. This includes coordinating messages and timing of message delivery with statewide initiatives to avoid confusing customers and inundating them with similar, and in some cases, inconsistent messages.

  2) Set program regulatory approval filings and approvals on a schedule that enables utility staff to make timely program marketing and sales plans for each season so that the program can be better developed and have a more timely effect in the market. SDG&E should also make an effort to plan and seek approval for longer-term implementation of core programs so that each year they can make minor adjustments and build upon investment in program infrastructure from previous years.

[11] Auch, L. & M. McDonald. 1994. "Conservation Advertising Campaigns and Advertising Effectiveness Research: The Right Combination to Solidify the Conservation Ethic." *Proceedings of the 1994 ACEEE Summer Study*, pp. 1.1-1.7. ACE3.

3) Continue to expand the base of support in the communities through leadership involvement and building upon existing relationships with partner organizations.

4) Narrow the messages to focus on monetary savings and offer just two or three key strategies and tips. These should be options that are practical for implementation by small businesses. SDG&E should consider conducting research into a few specific small business segments most common within the neighborhoods where their partnerships exist (i.e., restaurants, laundromats, etc.) to identify the most relevant demand response strategies and technologies for a few select segments with the highest potential for implementing demand response actions. Specific materials and initiatives could be developed to reach these target audiences.

5) Use terms that describe the recommended action, not the concept ("AC Cycling" not "Demand Response").

6) Incorporate appropriate testimonies and case studies into outreach materials and presentations. Create a table of them by various business types as a way to inexpensively supplement generalized program awareness collateral, and as a way to create empathy with various kinds of businesses without having to create specially differentiated general program collateral. Have available additional layers of information to deepen customers' understanding as they learn more about the concepts and program options, laid out in ways that facilitate customers' decision making, but avoid using such information until customers are ready for it. Utilize opinion leaders more, particularly in group presentations, to testify to the value of the program actions.

7) Use high-interest customer service options like the Level Payment Plan as a lead-in to doing other things including DR actions (especially for demand-billed customers who potentially can reduce billing demand).

8) Where landlords pay the energy bills (embedding energy costs in tenants' lease rates), sell to landlords on the basis of their facilities being more competitive (e.g., lower per-square foot costs).

9) Develop sub-metering initiatives with the CPUC to enable cost-effective tenant energy tracking as part of the Advanced Metering Infrastructure development.

10) Develop one-stop shopping arrangements for small businesses, to reduce the time needed for the utility to sell and the customer's time to consider their options and take action. Include follow-up facilitation services to assist customers with contacting their preferred contractors to maintain and install equipment, for example, or to understand the financial consequences and return on the investment.

11) Provide selected marketing materials in Spanish and some Asian languages.

12) Don't put on special energy conferences for small businesses, but instead try communications channels already used by small businesses, including specialty trade newsletters as well as in-person events. Use such events as opportunities for public recognition.

13) Utilize local newspapers and other high-visibility media as a low-cost yet highly visible activity in conjunction with participating in small business events and recognition given at those events.

3.2.2 PEAK

Program Administration

As part of its efforts to introduce the demand response concept to the general public through its 2005 summer demand response outreach initiative, SDG&E was approached by the Energy Coalition to collaborate on a program that targeted the student population. By providing students with demand response information, the program hoped it would have a two-fold impact: 1) it would begin to instill a smart energy management ethic in San Diego's youth; and 2) it would affect the purchasing and energy management behavior of the students' parents.[12] SDG&E had heard positive reports about the PEAK Student Energy Action program which had been developed by the Energy Coalition, a California non-profit, and implemented in SCE's territory.

In a more typical full implementation of the PEAK program there is a year-long process starting with obtaining buy-in and commitment from a school, training teachers, and providing those teachers with standards-based energy curriculum and lab kits so they can easily teach smart energy management concepts as part of their science curriculum. The Energy Coalition's full PEAK program curriculum is designed to dovetail with standard science units taught in fourth and fifth grade including electricity, magnetism, physical science and natural resources.

In this program, SDG&E and the Energy Coalition needed an outreach effort that could reach students before the end of the 2005 school year, it was clear that full program implementation was not an option on such a short schedule. As an alternative, SDG&E and the Energy Coalition developed a workbook to be sent home with third through fifth grade students. SDG&E viewed the workbook approach as an opportunity to quickly and efficiently reach a very large number of households with the demand response message. The workbook draws upon concepts taught in the full PEAK program curriculum, with a focus on shifting energy use to off-peak periods.

The Energy Coalition was responsible for the program design, development of the program material and coordinating the distribution of the workbooks to over 31 school districts throughout San Diego County. The map below (Figure 3-3) shows the school districts within San Diego County and a list of school districts that received the PEAK workbooks, ranked in order of the number of workbooks they received.

[12] See for example, Geist, Laura Clark, Automakers Sell to Parents Through Kids, Automotive News; 1/16/2006. Short article on interview with Nickelodeon's senior vice president of advertising sales. Article references research Nickelodeon has done with J.D. Power in 2003, concluding that children have a big say in what vehicle their parents buy, and consequently choose to advertise with Nickelodeon. However, unlike television advertising, influencing and motivating parental action as a result of school activities (as opposed to merely influencing purchase choice) may depend more on long term projects requiring parental involvement, such as preparing presentations or homework. See, Packer, Jan, Program Effectiveness in Facilitating Intergenerational Influence in Environmental Education: Lessons from the Field. Journal of Environmental Education; 6/22/2001.

Figure 3-3. San Diego County school districts receiving PEAK workbooks.

San Diego School Districts Ranked by # of PEAK Program Booklets Distributed

1 Chula Vista Elementary (14,328)
2 Poway Unified (11,520)
3 Escondido Union (11,232)
4 Oceanside Unified (8,748)
5 Vista Unified (8,496)
6 Cajon Valley Union (8,388)
7 La Mesa-Spring Valley (7,272)
8 South Bay Union (6,156)
9 San Marcos Unified (5,220)
10 National (4,428)
11 Encinitas Union (4,320)
12 Santee (3,600)
13 Carlsbad Unified (3,276)
14 Fallbrook Union Elem. (2,808)
15 Romona Unified (2,664)
16 Del Mar Union (2,448)
17 Lemon Grove (2,448)
18 Lakeside Union (2,268)
19 San Ysidro (2,196)
20 Valley Center-Pauma Unified (1,980)
21 Solana Beach (1,800)
22 Alpine Union (1,296)
23 Coronado Unified (1,008)
24 Mountain Empire Unified (936)
25 Cardiff (792)
26 Bonsall Union (720)
27 Rancho Santa Fe (648)
28 Jamul-Dulzura Union (576)
29 San Pasqual Union (396)
30 Julian Union (288)
31 Borrego Springs Unified (216)

Between June 1 and June 17, the Energy Coalition distributed the workbooks to over 250 schools, along with a letter from the San Diego County Office of Education introducing the workbooks and explaining how teachers should distribute them to their students. Before the end of the school year, over 122,000 workbooks were distributed to third through fifth graders across San Diego County.

The workbooks called on students to fill out a postcard or go to a website to list the three steps they would take to implement a Smart Energy Action plan for their family. Those who submitted responses would be entered into a drawing for a free trip to Disneyland. SDG&E received 546 postcard responses and 156 website responses, totaling a response rate of 0.58%. Those who submitted entries to the Disneyland drawing, along with their families, were invited to attend an ice cream social held at SDG&E headquarters.

The Energy Coalition was <u>challenged by the short timeline to finalize the workbook, but they were pleased with the finished product</u>. Coalition staff wish that they could have done more to prepare teachers to understand the concepts presented in the workbooks, although the workbooks were designed as self-teaching tools. In theory, teacher involvement should not have been required in order for the workbooks to achieve their intended effects.

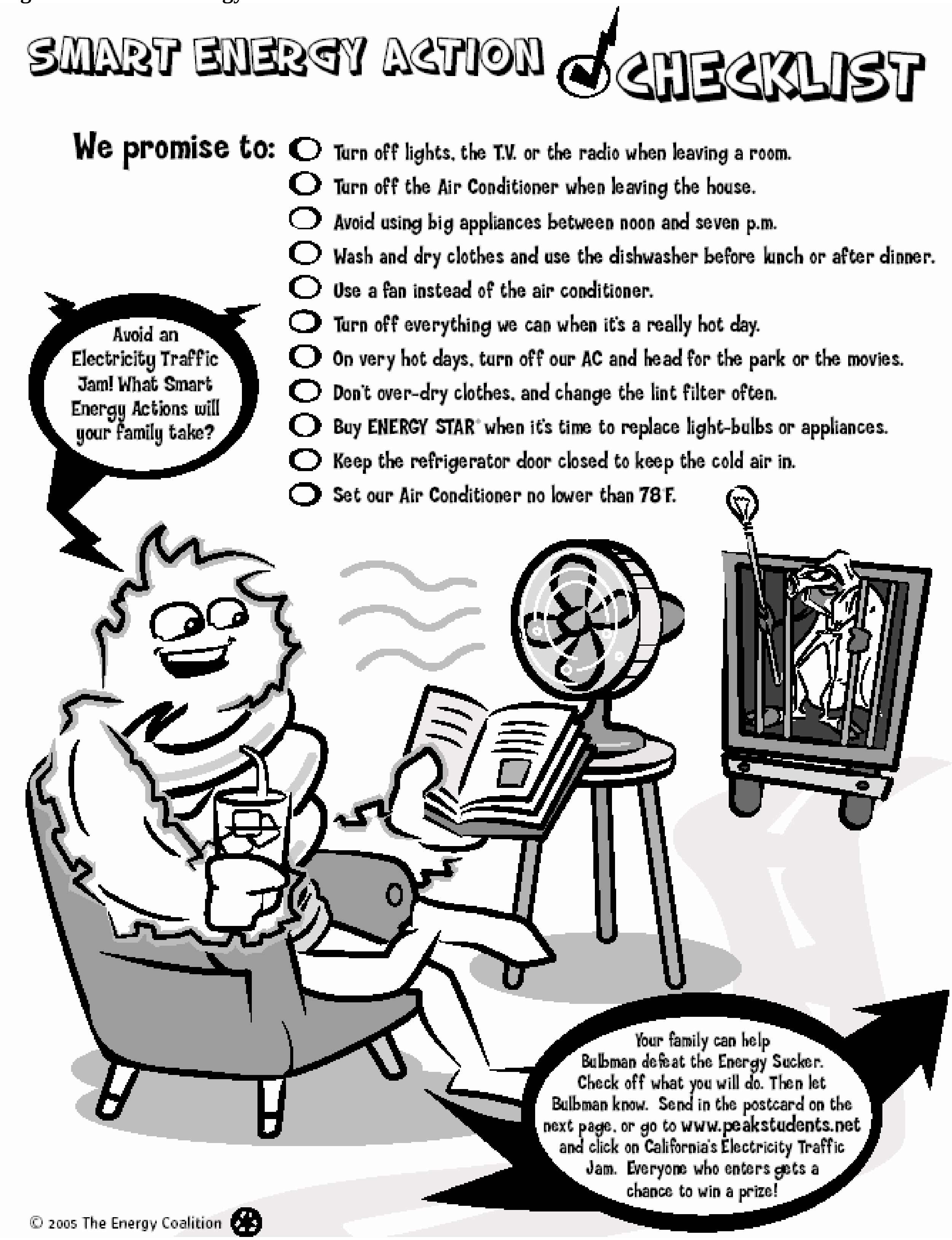
SDG&E was generally <u>pleased with the outcome of the PEAK workbook distribution</u> effort as well as the level of enthusiasm of students who attended the ice cream social. SDG&E program staff thought the initiative was a success. However, based on the low number of responses received by the students, SDG&E <u>wished that they could have played a role in editing and revising the content of the workbook and program website</u>. Furthermore, staff <u>wished that the PEAK initiative could have done more to involve teachers</u> in the delivery of the program's educational messaging.

The PEAK program was managed by a staff person who typically focuses on the commercial and industrial sectors and who specializes in strategic planning for media and marketing. Clearly, it would have been preferable to have teacher involvement and classroom time dedicated to introducing students to the concepts covered in the workbook. However, timing constraints resulting from SDG&E's late start on the student outreach initiative kept the Energy Coalition from including teachers in the delivery of the summer 2005 outreach effort. In the future, SDG&E plans to <u>assign a staff person with significant education experience and to initiate planning for student outreach initiatives earlier in the year</u>. This will likely improve the deployment of the program.

<u>Marketing Collateral</u>

In the case of the PEAK program, <u>educational materials are the focus</u> of the discussion in this section. For SDG&E's summer 2005 demand response outreach, PEAK program education materials consisted of a workbook titled, "California's Energy Traffic Jam: Bulbman vs. the Energy Sucker," and a page of stickers including peak energy reduction messages, like "use me before noon or after 7:00 PM." The twelve-page workbook was made up of several games including connect-the-dots, word searches and crossword puzzles. Each game featured the Bulbman as the hero character who occasionally faced off against his archrival, the Energy Sucker. The educational content of each page was clearly highlighted in a bubble and key terms appeared in bold print. The workbook covered concepts such as where electricity comes from, how it is delivered to homes and businesses across the state, the existence of a the peak demand period, and ways students can take action at home to use less energy during periods of peak demand. The workbook ended with a "Smart Energy Action Checklist" (Figure 3-4) which called on students to commit to the following eleven steps to reduce their energy usage at home. The checklist combined EE actions like purchasing energy star appliances with DR actions like avoiding appliance use between noon and seven P.M.:

Figure 3-4. Smart Energy Action Checklist



As part of this research effort, a focus group was conducted with six San Diego City school teachers who teach third through fifth grade students. PEAK workbooks were distributed throughout San Diego County last summer but not to the San Diego City schools in 2005. But nonetheless the Summit Blue team felt that the San Diego City School teachers would provide a comparable perspective to other teachers in San Diego County especially considering that the other San Diego County teachers had only been used as a distribution channel to send the workbooks home and did not actively teach the workbook in school. The teachers in the focus group were presented with the Traffic Jam workbook and asked to provide feedback.

The teachers had a wide variety of comments and reactions to the PEAK workbook. The majority of the teachers expressed that they would not spend class time on games like connect-the-dots and word searches. The teachers explained the standards-based nature of the California education system. They discussed the fact that it is difficult to add topics such as energy conservation if they are not already part of an overall approved curriculum. Teachers have some leeway and flexibility in what they cover, but they still need to cover the criteria included in the standards by which their school's performance will be measured. One teacher mentioned that if the school had a low ranking, it was even more important to focus on the standards.

> ***"We really have no choice other than to teach to the standards. Any new curriculum needs to be integrated into the standards we are held to."***

Some science topics that relate to conservation have been introduced through the standards-based curriculum, but nothing as pointed as energy efficiency and certainly not demand response or grid power. Various topics mentioned that the energy curriculum could possibly overlap with were electrical circuits, graphing and recycling. Two of the teachers noted that they were working on an energy conservation curriculum, and trying to fit it into the standards, and that they were encountering many difficulties.

In terms of the workbook's layout, one teacher thought the workbook was too busy and it would be distracting, especially for students with attention problems. Another liked the layout, but said that many of the terms would be difficult for the younger students to understand; she said that the workbook could include more prominent definitions of the more difficult words. Another noted that the kids would probably not read the paragraphs anyway, but instead would go through and do the games and puzzles; some of the other teachers agreed with that observation.

Teachers liked the overall idea of having characters and thought that the comical Bulbman character would go over particularly well with kids. The teachers also thought the good vs. evil approach was strong, mostly because it is consistent with the themes and images that kids are presented with everyday. These sentiments are consistent with principles of effective advertising which hold that messages should appeal to the target audience's emotions and self-esteem, and use humor and distinctive images to command attention.[13] By casting a relatively complicated and potentially mundane topic as a battle between two good and evil cartoon characters, "Bulbman' and "Energy Sucker," the content becomes funny, accessible and dramatic.

> ***"Any material that goes home and is intended for parents to look at should include a Spanish version. Ninety-five percent of my students Spanish speaking homes."***

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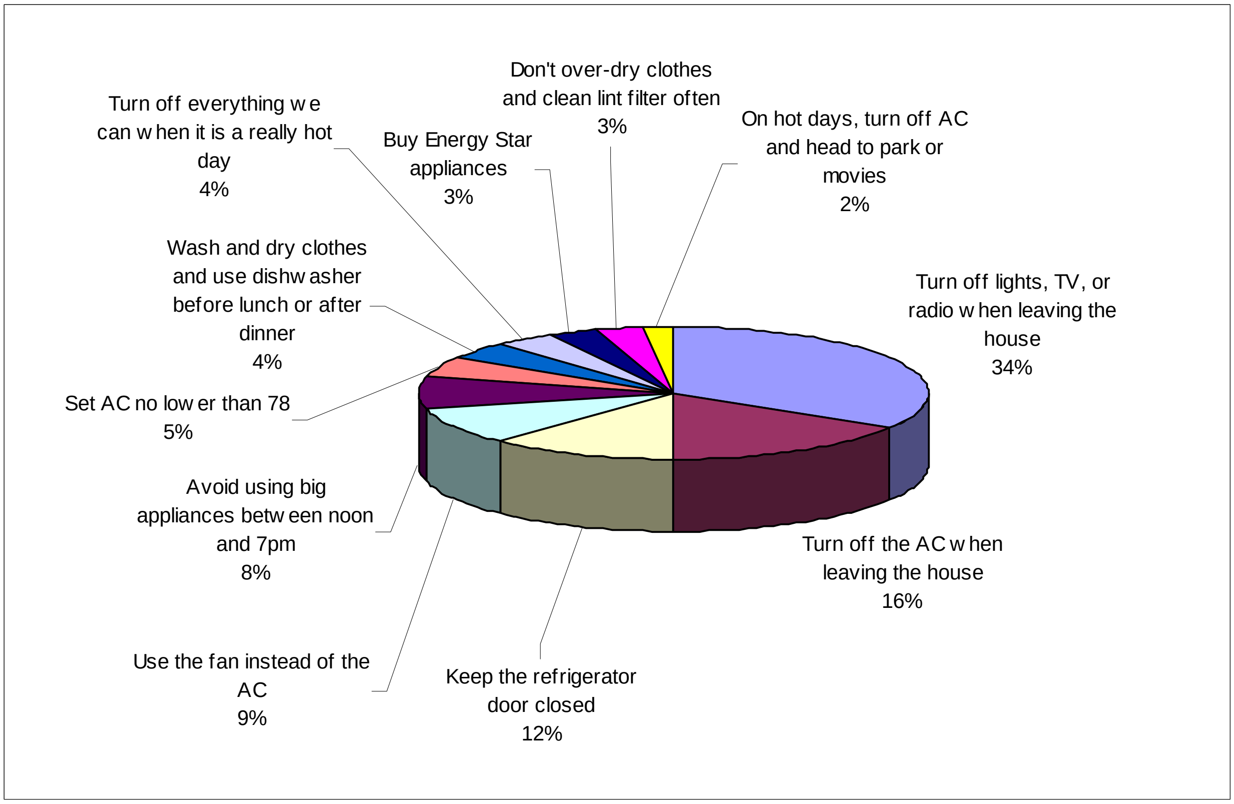
[13] Peters, Anne. 2000. Madison Avenue Meets the Monopoly: Advertising Approaches for Energy Companies. *E-Source, Inc.*, ER-00-11.

It was noted that the workbook should also be printed in Spanish; one teacher said that 95% of her students live in Spanish language homes.[14] Even if the student speaks English, the parents might not. Also, the workbook pointed the students to the Internet for answers, but many kids do not have Internet access.

Another teacher pointed out that while the Disneyland trip was a motivator, all the kids needed to do was fill out the card and send it in; it didn't necessarily indicated comprehension of the material. She suggested an improvement would be to have to put some set of answers on the card before it was sent in for the prize to Disneyland. However, based on the content of the postcards collected by the Energy Coalition, on which children wrote out the three actions they promised to take to prevent an "Electricity Traffic Jam" it appears that children who completed the postcards did base their responses on content from the workbook. Figure 3-5 below shows a summary of the actions students promised to take.

Figure 3-5.



Source: Energy Coalition

One teacher suggested that if some energy material were presented in class, the workbook could be turned into a homework assignment and students would have a reason to take the read through time to complete it. In the future the SDG&E may wish to have the coalition add the students school and teacher name to the drawing, so that outstanding teachers of the energy issues could be identified.

Regarding the demand response message of the workbook, teachers noted that students, like adults, need to receive a message many times before they have strong recollection of it. Students would probably not

[14] In the city of San Diego, 34% of households are Spanish speaking. From: http://quickfacts.census.gov/qft/states/06/0666000.htm.

retain the concept of shifting energy use to off peak times merely from the exposure provided by the workbook. Further, several teachers noted that while saving money on the home electricity bill would be a good motivator for parents, they wouldn't suggest leading with that message for the students. They suggested coupling demand response with a message that would be more compelling to students, such as environmental improvement. According to the teachers, environmental messages resonate well with students in the fourth and fifth grades because at that age kids like to feel as if they have the power to change things for the better. The importance of making children feel empowered to make a difference is confirmed by the findings of the literature review.

The teachers described several examples of ways they already incorporate environmental concepts into the classroom. One teacher who leads an enrichment program in her school called "Planet Protectors" reported that,

"I ask my students every week what they have done to help the environment."

Another teacher described an occasion when students were exposed to art projects made completely of recycled materials. That experience apparently had a very powerful effect on the kids.

Teachers also suggested ways to improve upon the "Smart Energy Action Checklist." Some teachers suggested splitting the list into two: one that would focus on concrete actions kids could take, and one geared toward actions more appropriate for parents, such as buying Energy Star appliances and limited the drying time when doing laundry.

Throughout the Traffic Jam workbook, reference is made to the PEAK program website, www.peakstudents.net. The site contains greater depth of information than the workbook and features a number of video game-like activities. The teachers' responses to the web-based material were mixed. First, it is unclear whether students will take the time to visit this site on their own. If they are the type to play video games, they may prefer to spend their time with more mainstream games with which they are familiar. Furthermore, while focusing the program around the internet and computer games is the right social context for some kids, this strategy could miss a large portion of target population who don't have internet access.

Upon reviewing the online games, the teachers generally found the Community Blackout Game to be confusing and too slow to hold a child's attention. Interestingly, while utility staff expressed reservations about the appropriateness of the theme of the Community Blackout game, focus group participants felt that blackouts are a reality that we all need to deal with and that the topic was not inappropriate for a young audience. Reactions to the Home Energy game were somewhat more favorable than to the Community Blackout game. Teachers liked the fact that students could make choices about the different energy features to include in their home. However, some expressed concern that the students would not be familiar with several of the terms used, like weather-stripping. Language like, "filling in holes so cool air doesn't leak out" might be more appropriate language for the student audience.

The focus group participants were informed that, in its full-implementation format, the PEAK program includes teacher training, and that standards-based energy curriculum is provided to make it easier for teachers to cover energy content in the classroom.

When asked how they would recommend designing a program geared toward educating kids about energy and demand response, all the teachers expressed great enthusiasm for the use of assemblies. They provided several examples of stellar assemblies and explained that the assembly format can be much more memorable to students than even classroom time. One teacher recalled an assembly she had participated in as a student and how the messaging had stuck with her into her adulthood. One teacher explained,

> ***"The key is to get kids excited about the ideas! If a kids sees a big Bulbman dressed up at school, they'll go home and tell their parents about it."***

Several teachers mentioned that assemblies create an effective platform for teaching students new concepts like energy conservation. They are focused during entertaining assemblies and are capable of retaining a great deal of information. They often share the experience of these assemblies with their parents when they return home. Someone mentioned that it would be great if Bulbman (the hero in the workbook) could actually come to the school and present at an assembly. Another possibility for an assembly would be to have older students (maybe high school or 7-8th grade) teach or perform theatrical pieces to convey some of the energy concepts to the younger kids. This approach has proven successful for the National Theater Company, a group of performers who travel to schools around the country using live theater as a tool for delivering messages and promoting brands. According to Ward Eames, founder and president of NTC, studies on the effectiveness of their performances have found that 99% of educators believe teaching through the use of assemblies and live arts projects increases student retention of messages students' capacity to retain key messages.[15] Eames explained that using assemblies with outside performers or presenters can also reduce program costs since teacher training is not necessary.[16]

The importance of a community forum, like an assembly, is also consistent with the findings of the literature review. The community approach to teaching the energy concepts would reinforce the social importance of the subject-matter and provide an opportunity for kids to become engaged in the topics in with their peers.

Teachers also expressed that if they were provided with well-organized, standards-based energy curriculum, they would use it in the classroom. One teacher talked about an effective program in which she had participated called "Water Works." Teachers were taught the curriculum and how to present it to students; it had well-organized content that blended with other lesson plans. A few teachers believed that energy curriculum could be used as the basis for teaching several science and as math concepts. For example, students could be taught how to present energy data in a graph format as part of a unit on graphing.

Another idea for providing ready-made classroom material for teachers was to create an educational video with the PEAK messages. The video could include some Q&A challenges to make it interactive. Teachers generally agreed that videos can be powerful tools.

Teachers explained that students are apt to retain more information if it is presented in a visual format as opposed to a lot of text. They urged curriculum developers to keep information concise and focused and not to overwhelm students with too many messages. All the teachers agreed that students respond best to hands-on activities.

Following is a summary of the key feedback received through the focus group:

- Any energy efficiency or demand response curriculum would be best presented as an integrated part of the required "standards" for teaching at each grade level. Anything short of standards-based curriculum will make spending time on the topic extremely difficult.

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[15] Personal communication with Ward Eames, and www.nationaltheater.com/putyourbrand.htm.

[16] Ibid.

- The PEAK workbook received mixed reviews from the teachers. Some thought it was too busy and detailed. Others thought many of the terms would be too complicated for kids and that definitions should be more prominently displayed. While teachers thought the kids would enjoy completing the games in the classroom as opposed to doing normal classroom activity, they did not think kids would take the time to complete the games at home. There were concerned that many kids would skip to the postcard at the end and complete it to enter the Disneyland drawing without having read the workbook.

- The concept of good vs. evil using characters was strong.

- Any information that is intended to be shared with parents needs to have a Spanish-language version.

- Hands-on activities are often best for learning concepts such as energy efficiency and demand response. Assemblies are an effective method for teaching new concepts and achieve higher retention of messages. Characters such as Bulbman could be used to great effect in an assembly.

- Students at the 3rd -5th grade level like to feel they have the power to make a difference in the world. Therefore, the environmental message can be quite strong and should be used.

Outreach Activities

For SDG&E's 2005 demand response initiative, PEAK program outreach activities were limited to the distribution of energy "traffic jam" workbooks to 31 school districts. SDG&E also held an ice cream social at its headquarters to recognize those students who listed three Smart Energy Actions their family would take, and submitted the list in order to enter a drawing to win a free trip to Disneyland. Those parents that were involved, helped their children with filling out the Disneyland drawing post card and bringing them to the ice cream social.

As described in the previous section, when fully-implemented as designed by the Energy Coalition, the PEAK program includes obtaining commitment from a school, conducting teacher training, and providing standards-based curriculum and lab kits to teachers. Both the Energy Coalition and SDG&E staff expressed regret that teachers had not been used to deliver the educational messages to San Diego students as part of the 2005 demand response initiative. With greater lead time and planning, and additional budget SDG&E should be able to arrange to include teacher training and participation as part of their PEAK program activity in future years. Communities in other parts of California have used the PEAK program as a launching point for many additional energy-related activities. For example, in Palm Desert, students held an assembly as a kick-off to a CFL sales event.

Channel Effectiveness

As implemented by The Energy Coalition and SDG&E, the PEAK program provided limited value. The goal of the workbook was to reach many students and parents quickly and efficiently with the demand response message. While 122,000 workbooks were distributed, this does not mean that 122,000 students and parents received the demand response message. Distributing the workbooks during the last week of school as a self-taught take-home activity significantly diminished the likelihood that kids would pay attention to the content. The draw of the Disneyland prize was compelling, but students did not need to complete all the activities in the workbook in order to enter the drawing.[17]

Social marketing theory emphasizes the importance of instilling a conservation ethic in individuals to foster norms and attitudes that will guide their consumer behavior over the long-term.[18] Other consumer behavior theories confirm the role of attitudes and social norms in predicting behavior.[19] The PEAK program, when fully-implemented as it was designed by the Energy Coalition, is on target with these theories. However, when it was implemented as it was in 2005, due to timing and budget constraints, where students are merely handed a workbook with no classroom discussion or follow up on the topic, they will likely come away with a sense that the concepts are of little value or relevance to their lives. Proper presentation and discussion is necessary to ensure that students absorb the key messages of the program, and are made to believe that the topics are of social importance and worthy of their attention.

Classroom coverage would be ideal. And teachers participating in the focus group indicated that teachers should be able to incorporate well-organized, standards-based curriculum into their teaching. However, school assemblies, or interactive activities at summer fairs or other community events could be effective alternatives or supplements to classroom activity. This community approach would reinforce the social importance of the subject-matter and provide an opportunity for kids to become engaged in the topics in the company of their peers.

Key features of successful education programs include: 1) engaging and interactive program content; 2) periodic evaluation and monitoring to ensure effectiveness; and 3) long-term, consistent program delivery (Hanson & Siegel, 1995; Auch & McDonald, 1994; Feldman & Rambo, 2003).

In 2005, the conservation concepts presented in the PEAK program received very little, if any, classroom attention. Going forward, program staff should pursue opportunities for integrating energy conservation concepts into the regular science and math curriculum, starting in elementary school and continuing through high school. Through focus groups and interviews, teachers and other education professionals should also review and comment on the program content, delivery format, and overall program strategy. Furthermore, age-appropriate materials should be developed for different age groups, and materials intended for review by parents should be printed in Spanish as well as English.

Conclusions & Recommendations - PEAK

- Conclusions:

  1) This program had too little time available to accomplish its objectives, and ended up being rather a rather passive approach. As implemented, it provided little value. In its full conceptualization, however, PEAK is on target with social marketing and educational theories.

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[17] Furthermore, the concept of a Disneyland prize was somewhat inconsistent with the energy conservation ethic the workbook was trying to convey. A more appropriate prize might have been a bicycle (to promote alternative transportation) or an energy efficient television or other appliance.

[18] Kiefer, K., LeBlanc, W., & Feldman, S. 1994. “Social Marketing: The Road to Maximizing the Sustainability of Energy Efficiency and DSM Savings.” *Proceedings of the 1994 ACEEE Summer Study*, pp.1.91-1.10. Consumer Behavior Theory, Methodology for Evaluation.

[19] Ajzen, Icek. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.

2) Assemblies are a popular and effective mode for presenting new topics and achieving increased levels of message retention among students. Adding an assembly or play to the program could boost its effectiveness.

3) The program faces a daunting hurdle to become integrated with deeply entrenched curricula, due to curriculum development requirements that include addressing education standards. Nonetheless, teachers expressed interest in using PEAK in the classroom if it were developed in accordance with curriculum development requirements.

4) The workbook content was too focused on games to be taken seriously as a classroom tool. However, teachers would consider using it as a homework assignment to follow up on classroom activity that was more appropriate to the education standards requirements they must apply.

5) Some terms remain overly complex for younger students to understand, but the concept of good versus evil is intuitively appealing. The internet-based Community Blackout Game may be too confusing and slow – but blackouts are a reality are not an inappropriate topic for students. The Home Simulation game has empowerment and decision making features that teachers think would be appealing to students, but the terminology could perhaps be simplified further by putting it in more descriptive terms.

- Recommendations:

1) Use dedicated program staff with education experience to assure focus and coverage of program management responsibilities.

2) Start program development and outreach efforts sooner, in order to better align the program with the general school year and various curriculum developments within the various school districts. This includes the difficult effort of addressing curriculum development and approval requirements in relation to education standards now in effect.

3) Consider trying alternatives for using PEAK that do not require it to go through a full curriculum development and approval process, but that instead can be more expeditious to incorporate as a sub-unit in science. Assemblies may be one work-around, and would offer a venue where characters like Bulbman could attend and help promote the concepts being taught. Another alternative is using the energy material as the focus for teaching other subjects like math. Examples of saving energy could be used to teach arithmetic, or one might use historic electric usage as the content for generating graphs. Educational videos are yet another alternative and provide easy use.

4) Develop a Spanish-language version, and provide alternative working materials that do not require internet usage.

5) Make the drawing for the Disneyland trip connect directly to the learning of PEAK, such as requiring responses to specific energy questions on the entry card for the prize drawing. Consider alternative prizes that are more in line with the objectives of the program.

6) Promote environmental protection more aggressively with the program. This is a more compelling message for students than saving money, which is currently the lead point highlighted on the www.peakstudents.org home page. However, the economic message is important to communicate to parents, so parallel messaging is something to consider as well –

perhaps a two-track activity list, one for kids and one for parents, that the family can work on together.

7) Find two or three select “leadership” school districts to work with on making PEAK a full-fledged curriculum component, most likely within a science curriculum. Creating leadership schools and working the curriculum development process including educational standards requirements would create a template to use with other school districts and reduce the cost of subsequent replication of the program.

3.2.3 Energy Orb

Program Administration

The first step in educating the public about energy issues is to grab their attention. For years, utilities have used bill inserts and some conventional mass media channels to deliver educational and public service messages to their customers. These are important communication channels for long-term educational and branding initiatives.[20] However, bill inserts go unnoticed by many customers, and truly effective short-term mass media campaigns are too costly for most utility outreach budgets. During the summer or 2005, SDG&E needed an innovative strategy for introducing the public to the demand response concept. In addition to radio and print ads, and broad community outreach activities described earlier in this report, SDG&E used unique grapefruit-sized devices, dubbed “Energy Orbs,” placed in high-traffic areas of public buildings to alert the public that energy prices are higher during periods of peak demand. SDG&E hoped that by informing consumers when electricity is most expensive, they would take steps to reduce their energy usage during those times.

The Energy Orb pilot initiative was administered under SDG&E’s Community Partnership Program. During communications with community representatives to establish and build upon existing community partnerships, utility staff informed the communities throughout the SDG&E service territory about the availability of the Orbs. Most communities were receptive to the idea of placing an Orb in a high traffic area of a public building as a means of educating citizens about the times that they should take extra steps to cut back on their energy usage. SDG&E staff worked with the community contacts to determine which building in their community would be most appropriate for locating the Orb, and who would be designated the “Orb Keeper” for that community. Typically the Orb Keeper was a receptionist or staff person who would be the first person to communicate with visitors when they enter the building. The Orb would be placed on or nearby the desk of the Orb Keeper.

SDG&E hired a vendor, Ambient, to manage the programming and technical aspects of the pilot. This was assigned to former program manger of the SPP-Information Display Pilot which included the Energy Orb. Vendor relations were managed by an experienced member of SDG&E’s commercial and industrial staff whose primary responsibilities are to conduct strategic planning for the marketing of SDG&E’s demand response programs.

The Orb initiative encountered many logistical hurdles during its first season of deployment. Due to scheduling delays and programming difficulties, the Orbs were not delivered to participating communities until the beginning of September. SDG&E staff delivered the Orbs along with a letter explaining the Orb initiative, as well as a tent card to be displayed next to the Orb. The Orbs remained in place for just one month, as the summer pricing season ends on September 30.

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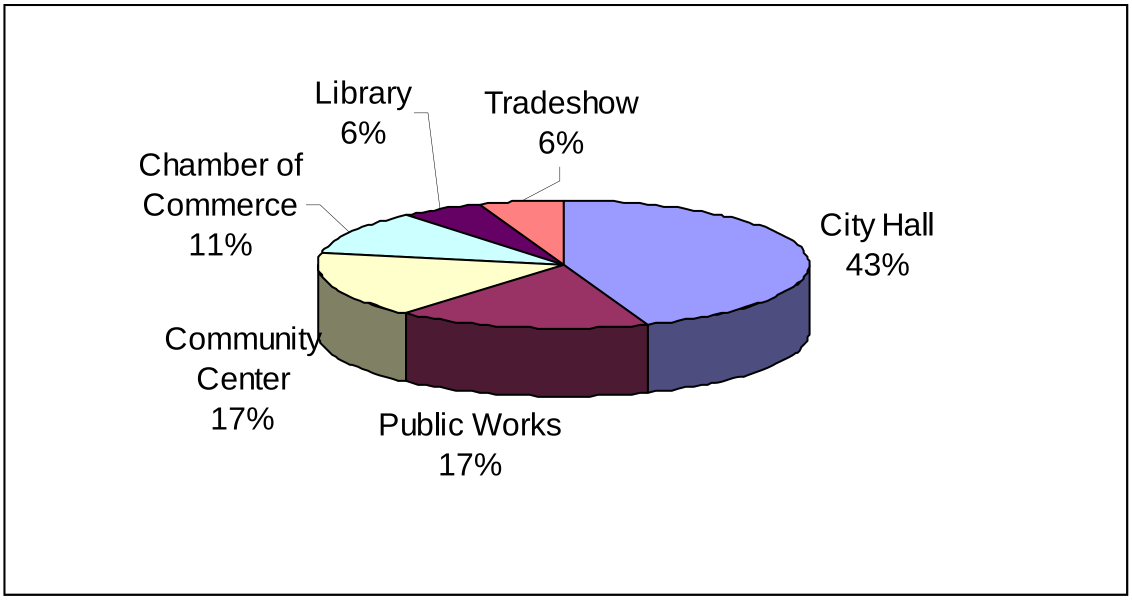
[20] Peters, Anne. 2000. Madison Avenue Meets the Monopoly: Advertising Approaches for Energy Companies. *E-Source, Inc.*, ER-00-11.

Eighteen communities agreed to participate in the Orb pilot initiative. As shown in Figure 3-6 below, the majority of participating communities (43%) chose to display the Orb in their city hall. Other orb display locations included community centers and public works departments, as well as a library and a tradeshow.

Figure 3-6. Energy Orb Display Locations



Of the 18 communities who agreed to participate in the Orb initiative, three (Alpine, Dana Point, and Laguna Beach) experienced significant technical difficulties. Dana Point and Laguna Beach, both located in southern Orange County, were completely unable to receive the signal that controlled the changes in the color of the orb. As a result those communities could not host Orb displays.

As part of this evaluation effort, a focus group and two interviews were conducted to learn more about the experiences different communities had with the Orb displays. Five Orb Keepers participated in the focus group. All focus group participants and interviewees reported that the Orbs did an excellent job of capturing the public's attention and stimulating dialogue.[21] They also presented a number of suggestions for ways to increase the effectiveness of the orb displays in the future. Further discussion of the findings from the focus group and interviews is included in the following sections of this report. On the topic of program administration, most of the focus group participants and interviewees expressed that they would have benefited from additional preparation for their caretaker role.

Since they had only received a brief letter describing the Orb initiative and the tent card displayed along with the Orb included very limited information, several of the Orb Keepers were confused about the target audience and of the Orb and the meaning of the different colors which the Orb cycled through during the course of the day. The orb does not respond to price signals per se, but rather periods of higher price, e.g. 11:00 AM to 6:00 PM. A significant number of Orb Keepers also reported feeling unprepared to answer the questions posed by the public. For example, the tent card showed that the different colors of the Orb represented various electricity rate levels (green: "lowest rate," blue: "higher rate," and red: "highest rate"), but the Orb Keepers did not know whether the electrical rates referenced in the tent card

[21] This is consistent with the results of an early online survey conducted by SDG&E. 78% of respondents to that survey said that they agreed or strongly agreed that the Orb was a good education tool. "Energy Orb Feedback Survey- Online Survey Results," presented by Dana Bernal, Customer Communications and Research, October, 2005.

applied to commercial or residential customer, or to both. One focus group participant explained that when her community agreed to participate in the Orb initiative, they were under the impression that the target audience was residential consumers. Therefore, they placed the Orb display in their city hall where they receive a high volume of residential traffic. She reported that she was frustrated when she learned that the Orb signaled changes in the electricity rates throughout the day, because she understood those rates to be available only to commercial customers. Clearly, greater effort should be made in the future to ensure that Orb Keepers and community representatives fully understand the meaning of the Orb and its colors, and that they are better prepared to field questions from the public.

Marketing Collateral

SDG&E provided participating communities with an 8 ½ x 11 inch tent card (shown below) to place next to the Orb.

Figure 3-7. Energy Orb Promotional Card

The explanation on the tent card makes it appear that the audience of the Orb is the public agencies themselves, and not the citizens who visit the public buildings at which the Orbs are displayed. However, focus group participants reported that, to their knowledge, there were no efforts by city energy managers to use the Orbs as a pricing cue, or tool for energy management at city buildings. A few Orb Keepers expressed frustration at the fact that they had no control over the energy systems at the building in which they worked. They were also frustrated by their belief that those who visited their buildings would likely forget the about the message of the Orb by the time they got home and were in a place where they actually had control over the level of energy usage.

In addition to the tent card, some communities received a fact sheet for public distribution. No other flyers or educational materials were distributed at the site of the Orb display.

> ***"There should definitely be more eye-catching literature that explains what the Orb is all about."***

There was consensus among the focus group participants that the Orb display would have been much more effective if additional material or information had been available. Some suggested providing flyers or brochures that visitors could take with them that would include more information about peak demand periods and suggestions for ways to use less energy at home during those times. One interviewee also suggested using a larger, colorful display next to the Orb to provide more comprehensive information about peak energy periods, along with a list of energy conservation tips for the appropriate audiences (residential, or small businesses in most cases). Further discussion of this topic is included in the Channel Effectiveness section.

Outreach Activities

The Orb initiative was part of SDG&E's broader Community Partnership Program which included a range of outreach activities which are described in the Community Partnership Program section of this report. Aside from displaying the Orbs in high traffic areas of public buildings, no further outreach activities occurred as part of the Orb initiative.

Channel Effectiveness

The tent card distributed along with the Orb described it as a tool to assist *public agencies* with their conservation efforts. In contrast, the fact sheet that was given to Orb Keepers explained that the goal of the Orb was to help *businesses* conserve energy and save money by shifting non-essential electric use to lower-priced times. Program staff reported that the goal of the Orb was to use it as a tool for capturing the attention of the general public and to inform them that during the hours of 11a.m. to 6 p.m., when demand for electricity is the greatest, everyone should make an effort to use less energy as a means of reducing the burden on the power grid. The findings of the focus group and interviews confirm that the Orb was effective at capturing the public's attention. However, our research indicates that the Orb display was less effective at actually educating the public about the concept of peak energy demand and appropriate demand response strategies. We believe this is primarily due to the lack of clarity in program messaging, the absence of a focused target audience, and a lack of sufficient collateral materials to supplement the Orb displays.

As discussed throughout this report, the demand response message is complex and difficult to communicate. Placing the Orbs in public buildings, where all different types of consumers would view the display, only exacerbated the challenge of effectively communicating the demand response message. Focus group and interview findings, as well as the literature review confirm the value of placing an innovative visual display in a public place as a means of introducing the public to the demand response message.[22] Thus, we believe that the use of Orbs has great potential as an education and outreach tool. In order to realize that potential, SDG&E should take a number of steps to improve upon the delivery of the program.

First, SDG&E should clarify the target audience of the Orb displays. SDG&E's program staff explained that, since the demand response concept is so new, the utility is trying to introduce the concept to the general public as well as the larger businesses that possess a greater ability to shed load during peak periods. To the extent that the general public is the target audience for the Orb initiative, public buildings can be an effective venue for delivering that message, but additional information should be provided so

[22] Kiefer, K., LeBlanc, W., & Feldman, S. 1994. "Social Marketing: The Road to Maximizing the Sustainability of Energy Efficiency and DSM Savings." *Proceedings of the 1994 ACEEE Summer Study*, pp.1.91-1.10. Consumer Behavior Theory, Methodology for Evaluation.

that each of the various types of consumers who inquire about the display can leave with knowledge and tools that that they can apply to their own situation.

> ***"The public is definitely fascinated with the Orb, but the information surrounding it needs to be better."***

One person who was interviewed explained that he placed the Orb next to a poster that showed a graph of his city's historical electricity usage. The poster demonstrated how electricity usage varies during the course of the year and was increasing over time. The city employee reported that the poster had previously been ignored, but that once the Orb display appeared, people started paying attention to the poster like never before. SDG&E should consider using a poster or kiosk format to provide additional, concise literature and information about demand response and strategies for conserving energy during peak demand periods. The Orb would then serve as hook to grab the attention of the public and direct them to relevant information and resources.

Since visitors at public buildings are not able to take immediate action to conserve energy, providing something they can take back to their home or business would be helpful. A librarian who participated in the focus group suggested distributing bookmarks with energy saving tips. Refrigerator magnets might be another effective message medium, as people will see them when they open their refrigerator, a major source of electricity use in their home, or DR stickers for thermostats. Consistent with social marketing theory, these types of take-home pieces can serve as important reminders of messages and desired behavior changes.[23] SDG&E could use the "electricity traffic jam" theme that is used in their radio and print ads. By using consistent themes and taking advantage of every opportunity to "hit" the general public with the demand response message, SDG&E will increase the effectiveness of its efforts.

SDG&E should also consider changing the colors of the Orb and the meaning of the colors. Many focus group participants expressed that the Orb's green, blue, red color scheme was confusing. There was consensus among participants that the Orb should use the familiar red, yellow and green traffic signal color scheme to indicate when the public should be most conscientious about cutting back on energy usage.[24] While the Orb's current price-based format, in theory, should appeal to everyone's interest in saving money, since time-of-use rates are not available to residential customers, the commercial electricity rate scheme is confusing to use in public buildings which have a large volume of residential traffic. Generalized energy production costs may be more appropriate and understandable to all types of audiences, especially if described as being what production costs typically are like and that they are what underlie actual prices. Alternatively, using a timing scheme that focusing on the amount of strain on the system could be effective since people in SDG&E's territory were significantly affected by the rolling blackouts of the energy crisis and would be interested in ways to avoid future blackouts. One interviewee recalled a tragic car accident that had occurred in his community due to the failure of a traffic signal during a rolling blackout. He explained that the "avoiding a blackout" theme would be very compelling in his community.

While the Orb was popular among virtually all focus group participants and interviewees as a means of capturing the public's attention, there was some discussion of alternative formats for communicating the demand response message. Everyone agreed that using an electrified display was the most effective way to draw attention, despite the fact that they reported receiving many questions and complaints about

[23] McKenzie-Mohr, Doug, "Quick Reference: Community-Based Social Marketing." Obtained at www.cbsm.com, January, 2006.

[24] At the Community Energy Cooperative in Chicago, IL, an innovative residential real-time pricing program that organization offers uses an actual traffic light at the Cooperative's offices to signal normal (green), peak (yellow) and super-peak (red) costs.

employing an energy-using device as a tool to promote energy conservation. One interviewee suggested using a clock whose face has different colors corresponding to on and off-peak periods.

Conclusions & Recommendations – Orb

- Conclusions:

  1) The Orb is an excellent tool to get general public attention and to stimulate dialogue. It is limited by the brief exposure people have to it, however, and so its effectiveness is limited unless it is used over a long period of time (to help ensure multiple exposures) and is surrounded and supported by ongoing additional awareness and education efforts.

  2) The Orb is not by itself effective in educating the public about peak energy demand and demand response strategies. The Orb would be much more effective if additional information such as a kiosk and take-away brochures

  3) The Orb's color scheme is confusing, as it contradicts typical perceptions of what the blue and green colors should mean.

  4) Using a commercial TOU pricing scheme for the Orb is confusing for a largely residential audience not accustomed to TOU rates.

- Recommendations:

  1) Conduct specific training for Orb keepers so that they are able to handle general questions and know how to direct inquiries for further information.

  2) Provide the Orbs with a higher-visibility, more protected setting such as a kiosk. Such displays could be produced in ways that communicate the facility's or community's energy usage, energy management initiatives or other relevant activities that complement the Orb's presence.

  3) Provide take-away brochures that have simple graphics and messages describing the concept of varying energy costs and associated DR actions people can take, as well as traditional energy efficiency advice. Provide several types of brochures targeted to specific audiences that might view the Orb , including residential, small business and large customer audiences (including, perhaps, PEAK workbooks). This will help ensure that each of the potential audiences has the opportunity to take something meaningful from the display.

  4) Change the colors to red, yellow and green to align with people's perceptions of traffic controls, which would be consistent with the "traffic jam" concept being used in SDG&E's literature.

  5) Use either levels of strain on the electricity grid. E.g. the red color should be associated with emergencies or the need for immediate reduction of use.

3.3 SCE Programs

3.3.1 EE/DR Audit

Program Administration

This outreach effort focused on small and medium non-residential customers who are typically under the jurisdiction of Edison's Small Business Solutions group. This class of customers is eligible to receive an integrated EE/DR audit from SCE. The audit program utilized a direct contact channel approach to the market, with SCE representatives conducting on-site visits to assess energy efficiency and demand response opportunities. Prior to the current program, Business Solutions provided on-site audits to small non-residential customers under 100kW through a hand held palm system that focused on energy efficiency. The reps use a PALM pilot device with software developed by EnerPath to collect data during a site audit. The data are then transmitted to EnerPath which uses the data to determine which of thousands of possible recommendations should be made, and what the cost and simple payback of those options would be. The resulting list of recommendations is then returned wirelessly[25] to the representatives at the customer's facility and printed out. The recommendations are customized to the facility being audited. Through incremental funding authorized in CPUC Decision 05-01-056 additional software was developed by EnerPath and additional representative were brought on by Business Solutions to enable a demand response module and associated messaging. Load curtailment strategies and other DR options are discussed with customers as this product was conceptually designed to incrementally fold in a DR component into the small business EE audit process. Prior to the module being incorporated into the PALM device, follow-up contacts with customers interested in and potentially having DR opportunities were conducted to convey DR-specific information. The follow-up contacts proved helpful in a number of ways for DR, energy efficiency and general customer service needs, as indicated by the customer survey conducted to evaluate the program (see further discussion below).

The reps are for the most part clear on the demand response message and appear to be self-starters. Several have taken substantial steps to train themselves on the needs of particular kinds of customers, so as to improve their ability to "sell" EE and DR. One rep learned everything there was to know about convenience store cooling and reported that this substantially contributed to her success.

> ***"I became the queen of the convenience stores. I learned all about refrigeration display cases. If I see an opportunity to improve efficiency for a few hundred dollars. I can make that sale."***

The theory of the combined EE/DR approach here is sound, and the reps are generally pleased with the responsiveness of the software developer EnerPath. They find that changes in rebates or other programs are quickly implemented in the EnerPath database and thus in the recommendation and pricing of rebates that are part of the audit process. However, the effectiveness of the program could be greater if there were DR "programs" available for small businesses. Currently the reps think of the Summer Discount program as being the only DR program for small businesses. Also, it is important for the Summer Discount program manager, or the DR pilot manager to track how many Summer Discount sign-ups are received as a result of the audit process. This information is key to measuring the effectiveness of the audit program, and it would be very easy for the system to track, according to Stephen Guthie, EnerPath founder.

[25] This occurs in the space of seconds or minutes depending on connectivity issues.

Figure 3-8.

An additional concern is that the tool is not used to its maximum capability. Driving around with a wireless networked device, it would be very easy, for example, to send a follow on e-mail thanking the audit recipient for their time, including an electronic copy of the audit results for easy sharing with decision-makers. With an additional data look up step, reps could also provide audit recipients with a list of qualified vendors that can implement the recommendations made. But perhaps most of all, the tool should be used to improve upon and increase face time with the customer, without decreasing the throughput number of audits. The vendor of the audit software states that the software tool has quadrupled audit throughput capabilities over pen and pencil audits. Some of the younger reps do not know what that older process was like and express some frustration with dead-spots of connectivity in the LA basin. However, on balance, Summit Blue believes that recent advances in PDA technology will allow this kind of audit reporting tool to become more widespread and efficient. The most significant enhancements are occurring in memory, wireless data transfer, and software options, and include:

Memory

Add-on storage cards are available that allow more memory to be added to PDAs. These storage cards can accommodate any program or data file format, and can be changed out in the field to add flexibility. New formats and capacities are continually developed, and several difference mediums are currently available. One example includes CompactFlash (CF) cards with memory capacities up to 4 gigabytes.

Wireless data transfer

Secure, wireless ‘direct push’ synchronization is available with the Windows Mobile platform or other vendor programs such as RoadSync. These programs are affordable, scalable, and rich in features, including;

- Seamless direct push technology E-mail uses an HTTP connection, maintained by the device, to push new e-mail messages, calendar, and contact notifications to and from the device.
- Remote wipe security features ensure corporate data is not compromised when devices are lost. Remote wipe commands quickly remove all sensitive e-mail, calendar and contact data from the device.
- Data compression communicates with the Exchange Server 2003 (SP2) to provide a wide range data compression formats, providing reduced synchronization times.

Software options

Database management tools, such as SmartList To Go, provide the ability to create, view, and manage databases on a PDA, and also synchronize directly with Microsoft Access or other database programs or to import or export of data from other programs and formats such as Excel and text files. PDA based database applications are seeing more widespread use in the energy industry. For example KeySpan Energy (KSE) uses a PDA based system to collect daily Access database records for equipment such as air compressors, air dryers, natural gas compressors, engines, electric power generators, furnaces, water pumps, liquid natural gas pumps, liquid natural gas vaporization exchangers, electric motors, tank heater circuits, battery charger systems, and cooling tower systems. Data gathered are used in variety of efficiency and operational analysis.

Given the increasing robustness of these types of devices, SCE is currently missing opportunities to expand the functionality of its Palm Audit equipment as detailed above. Moreover the Palm device could also be used as an immediate e-mail platform, a way to send a customer a thank-you or coupon specific to the recommendations made at the site, as the rep is leaving the customer’s driveway.

There is some confusion at SCE as to how much and for how long the Business Solutions reps have promoted DR, and whether the reps have tracked how many summer discount “sales” were made as a result of their audits. The total number of audits conducted by the reps between May and December of 2005 was 2500. However the Summer Discount program manager does not know how many of the Summer Discount sign-ups come from the audits. For the coming year, Summer Discount program manager, says the plan is to work more closely with the reps to track installation leads and encourage the promotion of the program.

Marketing Collateral

There does not appear to be any marketing collateral officially used for this program because the reps generate energy efficiency and demand response recommendations based specifically on the customer’s needs as analyzed by the EnerPath Palm System. SCE’s website does not specifically promote the combined EE/DR audits to small business, based on our review. When asked about this the reps indicated that, for the most part, sufficient leads for audits are generated by in bound calls from the call centers. The manager of the field reps said that this is in part due to concerns about over-promising and under-delivering. The fact that the current level of program activity exists in the absence of any program marketing activities indicates the existence of significant untapped potential for program participation.

During the focus group, there were some comments about the names of the program, and the level of complexity of the math to calculate the value of the credit the Summer Discount program would provide. The math and number of options for the AC cycling is probably more complex than a small business customer wants to contemplate. It's not within the purview of this evaluation to consider whether it is really useful to have such an elaborate menu of 30%, 40%, 50%, and 100% turn off options on both base and enhanced programs. (see Figure 3-9 However, a number of reps commented on the complexity of explaining the math and options to the customer, and even among the focus group participants, there was disagreement about the math. Based on information obtained from a document downloaded from the SCE web site, the customer receives the lesser of:

$.40 (cycling credit) x 5 (tons) x 25 (summer season days) - $58.00

OR

$.06987 (Base Rate Energy Charge) x 450 (kWh used)/ (30 billing days) x 25 (summer season days) = $26.20 Base Rate Credit.

Figure 3-9. Summer Discount Promotional Material from Web Page[26]

Summer Season Commercial Schedule for G5-1 and TOU-G5-1			
Turn-off options	**Time length per occurrence**	**Base credits per calculated ton*** per day**	**Enhanced credits per calculated ton*** per day**
100%**	Off continuously for entire duration of turn-off event	$0.200	$0.400
50%	Off 15 minutes out of every 30 minutes	$0.070	$0.140
40%	Off 12 minutes out of every 30 minutes	$0.042	$0.084
30%	Off 9 minutes out of every 30 minutes	$0.014	$0.028
Number of times air conditioner is turned off during Summer Season		Maximum of 15 times, up to 6 hours per time. Multiple times in one day are possible.	Unlimited number of times, up to 6 hours per day.

** Customers choosing the 100% Energy Saving Option should be aware of the effect this choice may have on air quality in relationship to the California air quality standards. If you have a closed air circulation system, the 100% Energy Saving Option strategy may compromise air quality and negatively impact your ability to be in compliance with state air quality standards. Contact your air conditioner servicing business for more information about California air quality standards.

*** Your calculated tonnage may vary from the tonnage rating on your faceplate.

Also the document from which we obtained the above examples does not emphasize the increased incentive payment for the "enhanced program" particularly well. The enhanced program does appear to offer a rebate twice as valuable as the standard program. However, this is only stated in small, 8-point font on a table. In the main text of the document, the enhanced program, seems to mostly provide benefits for the utility and not the customer. For example, it explains that the AC can be cycled off an unlimited times during the summer season, up to 6 hours a day. The reps also commented that they prefer not to call it the "enhanced program," because they have a hard time equating unlimited turn off events to the name enhanced. Their manager comments on how this is typically approached in the field:

> ***"If you can avoid saying demand response more than once, because [that's just] the name of the program then let's do that, and I think really with our level our type of customer, the small business, they're not as sophisticated as the larger ones which have a facility manager …so we really have to explain it in real simplified terms…as opposed to saying demand response program, [we say] how about would you like to save $50/month for the summer months? [then the customer asks] How do I do that? Well, you cycle off here, this is how it works, and it's just part of our demand response programs, so you kind of put [the money] before the official name."***

[26] This image was recreated because the image pulled from the website was illegible in print.

Outreach Activities

Approximately 2,500 audits were conducted by the team between May and December of 2005 and DR was promoted to each of these customers. The auditor educates customers about curtailment strategies for peak demand periods and provides information and enrollment forms for demand response programs as well as an energy pledge form with Flex Your Power Now messaging. A demand response component of this program was added in August of 2005 when the reps began promoting the AC cycling. When an auditor identified a site with demand response potential, they notify the customer that they are eligible for a follow up visit focusing on demand response issues. However the improved EnerPath software was delivered in September, so earlier in the summer, the reps made notes as to who might be interested in demand response and these customers received follow on visits. Some 300 follow on visits were completed in six months, with only a few dozen opting to sign up for demand response. Summit Blue's experience attempting to contact Summer Discount sign-ups from the list of audit recipients corroborates this approximation, as perhaps seven in 100 calls led to an Summer Discount participant.

The follow up visit may have been a step that was eliminated once the DR information was programmed into the Palm device. This extra site visit was actually fairly relevant and valuable to customers, as reflected by the customer survey conducted for this evaluation and as discussed further below. Of the 47% of participants who did get a follow-up visit, two-thirds of them recall hearing about DR options. Thus, the follow-up visits were meeting the intended objective to disseminate DR information, and providing additional value to customers with energy efficiency and basic rate and service information.

The way in which the demand response component of the audit is presented could significantly affect the number of audit participants who opt for this additional service. Many California large-customer energy managers believe demand response programs to be overly burdensome, in that they possess numerous penalties and risks with only limited potential for financial gain (Quantum Consulting, 2004). Notably, those energy managers are generally working for larger customers that might be more tolerant of programs having greater complexity; smaller customers' energy managers are likely to be even more challenged by a process-intensive DR program. Studies also indicate that information about load curtailment strategies and customized technical support would increase the number companies participating in load response programs (Moezzi et al., 2004; Quantum Consulting, 2004). Audit staff could mitigate these barriers by presenting the demand response component of the audit program as a valuable complimentary technical support service that will prepare the facility to take advantage of financially rewarding and socially important demand response programs.

Channel Effectiveness

Customer Survey

A survey of participating customers[27] was conducted to help address the research issues associated with using direct contact channels and to gauge customers' satisfaction with the audit services, including the viability of the audit as a way of disseminating demand response information and use of technology (a Palm computing device) to improve the audit's productivity and effectiveness. Issues the survey explored included the following:

- How participants found out about the program
- Their concerns about participating

[27] See Appendix D for the survey instrument.

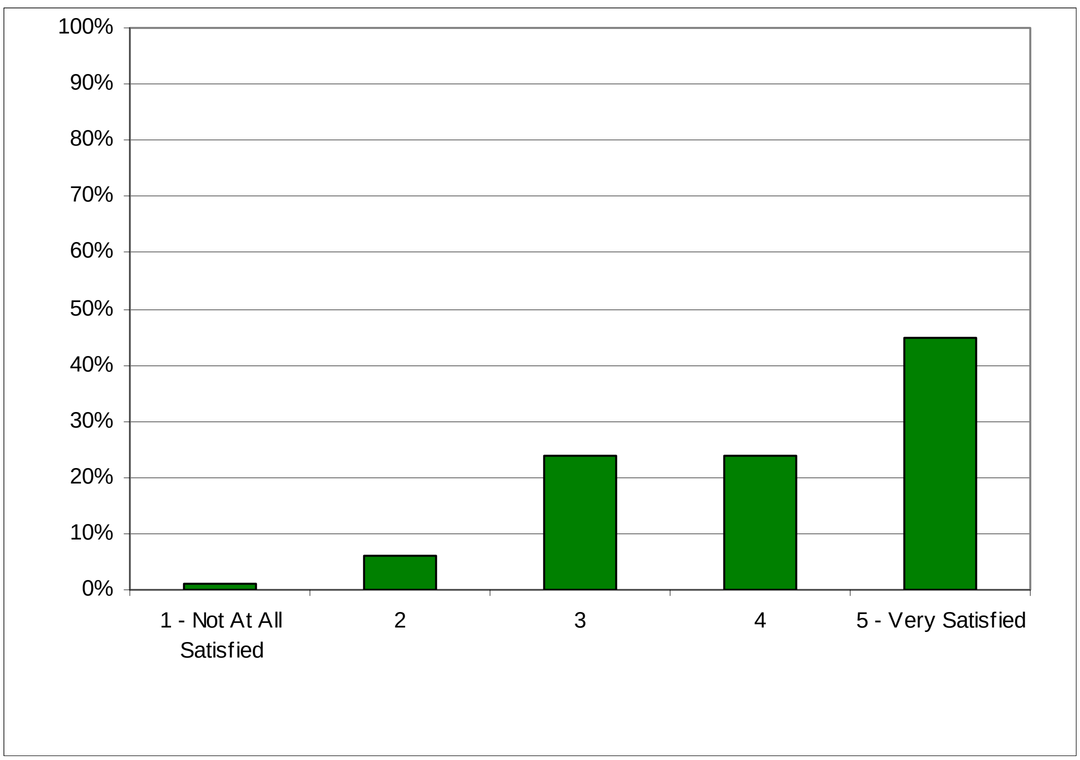
- Underlying reasons for participating
- How the direct contact went in terms of the personnel who performed the audit
- Audit follow-up contact experience
- The likelihood of taking actions recommended by the audit including demand response actions
- Various aspects of satisfaction with the program

The objective of this exploration was to help SCE understand how the Business Solutions Audit Palm tool compares to other audit experiences, such as those without the tool. Are the audit results credible? Is the messaging clear, including both energy efficiency and demand response information that was integrated into the audit? Which concepts were easily understood, which not, and what are customers' action intentions?

Overall Satisfaction

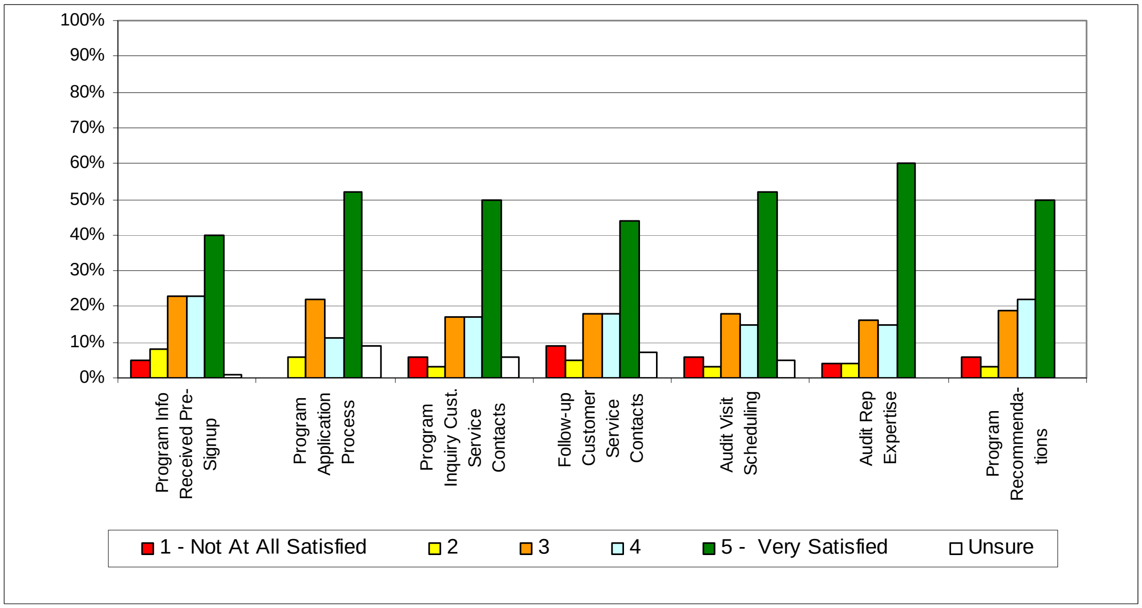
Nearly 70% of respondents gave the program a satisfaction rating that was very positive, either 4 or 5, with 7% stated low satisfaction ratings (1 or 2). See Figure 3-10. There are significant associations with various aspects of the program, whereby those who are most satisfied overall also are more sure of the value of the audit results, feel they got both enough and sufficiently detailed information on how the program works, and are satisfied with their customer service contacts for the program.

Figure 3-10. Overall Satisfaction with the Program



A number of aspects associated with overall satisfaction were explored, as shown in Figure 3-11. Reflecting the overall satisfaction rating, the large majority of respondents stated they were very satisfied with all aspects about which the survey inquired. Broadly speaking, higher component satisfaction ratings showed some association with having been sufficiently well informed about the program. In particular, positive customer service contacts strongly associated with installing recommended measures and increased equipment maintenance.

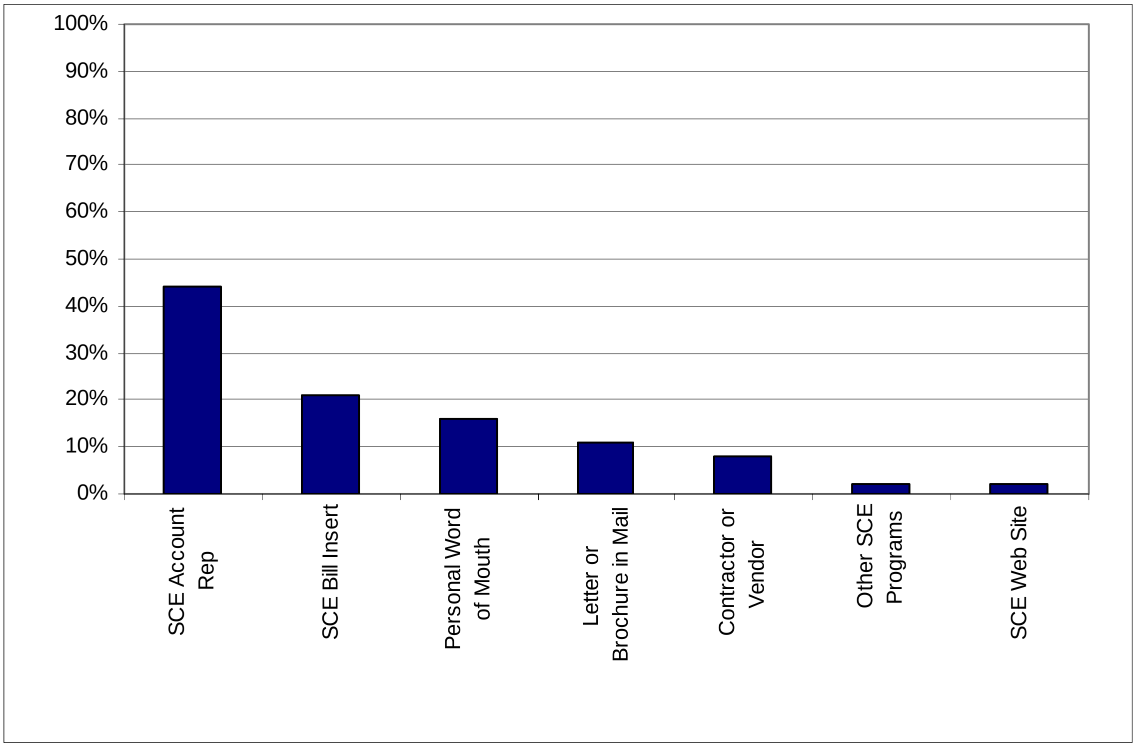
Figure 3-11. Program Component Satisfaction



Finding Out About The Audit Program

Participants mainly found out about the program from SCE Account Representatives and SCE bill inserts or other mailings. Word of mouth, either from personal acquaintances or contractors was a lesser, but not insignificant means by which participants became aware of the program. See Figure 3-12. Those who found out about the program through printed materials (inserts, brochures) had a slight tendency to be less satisfied overall with the program than those who found out about it through SCE representatives and word of mouth. Respondents with newer facilities tended to find out about the program through SCE account representatives more than those with older facilities. This may simply be an artifact of new or newly remodeled facilities having been visited for meter sets, rate information requests or other activities utilities have to undertake with such facilities fundamentally, and not because of a program.

Figure 3-12. How Participants Found Out about the Program

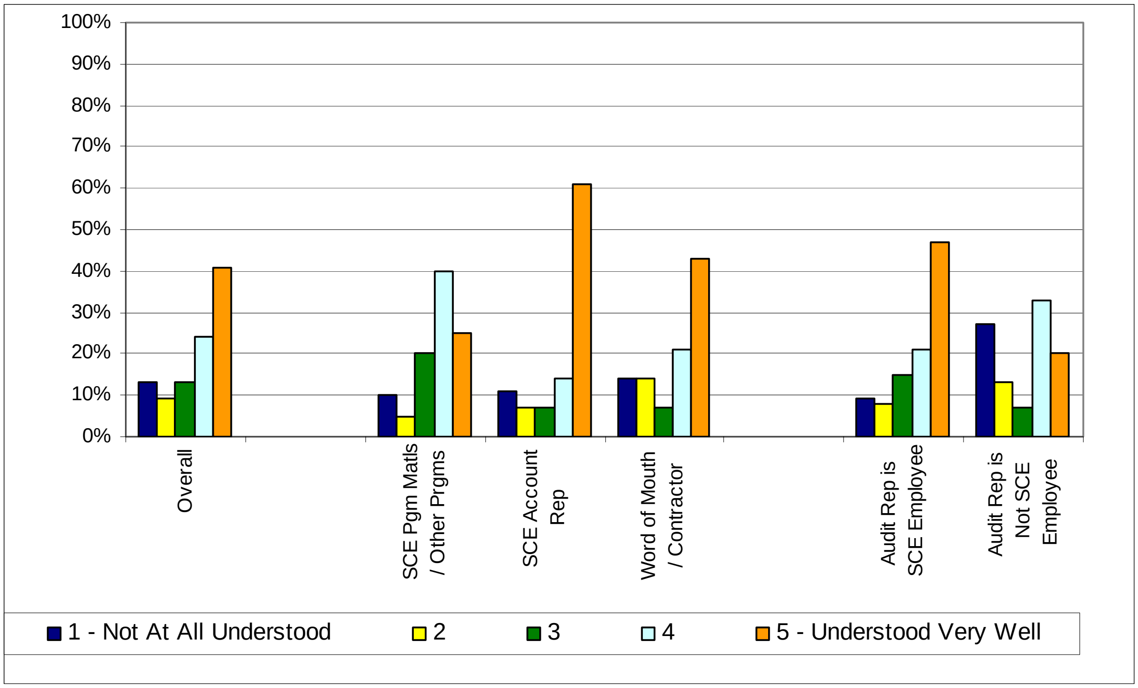


Program Understanding

Participants mostly felt they had a good understanding of the program from the information they obtained on it prior to participating. Those who had a very good understanding tended to be those who got the information from an SCE account representative, and they tend to have a higher overall satisfaction with the program, including higher satisfaction with customer service contacts. They also end up doing more equipment maintenance.

Those who expressed a lower understanding of the program also tended to have less satisfactory customer service contacts regarding the program. These respondents also tend more to think, when asked to recall, that the person who performed the audit was not an SCE employee. This may reflect that some respondents, when they first learned about the audit (and particularly among those who had a low initial understanding of the program) did not know who the audit representative worked for. See Figure 3-13.

Figure 3-13. How Well Participants Felt They Understood the Program from Information They Received Prior to the Audit



Participation Concerns

Participants expressed a variety of concerns underlying their consideration to participate in the program. As shown in Figure 3-14, the greatest concerns about participating were over the value of the audit's results and customers not having read the information they had obtained about the program – and so not fully understanding the potential benefits of participating. Related concerns included not having detailed enough information on how the audit works and being unsure of how the audit meeting process works. Of the over 50% who were unsure of the value of the audit results (either agreed with that as being a concern or who were unsure if that was a concern), there was a significant association with having a lack of detailed information. This same finding was exhibited among those who felt they did not understand the program based on the initial information they had received about it.

On the other hand, those who felt the audit results offered good value also were happier with their customer service contacts, were more satisfied with the information they had received on the program before signing up for the audit, and ended up installing recommended measures more frequently.

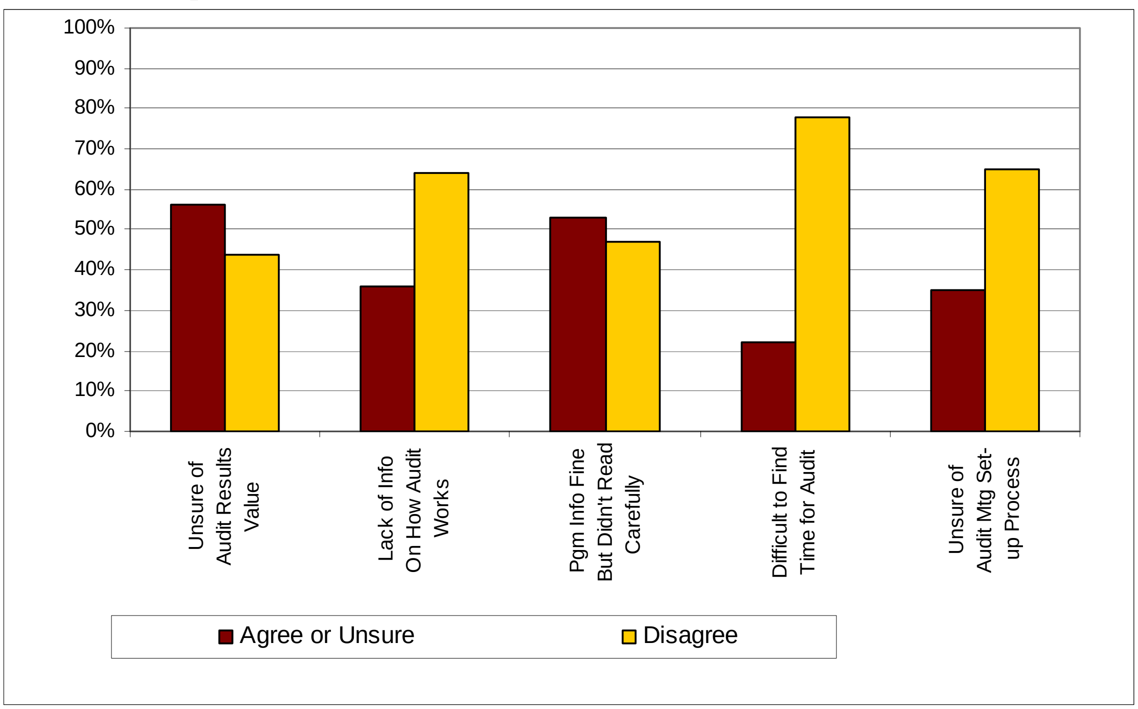
Of the one quarter of respondents who were unsure of the process for setting up the audit visit, there was a fairly strong association with feeling they had a lack of detailed information on how the audit would work, with not having audit follow-up, not recalling the actions recommended by the audit, and not taking action. They were less satisfied with their customer service contacts both before and after the audit This pattern may reflect a lower level of engagement some customers had, which in turn may be due to other business distractions, and so lack of time to devote to learning about and getting the most they could out of the audit. There was no strong variation across various surveyed demographics, so this is a general issue not peculiar to any specific market segments identified.

On a positive note, those who felt they understood why they wanted to participate felt they had sufficiently detailed information on how the audit would work. They also better recalled the actions that had been recommended. They were more satisfied with their customer service contacts and with the program overall. They also tended to install more recommended measures.

Conversely, those who did not understand the reasons to participate in the audit and it's benefits appear to show lower motivation levels, in that they felt they lacked detailed information, did not follow up on the audit and could not recall recommended measures as well as those who understood why they would want to participate. They were less satisfied with their customer service contacts for the program, and tended less to install recommended measures. Thus, there appears to be some association between one's understanding of the benefits of the audit and the motivation to engage in follow-up actions and be aware of what can be done. These elements also appear to be an associated with the quality of customer service contacts. What contributes to lower understanding again is speculative, but may be due to the limited resources and time available to small business customers.

Those who were very certain of the value of the audit results did not believe it difficult to find time to go through the audit process, while those who were more unsure of the value of the audit results found it difficult to find time for the audit – and were less satisfied overall with the program. If in some way these unsure customers could be better informed about the value of the audit, they may become more motivated to find time for it. The underlying issue again is how to sufficiently, and persuasively inform customers about the audit and its benefits such that they become more interested and engaged in the program. When asked what more or different information would be useful to help decide to get the audit, about a quarter simply wanted more information than they had (it didn't matter how they had found out about the program, either). Verbatim explanations offered on what information would help included a desire for comparisons with other similar businesses, being less complicated with the information, having more detail on what actions to take, follow-up visits, and where to find equipment. Renters appear to be more needy of additional information, probably because of the complication presented by many of them not owning the facility.

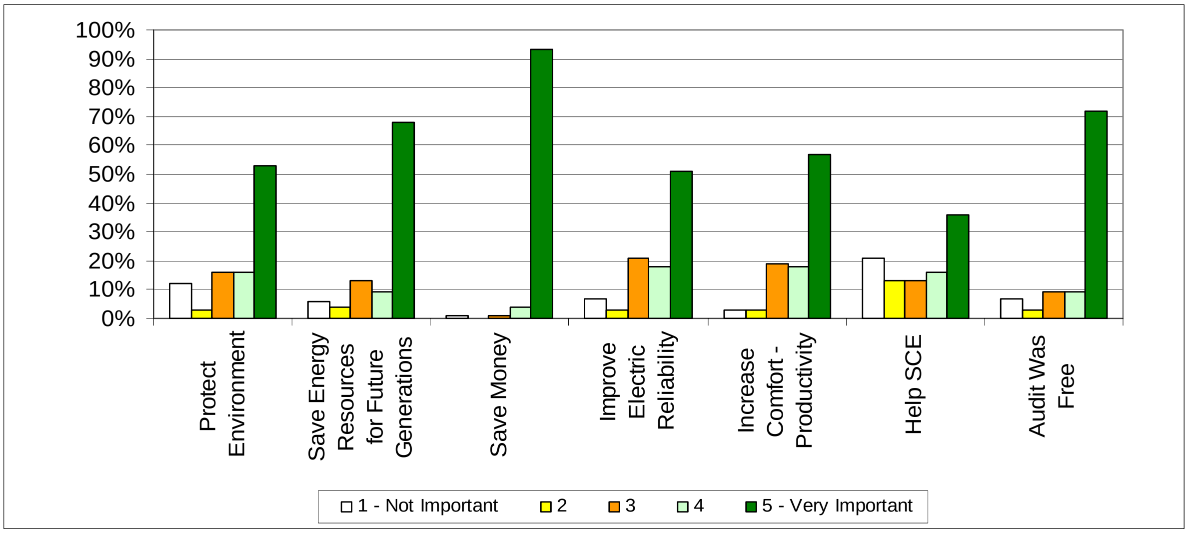
Figure 3-14. Participation Concerns



Reasons For Participating

By far the most common reason customers participated in the program was to save money-_– including that the audit was free of charge. See Figure 3-15. Altruisms, to save energy resources for future generations and protecting the environment, were important, as was the desire to improve comfort and productivity. There were few variations in this pattern across demographics and other survey variables, indicating customers are fairly consistent in their underlying participation motives, and that customers value other reasons to participate than just saving money.

Figure 3-15. Reasons For Participating In The Program



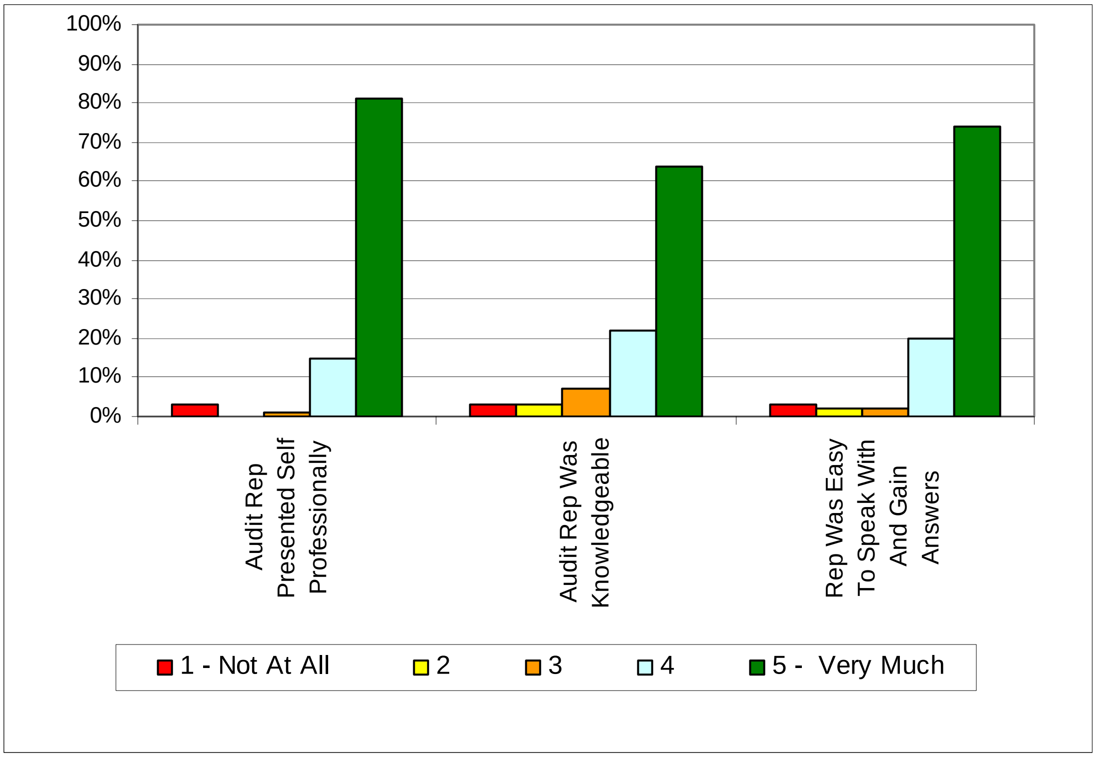
Audit Representatives

The survey inquired about respondents' satisfaction with the audit representative presentation. Various perceptions were surveyed, as shown in Figure 3-16. Customers appear to be very satisfied with audit representatives' professionalism, knowledge and interpersonal skills. This was particularly true among the most satisfied customers and those who took subsequent actions, suggesting that audit representatives can make a difference with their demeanor and knowledge.

A question was asked about what entity the respondent thought the audit representative worked for. Nearly one-quarter of respondents (22%) thought the representative did NOT work for SCE, but rather for an independent contractor (15%), an energy company that installs energy equipment (6%) or some other (1%, though that respondent clarified that the rep had identified himself as being with Edison). Why this confusion exists is uncertain, though it may be how the question was perceived by respondents. That is, some respondents may have interpreted the question to mean what entity it was they thought the audit representative worked for at first, when they first learned about the program – not after they had had the audit, where the representatives at that point would have identified themselves as being SCE employees.[28]

[28] Indeed, a relevant verbatim to the question probe stated, "Don't know but he told me he was from Edison."

Figure 3-16. Audit Representative Presentation



Audit Report Outcomes

Various aspects of the audit service and the audit report were evaluated, as shown in Figure 3-17. All the surveyed aspects of the audit process and report received high ratings. Ratings were particularly high among those who had the highest levels of satisfaction with the program information they had received and customer service contacts with the program, and also tended to take more action. . There were few variations in ratings across demographic segments.

Regarding the outcome of the audit, 82% of respondents report they had the information they had enough information to take the next steps they want to take. This was particularly true for those who recalled the measures that had been recommended. They were more satisfied overall with the program, especially with customer service contacts, and have increased equipment maintenance. They also were more satisfied with the program, information they had received up front.

The 18% of those surveyed who said they did not have enough next-step information, said they did not know who to call to take the next steps or did not know which pieces of equipment were needed. Almost none of these respondents called SCE or the audit representative, however, to follow up on the audit for more information or to clarify information they had received. Those who did not make a follow-up call expressed a variety of reasons, including that they had no time, that it wasn't their job to follow up on the audit, that they decided to go ahead on their own, or that they had decided not to do anything.

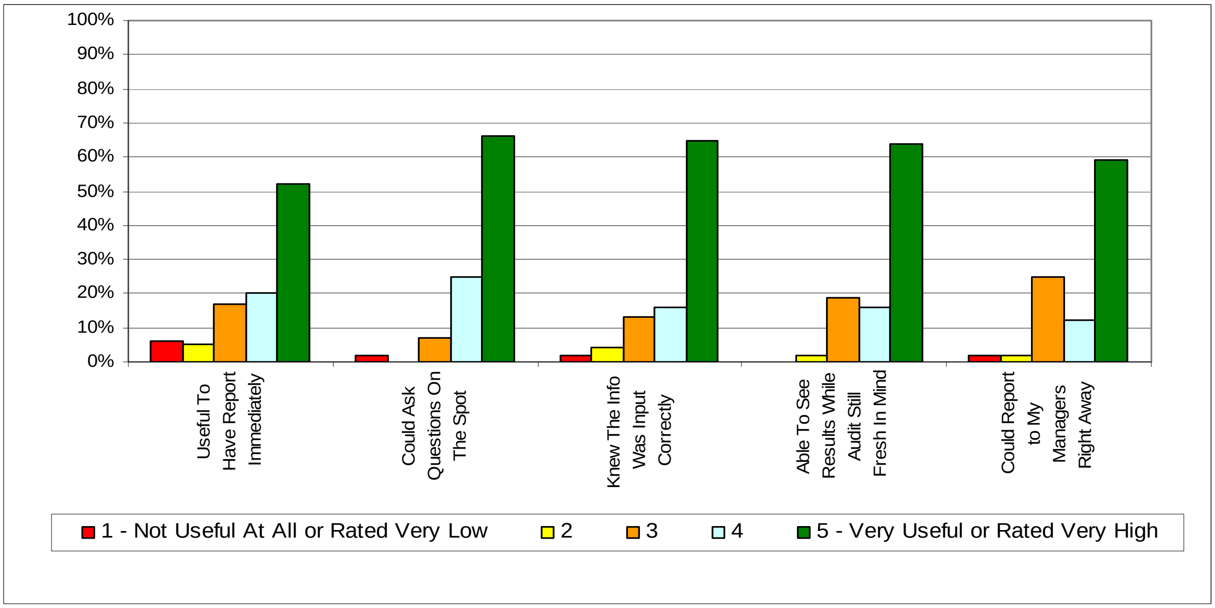
It may be concluded from these findings that most participants are getting the information they think they need from the program, though there appears to be some opportunity to spur on laggard customers by more aggressive follow-up to help overcome lack of customers' time and resources.[29]

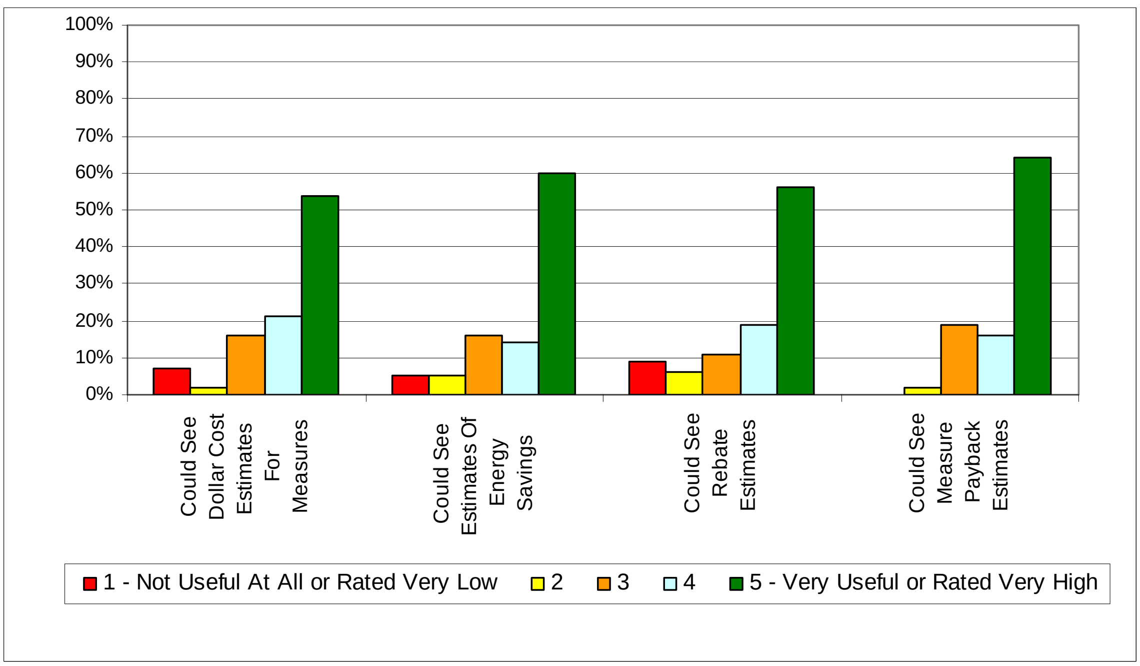
About two-thirds (66%) of respondents recalled actions the audit report recommended they take, and once again, those who reported being better informed about how the program works tended more to recall one or more recommended action. Of those who recalled one or more such action, over 80% recalled lighting-related recommendations and about 10% recalled space conditioning-related recommendations.[30] Of those who recalled recommended actions, over half (56%) stated they had taken the action to some extent – and there was a significant association with audit follow-up among those customers. Of these who took action about 80% took some lighting-related action and about 20% took space conditioning equipment actions. In all, nearly half of all respondents (47%) took one or more recommended actions.

[29] Whether such a strategy would be cost-effective or not is uncertain, it should be noted.

[30] The survey did not ask respondents to distinguish between efficiency and demand-response actions.

Figure 3-17. Audit Process and Report Component Ratings

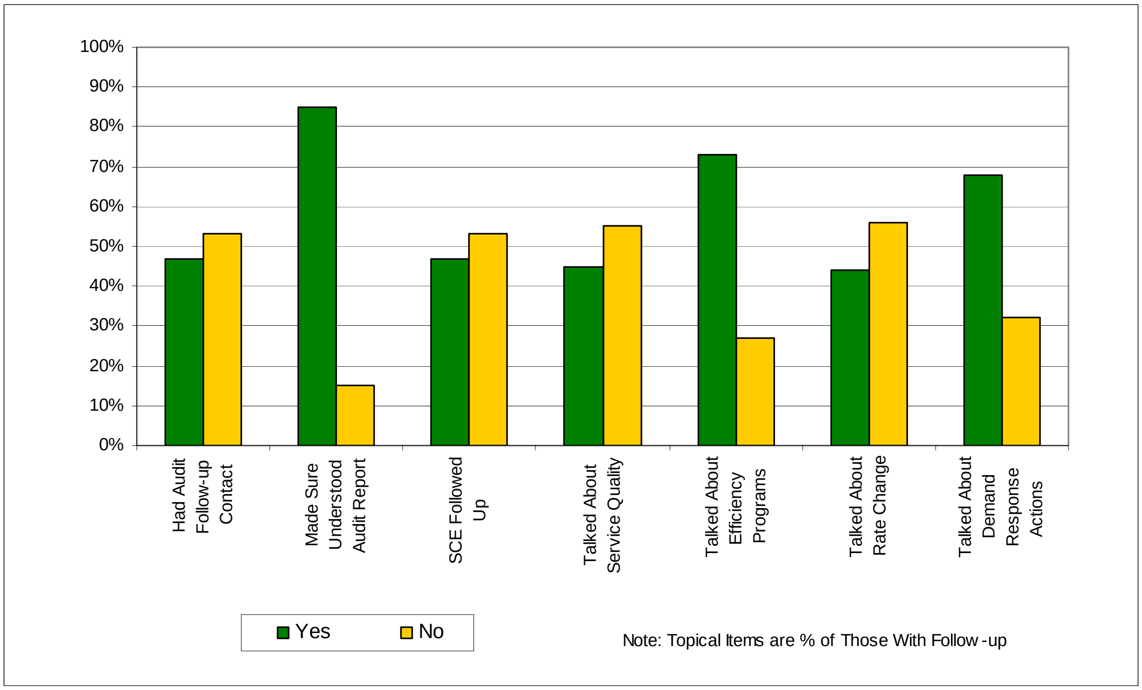




Audit Follow-up

Respondents were queried whether they had had any follow-up after the audit visit, and those who did were asked what topics the follow-up covered. See Figure 3-18. Getting a follow-up contact was associated with higher satisfaction ratings. Otherwise, there was little variation across demographic segments. Importantly, taking recommended actions was strongly associated with having had a follow-up contact.

Figure 3-18. Audit Follow-up Topics



Operational Changes

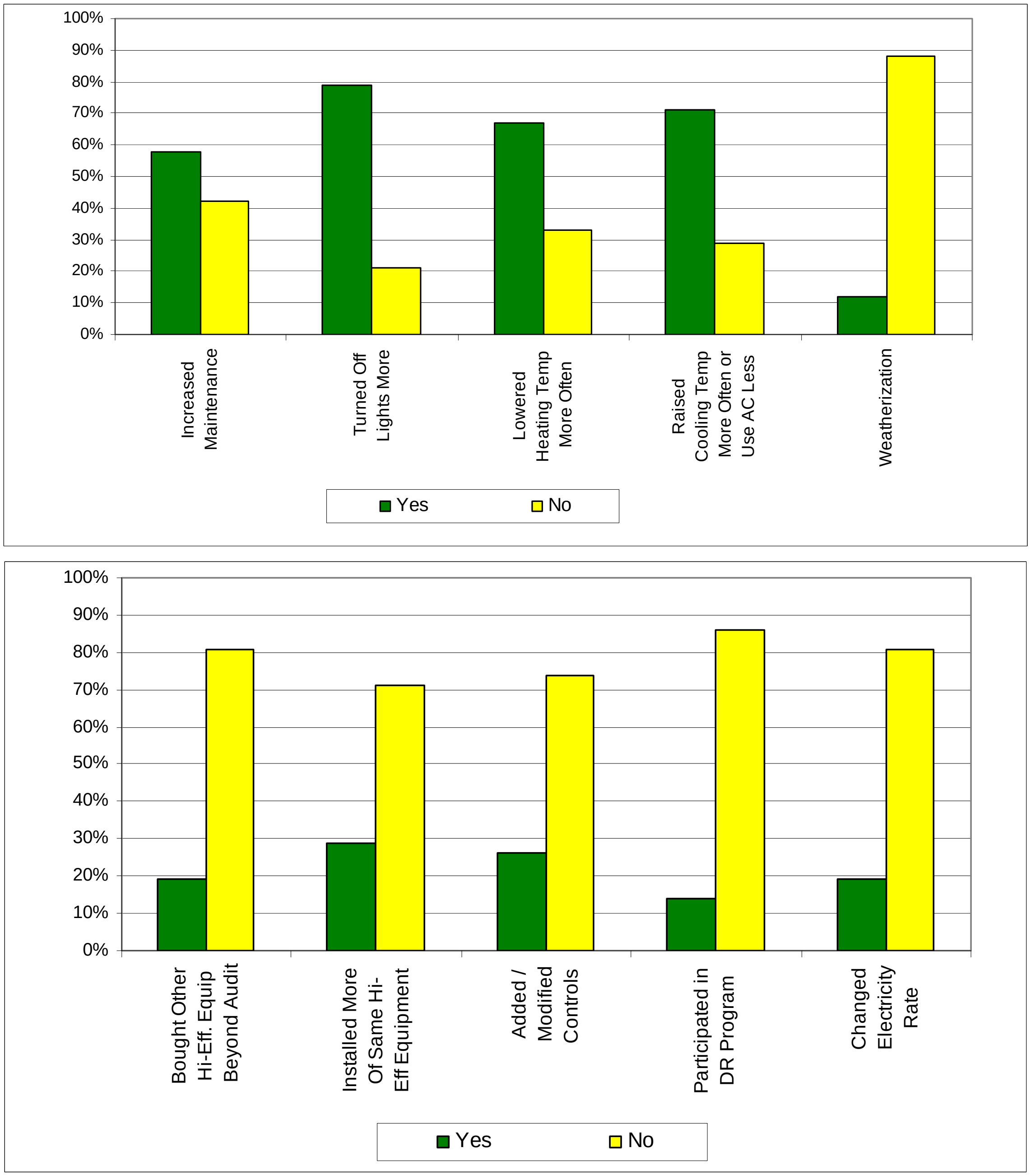
Hypothetically, the audit should be influencing various energy management efforts. Participants surveyed were asked about some of those changes and whether they had undertaken or increased their efforts regarding each. See Figure 3-19. Indeed, participants reported taking a variety of actions to improve their operations' energy or initiate some sort of demand response activity.

A number of variations were observed in the results. Office/School/Church customers tended to increase their equipment maintenance efforts more than other types of facilities, and customers with fewer than 10 employees tended to not increase equipment maintenance as much as customers with more than 10 employees. Those who turn off lights more, those who lowered space heating temperatures more and those who added energy controls or modified existing controls, also tend more to increase their equipment maintenance efforts. This indicates a segment of those participants who are incorporating more of an energy management culture in their overall operations and maintenance.

Those who raised the space cooling temperature more often also tend to be more sure of the value of the audit results, perhaps indicating the influence of the audit report in mitigating concerns about comfort effects. Those who installed other major equipment that also is high-efficiency tended more to have had some form of follow-up to the audit visit, indicating a potential spillover effect that is enhanced by active program follow-up.

Respondents who changed their electricity rate are more strongly associated with having had some audit follow-up.

Figure 3-19. Energy Management-related Operational Changes



Energy Management Intentions

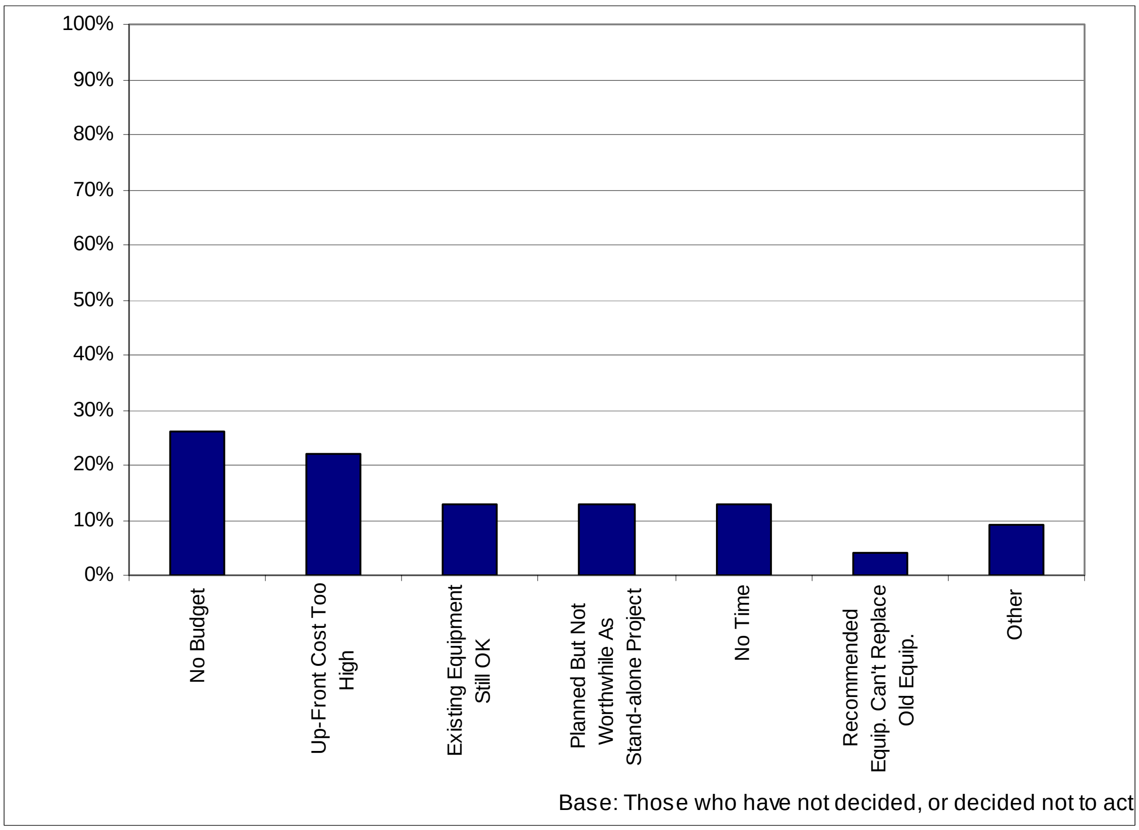
Respondents were asked about what actions they intend to take and the status of decisions not yet made. Going forward about two-thirds (68%) stated they have budgeted to take various lighting-related actions within the next year. Not surprisingly those who have not yet taken any lighting-related actions were more likely to be in this budgeting phase. Some 16% of respondents have budgeted plans to take space conditioning actions within the next year.

Of those who have not yet decided whether to take any of the audit's recommended actions, 10-15% have decided not to proceed, nearly half are still considering the action, and 38% indicated they have in fact budgeted one or more recommended action. Those who are more sure of the audit's value are more likely to have budgeted actions, as are those who have already installed one or more measures. Hospitality and Office/School/Church customers are more likely to still be considering action.

These findings suggest a need to stay in touch with customers to spur them to action while they are still thinking and planning in response to the audit. Also, the findings suggest actively encouraging customers who have already taken some action to do more.

There are several reasons why those who have not decided have not done so, as shown in Figure 3-20. None of these reasons had strong variations across demographic segments.

Figure 3-20. Reasons For Not Having Decided To Take Recommended Actions



Demographics

Participant demographics are summarized in Figure 3-21. These demographics reflect the market at which the audit was being targeted, with most participants having leased space and the building types being dominated by non-manufacturing, office/retail and other facilities not having critical technical business processes. The majority of facilities surveyed have been built or substantially remodeled since 1975, with about a third of them build or remodeled in about the last ten years – which may indicate a greater likelihood of having more efficient equipment. Almost no respondents reported having participated in other SCE programs in the last two years or so, even though the survey specifically mentioned the most popular programs. This suggests a significant potential for other programs for this market.

Figure 3-21. Participant Demographics

	Respondent Position	Own / Rent Facility	Facility Type	Participated in Other SCE Programs	Year Facility Built/ Remodeled	Full-Time Employees
Sr. Mgt - President, CEO	44%					
Owner	35%					
Facility / Office Mgr, Other	20%					
Own		35%				
Rent		65%				
Office, School, Church			37%			
Retail, Grocery			29%			
Lodging, Restaurant			10%			
Mfg, Wrhs, Health, Other			24%			
Yes - Participated				3%		
No - Didn't Participate				97%		
Before 1975					32%	
1975-1994					32%	
1995 on					35%	
<10 Employees						69%
10+ Employees						31%

Audit Representative Focus Group Findings

Participants: Six reps attended the meeting. Four of them focused on quick audits with relatively small customers (under 100 kW). Some of these customers had called in complaining about high energy bills, and the audits were dispatched for that reason. Other customers agreed to audits based upon cold calls from the reps. These four reps visited a large number of customers, with an average of 4-6 per day. Due to this fast paced schedule, the reps could not spend a great deal of time with any one customer. The other two reps dealt with somewhat larger customers (up to 200kW), working with some organizations (such as faith-based, community, and ethnic groups) and doing more education. These two reps spend more time with each customer or group, allowing them to explain issues such as demand response in greater detail. Only one rep had done energy audits to the adoption of the Enerpath Palm system. All others had only done audits since the Palm system was adopted. All had experience with the newer Demand Response module but again, have not fully realized the potential of this system yet, as Summer Discount is the only DR “program” for small business.

Key Findings:

- For small businesses, the only real motivating factor for participating in demand response programs is monetary savings. All other issues, such as helping the community or the environment, pale in comparison. This corroborates what customers stated in the survey.

- The reps felt that they could use better targeting of high-potential customers in the small business segment. They would like to have lists of customers that fit criteria that would make them good candidates for participation.

- Customers who have short-term leases are unlikely to participate in energy efficiency investments even with rebates. However, the same customers could participate in DR programs (which mainly require operational change, not capital investment), providing a new way for this group to save on their energy bills.

- Some reps spend a good bit of their time educating customers on how to operate their existing energy equipment and systems more efficiently to save money. However, there appears to be no way currently to track the savings that may occur through these recommendations. SCE may want to consider measuring operational changes post-audit.

- Reps were generally very happy with the Palm audit system. The immediate reporting capability was the top feature, as this not only saves time for the rep but also increases the chance the customer will sign up to participate in SCE programs.

- Some reps felt that customers were left with a fairly onerous job if they wanted to follow up on the audit's recommendations. In particular, customers needed to track down vendors unknown to them, and sometimes do this for multiple technology areas. If SCE would provide a coordinator of sorts, customer follow-through might go up significantly.

- Demand response is much harder to sell than energy efficiency, according to the reps. It takes longer to explain, and customers are reluctant to take the step of turning off equipment. For the reps dealing with the smaller customers, they often run out of time given the complexity of the DR sale.

- The small business reps often use terminology other than "demand response" when describing what the program is about. The terms "cycling off your compressor" or "summer discount program" are examples of what they use. They noted that the only DR program available to small businesses was the AC cycling (Summer Discount) program.

Motivating Factors: Not surprisingly, monetary savings on the electricity bill was the foremost motivator for customers signing up for EE or DR programs. Reps mentioned several rate increases that customers have seen, and that when bills go up many businesses will call in to SCE. One of the main tools they offer is the energy audit which can then lower bills. While probing on other motivating issues such as avoiding blackouts, helping the environment, and helping the community, all failed to register as real motivators, according to the reps. The exceptions are the community and faith-based groups who tended to be motivated by the community aspect of demand response and energy savings.

Target Marketing: Many of the reps mentioned that it would be best to target the audits as carefully as possible to those customers most likely to sign up for EE and DR programs. This is already done to some extent, but appears to not be formalized for the smallest customers. Churches, restaurants, convenience stores, and hospitality sectors were mentioned, as well as finding customers with refrigeration. There seemed to be a desire to have better lists of customers to call on. Nonetheless, one small biz rep said they could get 40% of their audited customers to participate in some EE or DR program (with good targeting), and another said they were more at the 10% level with a more random approach to auditing customers. For the larger customers, with the longer sales cycle, participation might reach 80-90%.

Along with target marketing, the reps emphasized that having messages that were focused by market segment would help their success rate. Churches, convenience stores, etc. should have their own messaging. While saving money is the main message, being able to demonstrate that SCE understands their business is important to customers, as well.

Own vs. Lease: There was some discussion about customers who lease their space vs. those that own. All agreed that owner-occupied was easier when it came to investment, but they said that tenants with long-term leases (5-10 years) are also open to making some capital investments. For those with short-term leases, they would recommend no cost and low cost measures, as well as making sure they operated their equipment efficiently. The small company reps said that they wished they could get in front of the owner of a leased building, because they felt they could convince those owners that energy efficiency improvements would be good for them as well as the tenant. For DR, lease vs. own didn't make as much difference, because demand reduction is mostly an operation change as opposed to a capital change. Someone mentioned that they thought about 20-30% of the small businesses were owner occupied.

Energy Management: An important discussion occurred regarding energy management. Some reps emphasized that they worked hard to get their customers to operate their existing systems more efficiently. They said that if customers were smarter with what they already had, they could lower their bills. They want to be their customer's "trusted energy advisor", as opposed to being a salesperson or just offering rebates. However, this has implications on measuring results. When asked whether the energy savings through this smarter energy management was being counted as real savings for SCE, they said that they were not being measured. It was suggested that some billing analysis might be conducted before and after the audits regardless of whether the customer participated in a rebate program or DR program. That way, SCE could get credit for this change in energy use.

> ***"I spend time giving my customers tricks on how to better manage what they already have, to lower their energy use and demand, and to push smart energy use. I want to be the customer's trusted energy advisor."***

Benefits and Problems of the Palm Audit: The Palm system allows the reps to conduct the audit, put the information they gather into the system, and quickly receive a full analysis of the audit and recommendation for what the customer should do specifically. The reports are given to the customer at the end of the site visit, and at that point they have all the information needed (including costs) to make a decision on further participation in efficiency programs. The reps feel that the hit rate of getting participation is much higher because of this immediate feedback.

> ***"The Palm system allows us to provide customers with all the information, including costs, right after the audit. This means we usually are able to get a decision on their interest in and EE or DR program before we leave the premise. That's a huge advantage."***

All the reps felt that the Palm system was very useful and that it was very worthwhile. Customers who observed the Palm were happy about the system, primarily because of the immediate reporting capability. The reps said the main downside of the system was the spotty reception for uploading and downloading the information. Coverage has been very spotty, even in urban areas. While this is considered a big problem, apparently a new generation of the Palm has much better reception. They will be moving to these new devices when funding becomes available (one rep had the new device and said it worked very well.) When asked what types of improvements they would like in the Enerpath system, they first said that they often requested changes and the vendor was very responsive.

Additional Process Issues: The reps were asked about how the overall process was from contacting the customer, through the site visit, to the follow-up. In general, the site visits have gone smoothly. They collect the data needed for the site visit, conduct the walk-through for the audit, provide the reports, and encourage the customer to act on the findings through SCE programs or on their own. They report that customers do not generally walk through with the rep during audit; SCE employees are a known quantity and they are provided open access to the places they need to go. The front end goes fairly smoothly as well, as far as scheduling and preparation. While it was not said directly, we got the impression that the small business auditors would appreciate a more targeted list (that is, more likely to be a good candidate for EE or DR) of customers than they now receive.

On the back end, there were some pointed suggestions on how to improve the process for the small businesses. They noted that customers were given a list of vendors to follow up with to make changes to their equipment as suggested by the audit results. Some reps felt that this left too much up to the customer: they needed to then make too many uninformed decisions about vendor choice, and that if there were multiple technologies employed, they needed to contact multiple vendors. There was a suggestion that it would be better to have a single point of contact to work with the customer for all needed solutions. They predicted that a single contact would both improve the hit rate and follow through, and also make the customer happier. It appears that this same problem does not occur with medium sized customers who get more personal attention.

Demand Response Understanding and Definition: The reps were generally very knowledgeable about the details of what demand response means and the reasons behind its importance to SCE and the stability of the grid. We even observed a strong desire to expand DR, with some of the reps trying to think of ways of making it more universal. One suggested making it mandatory in new buildings (to be DR enabled).

When it comes to comprehension of DR by customers, the reps felt it was a hard concept to explain. The small business reps do not have much time to spend with each customer. Some of them end up suggesting that DR is a way to save more money and they should investigate further and have someone follow up with them from SCE. They don't get into the details of DR because it would take too long. Several reps avoid using the words "demand response"; only one spoke up and said they liked to use the term. One used the general terms of saving money. Another suggested they use the term "summer discount program" or "summer cycling." Another was very specific, saying "A sensor shuts off the compressor to your air conditioner, but the air will still circulate." Such alternative descriptions seemed to work, being pretty easy for the customer to understand and then be able to make a decision about their DR involvement.

The reps claimed that the only DR program that was really used by these customers was the Summer Discount AC cycling program. One person complained that there are two primary options to the program: standard and enhanced. But it appeared to be enhanced for SCE, not for the customer who could be shut off as many times as SCE needed to (no limit on number of days per year). So they wouldn't use the term "enhanced" in front of customers.

Selling DR: The reps seemed to agree that DR is much harder to sell than EE. One person said "it's 10 times harder." The money message worked the best with smaller businesses, and the community message worked at times with the groups and organizations that the two mid-size reps visited.

Apparently, some of the reps tell customers that the program only cycled participating customers off two or four times last year, implying that the program isn't used very often. This could cause problems down the road, however, if customers get more operation days and then either drop off or complain.

To sell DR, the reps mentioned different ways of working with customers to identify options for them to reduce load. This takes time and a pretty high skill level. The small biz reps do what they can but really don't have the time to conduct this long sales process and still meet their audit goals. This is probably an area for further investigation as to how to balance the need for DR sign ups with the overall audit goal.

There was some discussion about the thermostat switch program that had been piloted in prior years, incorporating a 2-way communications in which the temperature set point was raised in order to reduce demand. There apparently was a switch so that the customer could override the SCE signal and keep the building cool if necessary. The reps felt that they would be able to sign up far more customers, with less sales time, if they could sell such a program with an override switch. They acknowledged the fact that SCE needed to rely on the savings, but challenged that notion by saying they could get many, many more customers and the savings would become greater in the end.

Some reps also mentioned that when trying to sell DR to the small businesses, many of the people wanted to sign up their *homes* for the residential program. They concluded that their business was not flexible, but as a homeowner they were able to reduce load.

Conclusions & Recommendations – Business Solutions Audit Program

- Conclusions:

    1) The program is well-liked by the vast majority of participants, which is a reflection of the program's components being well-designed and operated. Some room for continuing improvement remains, however, as indicated by a non-trivial fraction of negative feedback expressed in the participant survey.

    2) Customers participate primarily to find ways to save money, though comfort, productivity and altruistic reasons also underlie participation reasoning.

    3) Those who are more satisfied tend more to have been well-informed, and tend to be taking more action.

    4) Account Representatives, bill inserts and word of mouth (driven by the program's credibility) are important channels for creating awareness for this program.

    5) Ensuring that prospective participants have a good understanding of the program appears to be linked to their subsequently being more satisfied with the program and their taking recommended actions. This dynamic is associated with the quality of the customer service contacts involved with promoting the program, including the use of account representatives as a primary channel for creating program awareness and interest.

    6) Related to the point above, prospective participants are likely to be concerned about the value of the audit results, indicating a need to work diligently with customers to educate them about the audit's value. Where this is done, positive results for the program are more likely to ensue.

    7) The leased-space market remains problematic, as respondents who rent their facilities tend to be in greater need of information about the program and actions to take. This may reflect the dilemma they face concerning split economic incentives and control of the facility's space conditioning and lighting equipment. Participants who rent their facility act on recommended measures in about the same proportion as those who own their facility, but it is uncertain to what extent measures are undertaken.

    8) Audit field staff have impressed the vast majority of participants with their professionalism and knowledge, an encouraging sign for the training and dedication to the job that program staff have had.

    9) The audit processes and reports are of value to most participants, the majority of whom rated all facets highly.

    10) Proactively following up on the audit visit and report appears to be related to assuring satisfaction with the program and participants taking recommended actions. Those who believe they are lacking for next-step information are tending to take fewer actions, in part because they feel they lack time or resources to proceed. Thus, a combination of

information, time and resource factors continue to plague customers. More aggressive follow-up efforts may help overcome some of these difficulties.

11) Many participants have taken a variety of energy management-related actions in association with or in addition to the audit recommendations, and some spillover appears to be occurring among those who have taken actions.

12) A significant minority of those who have not yet taken action still intend to take one or more recommended actions. It appears that those who get some sort of follow-up contact are more likely to take action than those who do not receive audit follow-up.

13) Many of those who have not taken action, despite their stated intentions, show symptoms of being unlikely to take action due to budget and time constraints. Others are delaying their actions pending equipment failure or as part of a broader remodeling or other project.

14) The combined EE/DR approach is sound, though the lack of DR programs hinders the ability to sell customers on that concept. The DR concept itself is much more difficult to explain to customers, and the actual term “demand response” often is not used – alternative phrases that are more descriptive are preferred by reps and customers alike.

15) Tracking Summer Discount participants referred by the audit is important to measuring the effectiveness of the audit program.

16) The PALM audit tool has significantly increased audit productivity, enabling more time for customer follow-up and/or more audits.

17) The PALM audit tool is not used to its maximum capability in the current program, and there is potential for it becoming more efficient and widespread in its uses, such that there are opportunities to expand the device’s functionality and utilization.

18) There is significant untapped program potential, based on the survey findings that most audit participants have not participated in various other SCE programs.

19) The enhanced Summer Discount program that the audit promotes may need refinements to reduce confusion about the enhancements and also the incentive payment calculation.

20) Customers are faced with an onerous job in following up on audit recommendations. A single point of contact for follow-up support to customers may improve the program outcomes, and make customers happier

21) Demand response may be more attractive to small customers in leased facilities than energy efficiency investments because little or no capital is required in most cases.

- Recommendations:

1) Consider bolstering the program’s marketing through greater use of SCE account representatives to create awareness, increase customers’ knowledge of the audit and sell customers on the audit’s benefits.

2) Consider more aggressive follow-up efforts to confirm the audit's value and influence customers to follow through on audit recommendations. Utilize the PALM device's wireless communications capabilities to provide such follow-up information as appreciation emails and e-documents to share with decision makers, or even lists of available contractors to contact.

3) Consider ways to address customers' lack of time and resources to take action.

4) Track how many Summer Discount sign-ups are received as a result of the audit process. Also work closely with reps on tracking program leads.

5) Consider measuring operational changes post-audit, perhaps through billing analysis, to reinforce the audit's outcomes with customers and help demonstrate the influence of the audit on actual demand and energy changes.

6) Support reps' use of alternative terminology to "demand response" in their work with customers

7) Consider an ombudsman type of coordinator to assist customers in following up on audit recommendations.

8) Target the audits to those customers most likely to sign up for programs, using messages that are focused on high-potential market segments which reps often are able to identify.

3.3.2 Demonstration Community (Ontario)

Program Administration

In this program SCE partnered with the City of Ontario to see if such partnership could significantly enhance the delivery of EE and DR messaging. Historically this city has been very responsive to calls for load reduction and conservation and has collaborated with SCE on other program development. SCE and contractors, Lumenex and Navigant, worked to establish a working group of city leaders to discover how best to bring DR and EE messaging to this community. A goal of this program has been to use the existing community leadership to promote the adoption of DR programs, responses to Flex Your Power Now, and Voluntary Load Reduction Programs. The program has succeeded in its goal of engaging the city's leadership. A working group meets monthly and serves as a steering group for the effort. The group is comprised individuals representing diverse interests in the City, including approximately 15 members, of whom about half are very active. Members include representatives from:

- National Association of Industrial and Office Professionals and CB Richard Ellis
- Manufacturers Council and Chaffey College
- San Bernardino County Employer Services
- Business Retention Committee
- San Bernardino County Superintendent of Schools
- Distribution Managers Association
- California Manufacturing Technology Consulting (CMTC)
- Darren Lewis Group of Companies

- SCE representatives from DR Programs, SCE's Business Customer Division, Business Solutions and Economic Development
- City of Ontario, Development Department
- Ontario Chamber of Commerce
- City of Ontario, Development Department

Summit Blue succeeded interviewed and met with this group in a focus group setting to discuss the program. The quotes in this section below are from both the interviews and focus group. This group is considered to be about the right size and composition, with the exception of a lack of a large commercial or industrial property owner to represent the owner's views and experiences on the working group.[31] The group sees their role as one of opening doors and creating program leads for SCE to follow up on. This is a logical extension of the group's efforts to visit area businesses to check on business' concerns, present information on city resources available to help businesses, etc. However, the pilot has stalled out just short of actually asking for businesses to sign up for DR programs. It is unclear why exactly this initially encouraging momentum is flagging. The committee members believe these businesses will be followed up with by SCE reps. Yet for the most part it does not appear that this follow-up has been undertaken. Some of the BCD reps have been notified that the customers have been contacted, but a lack of resources within SCE and within BCD have impeded progress..

If the problem is simply a need to better communicate leads being generated, a lead list coordinating effort between Ontario and SCE would help. To the extent reps know about leads but are not conducting timely enough follow-up, there may be a work priority issue to address, whereby reps need additional support or need to be allowed to shift their work priorities to follow up on leads. Without DR pilots or initiatives being rewarded or mandated in account representatives' performance goals, as appears to be the case for this program and particularly given other competing work priorities, reps may not give these leads the attention expected by the City. Thus, a heightened emphasis on, or perhaps a shift in staff responsibilities to focus on program lead follow-up could substantially improve the success of this venture. The responsibility for following up on leads to recruit businesses for demand response could be shifted to the Ontario city rep, perhaps, instead of the BCD reps who work directly with larger customers in the area. This shift would be contrary to the dedicated account rep strategy SCE has pursued, however, where one assigned person is the sole conduit to these larger accounts, so there may be organizational issues associated with shifting the follow-up responsibilities. Allowing the local city rep to assist the assigned reps in signing up area businesses for DR could better sustain the momentum gained and maintain the significant rapport developed as a result of this program.

As noted above, the working group members on the business retention committee in Ontario visit businesses in the area to check on concerns and to present information on resources available in the city. Included in this packet of information is information about SCE's DR programs. Several of the committee members mentioned that they would prefer a more detailed profile of what type of business is a likely DR program candidate or what kind of business personalities to look for. With the right targeting criteria in place, a filled out form to be signed and the appropriate marching orders, SCE's Ontario rep, if given the go-ahead to sign up the larger customers in the area, could readily close the sales loop. Working Group member Curtis Compton, Director for Job Development, San Bernardino explains:

[31] One suggestion was the Garret Group http://www.thegarrettgroupllc.com/home.php.

> ***[In the past] when I was working to support SCE's Express Efficiency efforts, I had very little success in my first year. Then I began filling out the paperwork and showing up at the customer's site, needing only a signature. Then I got really successful.***

Craig McDonald, of Navigant, in his role as senior consultant to this project agrees:

> ***The follow up in enrollment process … needs to be streamlined. There are too many handoffs, which is an opportunity for something to fall through the cracks….someone should be in charge of follow up….we were surprised that people couldn't just sign up after training sessions.***

Marketing Collateral

The marketing collateral for this project has mostly been in the form of presentations to the working group in a "train the ambassador" mode. Workshops and training events for the city businesses have also been held. The training guide, "Demand Response, Gain an Edge on Power Costs"[32] is a somewhat technical, but thorough primer on DR. It takes about 15 pages to explain the economics of electricity supply and demand and the California Electric Grid. Subsequent Chapters cover the Statewide DR Programs and what the "demand response loads" are at "people" buildings and "process" buildings, closing out with a work plan to approach DR and a sample DR screening audit. The presentation that is most often used with the Ontario group is a substantially abbreviated version of the training guide. In principal this repetition of messaging is an important educational tool.

Both the presentation and the guide have to spend so much time explaining what DR is, however, that the examples of building types and case studies seem to get somewhat lost toward the end of the presentations. In the future, when there is more time to plan and implement this strategy, it may make sense to take a more condensed approach to the conceptual aspects of the training and focus more on discussing preferred market segments and case studies that can help committee members be more effective in their contact work (the case studies would provide specific examples of the DR concepts to be communicated, which would help cement in working group members' minds the theoretical concepts being taught). Natalie Bazarevitch of CB Richard Ellis comments,

> ***My world does not revolve around energy efficiency…I put tenants into office buildings…for me the [pilot] is about creating an opportunity to talk … and to help develop our city and the owners of buildings and businesses. … Rules of thumb are really helpful to me. Then I have a better sense of who can benefit. … If we had more targeted marketing, perhaps some kind of resource database…that would help… you have to keep in mind, there is too much industry jargon..***[33]

Ms. Bazarevitch did go on to explain that she learned what she needed to, but cautions that if this program were to be rolled out elsewhere, one of the lessons would be to scale the conversation and materials to the audience more, especially in the beginning. An example of how to develop and present information like this is the Enhanced Automation program at the CEC.[34] The approach increases the complexity of materials (brochures/case studies/business case/technical options) only as the subsequent educational

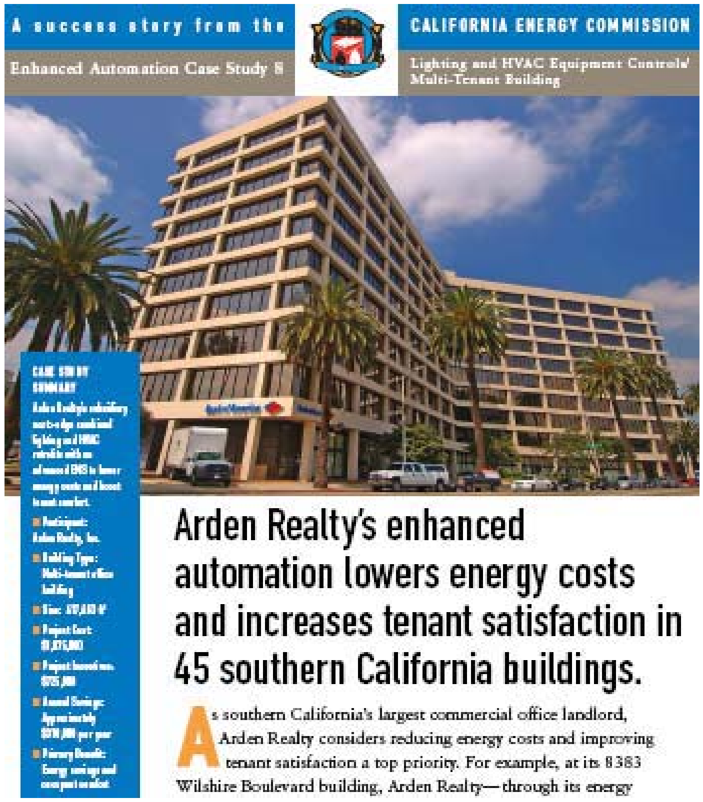
[32] Demand Response, Gain an Edge on Power Costs, Prepared by David M. Wylie, P.E. ASW Engineering Consultants, Tustin, CA.

[33] Ms. Bazarevitch does go on to mention a one page synopsis that she did like, but Summit Blue hasn't received this for review.

[34] http://www.energy.ca.gov/enhancedautomation/index.html

phases are attained in building awareness/interest/intent/implementation.[35] In the enhanced automation effort, case study messaging looks like the following:

Figure 3-22



Yet, even without the time or budget for high-visibility brochures as above, the thought leaders of Ontario have been engaged. So <u>the visual aspects of SCE's efforts with respect to the working group ought not be criticized *per se*</u>. In fact one of the implicit premises of an effort like this seems to be that a grass roots, semi-organic process such as a contact with a City thought leader (e.g. the messenger) is more predictive of success than the style points of the message when presented from a trusted source. The point is to <u>help these ambassadors focus their efforts and be as influential in their contact efforts as possible</u> once they understand the basic concepts of DR and other issues SCE is addressing in the program.

<u>Outreach Activities</u>

SCE works to increase the awareness of energy issues with the city thought leaders by making presentations and conducting training with working group members. The working group members in turn utilize the business retention committee as detailed above, to bring the DR programs message to local businesses. The business retention committee is staffed in part by working group members. Each member visits 10 businesses a month and visits with them to understand their concerns and to share information on business support in Ontario. The DR message is included in this packet. Some of the committee members are very sophisticated in their level of DR comprehension, while others are less so. <u>Most do not desire much additional training, but rather more practical (case studies) and logistical (targeted contact lists)</u>

[35] Presentation by Julie Larkin of Kema/Xenergy at SMUD's Technology Center on CEC's Enhanced Automation Campaign, June 2004.

support. The committee sees its role more as the advance team that identifies opportunities for SCE to follow up on. The businesses seem to appreciate that the city, often joking referred to as "Ontario INC" who appreciates their "business."

Stephanie Vondesar, Ontario Development Department, sums it up:

> ***If it's good for business…it's good for Ontario. We want business to know that we are being proactive about ensuring a stable energy supply for business in Ontario.***

The city is also holding its annual State of the City event in March, and plans to distribute "goody bags" which will contain a variety of information, including SCE's.

It was anticipated that additional readiness audits and action plans would be implemented with large businesses that signed up through this program. These activities may yet occur since there appears to be significant enthusiasm for the project on the part of the city. Again, Curtis Compton, of Job Development, San Bernardino:

> ***"I would say first off if a community effort is underway, it's not perceived as a big company [like SCE] looking out for themselves. When the community gets involved, it's a community effort. They are trying to help us and Edison."***

However as of this writing, the audits had not been performed, as detailed above. Nonetheless, Mary Jane Olhasso, Director of the City of Ontario Development, adds:

> ***I've been really impressed with the program… you have to remember when you are measuring success that we have another 2 million square feet coming on line in our community in another year. So when you measure success, you have to take the long view.***

Channel Effectiveness

This outreach effort has received an award from the Association of Energy Services Professionals for the innovative approach to marketing DR. It is likely to be successful provided that certain key logistical issues can be resolved. Generating and managing contact lists and associated follow-up processes, e.g. actually asking for sign-ups and delivering on audits, are key logistical barriers to the program's success.

Cynthia Wooten, of Lumenx, one of the principal outsourced contractors on the project, uses an example to explain the problem of logistics.

> ***In August there was a black out, it had to do with a problem at the substation, I used that as a direct and demonstrative, event, as to why it's important to be ready for DR. The city of Ontario was deeply affected by these black outs. So the working group wanted to see who had been affected and how long, and actually try to get them a note. So, SCE told us to go to the web site and use the maps. We tried to do it that way, but we couldn't figure out how to cross tabulate… and then we had a hard time getting materials produced and mailed, getting lists from [SCE] was very difficult.***

The key findings from the focus group conducted at the city are presented below.[36]

[36] Due to a communication error, the working group, including Edison reps were present at this meeting. However, neither of the principal project managers, Mark Martinez of SCE or Cynthia Wooten of Lumenx, were present.

Key Findings:

- Ontario participants were very pleased with the SCE partnership and felt that it was designed very well. SCE has been very responsive and each group's responsibilities are appropriate and delineated.

- Businesses are likely to sign up for SCE programs at a faster rate with the involvement of the City. Ontario has built up trust over time, they don't have a sales agenda, and they can quickly influence businesses to take the next step and contact SCE. However this process must be made simple and obvious, and appropriate follow-up conducted that results in SCE asking contacted customers to sign up.

- During the discussion, participants thought of many more avenues to use to help improve the program's effectiveness. This primarily consisted of creation of new methods to promote the programs, getting more civic and business leaders involved, and holding information or training events for trade allies.

- Ontario would like to have feedback on a regular basis from SCE on customer outcomes: who was visited, what the findings were, and what the businesses signed up to do. At this point, they don't have any way of knowing whether their efforts are effective.

- More work/study needs to be put into the area of target marketing. In particular, there is a problem in sharing targeted lists between Ontario and SCE due to confidentiality issues. Ways to get around this problem should be investigated, because being able to target high potential customers would save time and money, and create more savings.

Program Elements: The overall goal of the partnership is to educate Ontario businesses on the opportunities available to reduce energy bills and help the stability of the power grid through DR and EE programs. Participants seemed very pleased to be involved with the program and felt that it was an important element for their city and the businesses. They felt as if the right partners were involved with the program and that they are likely to be able to reach businesses through existing channels. In general, it's Ontario's job to help identify potential businesses, and then have SCE follow up with them. This appeared to be a role that Ontario was comfortable with.

In particular, participants were asked whether this partnership would be better than SCE going straight to the customers. Universally, they said that it would help and that customers will appreciate the City's participation to help businesses. Also, smaller businesses do not have SCE account reps, and this would provide a way to educate that group. One of the SCE account reps was asked at the meeting's end whether he was able to reach customers more readily because of this program. "Yes, significantly more [customers]…We have already gotten in front of groups of businesses that would not have been contacted otherwise."

Motivating Factors: Overall, Ontario wanted to participate in this program to have a healthier business base. Many times, job growth and retention was mentioned. The primary motivator was giving businesses

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Edison employees were instructed not to participate in the discussion unless directly asked questions. Given the rapport developed by the working group this may not have been at all inappropriate in that at the close of the discussion, the group identified and discussed problem areas and potential solutions. Summit Blue also interviewed several other members from the working group independently and received substantially similar feedback.

a way to make their operations and processes more efficient and to save money. A secondary reason was to keep the lights on.

They mentioned that especially for small businesses, they are so busy that they barely have time to think beyond the immediate needs of that day. Ontario sees their job as helping businesses see into the future, and to help them with a minimal amount of the customer's time requirement. Trust is a very important factor in getting businesses to participate with just a quick interaction. And it was mentioned that the City is seen as a neutral player without an agenda except to help the business.

> ***"We are seen as a neutral party without a sales agenda….Businesses trust us and our message."***

Participants also mentioned that they are beginning to see a "ripple effect", meaning that as some businesses start participating in SCE EE and DR programs, more will hear about it and want to participate. SCE is already a very credible source, so there is trust there as well.

Understanding Demand Response: Participants understood the concept of demand response fairly well, with some gaps that probably should be filled. However, they saw it as their job to get the businesses interested enough to get them to talk to SCE, not to get into the details. And because of the trust level they have in the city, businesses are more likely to go to the next step with SCE. They mentioned that when they meet with a financially oriented business person like a CFO, CEO, or even a marketing person, that DR is not understood well at all. Using phrases such as "save money," "incentives," and "reduce costs" gets their attention, however.

Someone mentioned DR could be likened to a traffic jam, and everyone can relate to traffic jams at certain times of the day. They mentioned that a radio message during commute times could be effective in getting the DR message out to customers. They also emphasized that they should be doing some of their marketing in Spanish.

Program Design: When asked about how they would change the overall design of the program and the partnership, the participants said that they really thought everything was going well and had no problems. They said that communication has been great, that SCE has followed through on their tasks, and that everyone is responsive to their action items. When asked whether each party (Ontario and SCE) had the right amount of control and responsibility, both sides said "yes."

Problem Areas: When asked about areas of improvement, a couple of ideas came up. First, the working group would like to get feedback on which customers are followed up on by SCE. They want something like a periodic status sheet; right now, they are completely in the dark about how their own activities are creating results through SCE programs.

Another area that can use improvement is targeting the right customers. SCE has its lists, and Ontario has its lists, but for reasons of confidentiality, they cannot be melded together. Since this is such an important element in this type of program, it should be addressed as a high priority. Maybe SCE could provide high potential SIC market segment information to Ontario. Or possibly send an email to businesses asking for their permission for SCE to release billing information in order to facilitate their involvement in money-saving programs. If the issue is that proprietary billing information is showing on SCE's lists, develop contact lists that do not contain confidential data.

Target Markets: Participants were asked about the best candidates for DR programs. They thought the concept was sellable to business. One person noted that process-based businesses would likely need to retain control of their loads so that the dynamic pricing option might be best for them. There was some ambiguity about whether schools would be good candidates or not. On the one hand, they could have high awareness. On the other hand, they can't suspend classes during a DR event. They did say that businesses that were "mature" are likely to sign up; that is, businesses that have a strong game plan, understand their finances and operations, and have been around a while. It was also mentioned that "entrepreneurial" businesses are more likely to participate, as well.

Participants are willing to approach the types of companies that SCE recommends, if lists could be provided. Also, it was mentioned that tenants aren't able to make energy efficiency investments themselves typically, but it was noted that many DR programs can be done without much capital investment.

Getting Out the Message: Participants were asked if there were additional avenues to get the word out about SCE's programs, beyond what they were already doing. Several ideas surfaced. Additional community leaders could be asked to participate on the Ontario team. Ones that were mentioned include real estate brokers (who know who's moving into town, who's doing well and expanding, and who's ready to move out), real estate developers, and other industry trade organizations. The bottom line was that there are additional avenues to reach customers that are available.

> ***"We want our businesses to stay here and do well, create more jobs, and more tax revenue. If they can save money through energy efficiency, we can all do better."***

Participants were asked about the involvement of city officials, including the mayor, the city council, and the city manager. In particular, it seemed as if the city manager was the best person to help with this project. He has a good rapport with businesses in town, and also runs Ontario like it's a business as well. The value of having the city council understand this program was debated. They didn't want the council to slow things down, but also thought the city council may be able to create policies to make EE and DR more universal.

Another way to get the message out is to create high-profile examples and case studies and then let people know about successes. The company Maglite was mentioned as a good potential case study candidate. Another avenue would be to create some events for businesses, such as lunch-time information sessions.

As Summit Blue discussed these options in the focus group, a lively discussion developed regarding different venues to promote DR and EE. This included print publications such as the Business Journal or Ontario Living magazine, a Group One Productions TV show, a business networking event March 29, the State of the City event, and real estate brokers meetings. While some of these avenues had been thought of before, some were new. In addition, it was discussed that if trade allies knew more about these programs, they would then recommend them to their customers. So, a trade ally training session might be beneficial.

Conclusions & Recommendations – Ontario Demonstration Community

- Conclusions:

    1) The program has succeeded in engaging the city's leadership. Participants are very pleased with the partnership and feel it was designed very well.

    2) The program has enabled better coverage of small businesses that SCE likely would not have been able to reach without the partnership effort. SCE staff have been able to get in front of groups that would not have been contacted otherwise.

3) Participants feel businesses in Ontario are likely to sign up for SCE programs more rapidly with the city's involvement. The city is seen as a neutral player whose primary objective is to help businesses succeed.

4) The program's awareness building efforts have begun to have a ripple effect out to other businesses.

5) The pilot effort has stalled out short of following up with business contact leads to sign up participants to DR programs, however. Why this is, is unclear but may be due to either a need to better communicate leads that have been generated, or due to lack of time and priority for account representatives to follow up on leads being generated.

6) The leadership working group has been trained and understand the basic concepts of DR and EE, but need more practical supporting information such as case studies and targeted contact lists to help focus their contact logistics and provide practical success story examples to their contacts.

7) There are more avenues that could be utilized to promote the program, including real estate channels, city events and trade allies. Some of these would require extending the training being done for the demonstration to other market actors being recruited to the outreach effort. The city manager would be a productive addition to the outreach team, and the city council could provide policy support.

8) Information coordination between SCE and the city has been stymied by confidentiality issues, making it more difficult to coordinate program efforts.

9) There is a need to provide feedback to committee members regarding the ultimate disposition of contacts they have made, to see whether customers have signed up for SCE programs or not, outstanding issues, etc.

10) Committee members appropriately feel it is their job to create awareness but not get into details of programs; that is SCE's responsibility via follow-up contact work.

11) In creating awareness, care should be taken to remember that customers are not understanding DR terminology and concepts very well, but they do strongly relate to saving money and reducing costs.

12) There is a need for segment-targeted contact lists to help focus outreach efforts on high-potential customers.

- Recommendations:

1) Improve coordination of contact lists between the city and SCE, including consideration of confidentiality concerns associated with sharing information between the organizations.

2) Focus on scheduling follow-up contacts by SCE account representatives to be as timely as possible to keep customers interested and increase the likelihood of signing up for DR and EE programs. Consider shifting follow-up responsibility to SCE's Ontario city representative in some capacity, understanding the organizational issues that may be associated with such a shift.

3) Provide case studies and targeted, high-potential business prospect lists for outreach use, including profiles of what types of businesses make the most likely DR candidates.

4) In committee member training, focus more on examples and high-potential market segments, and condense the conceptual aspects of the training to keep trainees focused on the practical aspects of successful outreach.

5) Expand the venues and associated allies for outreach to include additional civic leaders, real estate channels and actors, and technical trades. Consider articles in selected area print publications, cable TV shows and business networking events as well.

6) Generate periodic disposition lists to feed back to committee members the ultimate outcomes of contacts they have made.

7) Consider a Spanish-version set of collateral and also involve Spanish-speaking outreach members to better reach the Latino business market.

3.3.3 Institutional Outreach (BOMA, SCAG, LA County)

Program Administration

The Building Owners and Managers Association of Greater Los Angeles (BOMA-GLA) Southern California Association of Governments (SCAG) and LA County are all engaged in programs with SCE to help promote energy efficiency and demand response. BOMA is a membership organization that aims to help owners and managers of large commercial buildings. This can include helping work on legislation at various levels, offering training and professional development, conducting market research, and generally helping their members have more valuable commercial property.[37] This BOMA chapter has about 300 buildings represented, about half of which are in SCE's service territory. SCAG is a regional council of governments, covering an area with a population of nearly 15 million people; over 150 cities and counties are members. They help conduct research, direct policy, and create plans for many issues that affect the region. This includes transportation, air quality, housing, and hazardous waste, among others.[38] LA County operates and owns a wide variety of buildings, ranging from courthouses and jails, to hospitals and office buildings.

These outreach efforts were also supported by consultants at Navigant and Lumenx under contract to SCE. The project was conceived of as using "virtual" communities as conduits to deliver EE/DR messaging and also possibly providing, "enhanced" EE/DR opportunities, like free DR audits and training sessions in exchange for the assistance the institution would provide in "getting the word out" and getting members to training sessions. There has been some frustration on the part of the consultants on this project, with respect to being unable pull back from projects that are not successful and move on with the lessons learned in hand. For example, when the SCAG partnership, and to a lesser extent the LA pilot, did not take flight within the program period, there was no established exit strategy or way to disengage from the offering. Moreover, when resource constraints at SCE cause delay in delivery of audits and promised services, the consultants feel that the relationships they have built on behalf of SCE may suffer.

[37] BOMA of Greater Los Angeles website, www.bomagla.org, visited March 3, 2006

[38] SCAG website, www.scag.ca.gov, visited March 3, 2006

Of the three virtual communities, BOMA is the most engaged thus far. They have had significant attendance at BOMA/SCE training sessions. Unfortunately, resource constraints and bottlenecks at SCE have prevented this program from achieving its potential. None of the BOMA members that signed up for audits in late summer have received them yet, for example. This is due to several issues: 1) before an account can be visited, for the DR audit the BCD rep must be located; 2) due to a commitment at Edison to one-stop shopping for key accounts, that particular rep must be part of the DR audit sign up; and 3) that rep is often not available or able to prioritize following up with the BOMA members/leads because they are not evaluated on this basis. Going forward, Summit Blue understands that this effort will be assigned to a dedicated program manager at SCE and that these issues will be addressed.

LA County has received training sessions and has agreed to test the pilot, offering up two of their buildings for audits. They are skeptical about DR and the audit process, and want to kick the tires first with two audits. However, Nora Hernandez of LA County reports, though the audits occurred months ago, they have not heard back on the results. Moreover, Peter Choy with LA County adds, "the auditors wanted me to look up all kinds of details before they would come out and do the audit. That's a big deal for a busy person like me." LA County has recently received an award by the Association of Energy Services Professionals for their retrocomissioning efforts in partnership with SCE and SoCalGas. They have been focused on this effort and so, the DR pilot hasn't engaged them in a top-line way. However both remain positive on the program and feel that as government building stewards they have a sufficient supply of buildings to offer up for pilots like this and look forward to continued contacts with SCE.

SCAG partnership has stalled out prior to signing an MOU. The issue with SCAG from an administrative side is that though it is an umbrella organization, SCAG does not function in a top down dissemination mode. Rather it prefers to work with projects that are championed from within, by one of the member cities. Therefore, the strategy for engaging SCAG by recruiting an internal champion at the executive level is not particularly effective for developing a partnership with this organization.

Marketing Collateral

BOMA and LA County received the same PowerEdge workshop that David Wylie of ASW, Lumenx and SCE developed for Ontario. The training guide, "Demand Response, Gain an Edge on Power Costs" is a somewhat technical, but thorough primer on DR. It takes about 15 pages to explain the economics of electricity supply and demand and the California Electric Grid. Subsequent Chapters cover the Statewide DR Programs and what the "demand response loads" are at "people" buildings and "process" buildings, closing out with a workplan to approach DR and a sample DR screening audit. The presentation that is most often used with the BOMA group as with Ontario, is a substantially abbreviated version of the training guide. In principal, this repetition of messaging is an important educational tool.

The training guide is a little too utility oriented on explaining DR and energy management. To its credit, though, it shows practical examples of load reduction at offices such as:

- reduction of common space lighting
- shutting down elevators
- deferring printing and laundry run time to evening
- cycling of AC loads
- precooling and
- shutting down vending machines.

BOMA is skeptical of the efficacy of the suggested actions, however. They are convinced that their job is to help their industry use less power because it is one of their largest costs of doing business. They have not discovered, to cite a significant liability issue, how to work around the probability that leases would need to be renegotiated if tenants receive less HVAC than is prescribed by the lease *or is customary*. They think that building operators will be afraid to breach implied warranties of habitability which are interpreted to be part of all real estate contracts, without actually being stated.

Presentations to BOMA have included concepts such as:

- Reduced chance of blackout
- Reduced energy costs
- Enhanced environmental quality
- Leadership for BOMA participants

Attendees of the class cosponsored by SCE and BOMA felt that the training presentation materials were good and well presented. Some suggested that they already knew some of the information from the class. With respect to DR, one commented:

"It's got a potential, I suppose but I wouldn't get too carried away in Beverly Hills."

Older participants recall the work that buildings did to "do their part" during the energy crisis of the 1970s. They recall there was quite a bit of push back on the dreary work environment, and also express concern about safety implications for reducing lighting. Workshop attendees feel that having assistance making a business case would help them promote the ideas to management. In this regard, they echo the sentiments of Howard Choy of Los Angeles County who stated, "we are focused on EE measures with load management implications" over true demand response. For example, we have several retro-commissioning efforts underway right now." Enhanced automation to facilitate load management is also a focus of facilities managers currently.

SCAG

The presentations to SCAG contained the following key messages:

- Supply reserves are dropping to a dangerous situation
- DR, Conservation, and EE all have a role in meeting energy needs
- DR can be explained and is defined
- There was a focus on detailed benefits: Emergency, Economic, Environmental
- Actions are identified for what can be done in buildings to reduce load

Outreach Activities

SCE has conducted training classes for BOMA and LA County using the same PowerEdge training guide referenced previously. BOMA managed to place 45 "members" at a jointly sponsored training. This BOMA chapter has about 300 buildings represented, about half in SCE's service territory.[39] So for the chapter to be able to get this many attendees is a strong result. As discussed above the BOMA community is the most engaged thus far.

[39] BOMA of Greater Los Angeles website, www.bomagla.org, visited March 3, 2006

SCE sponsored a DR award to be presented at the annual TOBY awards (the Oscars for Commercial Real Estate) and this was quite popular. The logistics and quality control on an event like this are such that there must be verifiable rules and evaluative criteria. It is not a superficial award. This event was perceived to have been substantial and eye catching, contributing to significant awareness in the real estate community.

Unfortunately, resource constraints at SCE appear to prevent this program from achieving its potential. None of the BOMA members that signed up for audits in late summer have received them yet. This is due to several issues: 1) before an account can be visited, the BCD rep must be located. 2) due to a commitment at Edison to one-stop shopping for key accounts, that particular rep must be part of the DR audit sign up. 3) that rep is often not available or able to prioritize following on with the BOMA members/leads because they are not evaluated on this basis.

Presentations at SCAG have not been similarly faced. Because SCAG is a regional council of governments, covering an area with a population of nearly 15 million people (over 150 cities and counties are members), they have a different perspective and approach to member relations and dealing with various issues of interest. They help conduct research, direct policy, and create plans for many issues that affect the region. This includes transportation, air quality, housing, and hazardous waste, among others.[40]

Channel Effectiveness

A summary of the focus group style interview with BOMA and SCAG follows. Only three high-level managers from BOMA and SCAG were available for the focus group. Peter Choy and Nora Hernandez of LA county were interviewed separately and their comments are noted. All of the contacts have had significant exposure to the SCE programs and are the key contacts for future programs and developments.

Key Findings:

- BOMA and SCAG members (office buildings and cities/counties, respectively) have a keen interest in lowering their energy demand, and the potential for these organization to assist in delivering programs is high.

- Members welcome messages about SCE's programs, but they need to be presented in a highly streamlined manner with a minimum of jargon.

- Several significant barriers exist to implementation of new DR programs. First, for office buildings, tenants are not individually metered so they have a low incentive to save energy themselves, as benefits will not all accrue to that tenant.[41] Second, these organizations span over

[40] SCAG website, www.scag.ca.gov, visited March 3, 2006

[41] Subsequent interviews with BOMA SF – the advocate, and representatives of office managers revealed confusion about whether "rule 18" was still in force, not enforced or overturned. Rule 18 refers to a CPUC ruling that prohibits building owners from charging for submetering administration unless they wished to be categorized as a utility. According to the BOMA participants, they have tried to circumvent this problem by having the building owners/managers submeter the various tenants, but apparently this is not legal as interpreted by SCE. They mentioned that PG&E has had a different interpretation. This is an area in which changing the rules, laws, or statutes could provide a very significant improvement in market potential for DR in the large office segment. It was mentioned that it is possible, although expensive, to move to primary metering for specific tenants. If the value of the conversion is worth it for SCE, they may want to opt to go in this direction.

more than just SCE's service territory, so it is difficult for BOMA and SCAG to put out messages in normal communications that apply to only part of their constituencies.

- The programs have had problems with communications at various levels. There exists some frustration that SCE and its consultants (Navigant and Lumenx) are not able to follow through on agreements due to various structural reasons. These are attributed to either the newness of the programs or to institutional barriers that often exist in large organization.

- The BOMA Energy Efficiency award for offices (the TOBY award) was a great example of a high-profile presentation that made other members pay attention to the value of SCE's program. This award process could be expanded in BOMA and potentially taken to other groups as well.

Program Importance: Both organizations believe in the importance of working on energy savings. BOMA, in particular, said "…we have to look long term at the industry…we all know that there isn't an infinite amount of energy….and energy is the biggest cost for an office building."

> ***The bottom line is that our members just need to use less energy as an industry…we believe this is important.***

BOMA also pointed out that their endorsement of the SCE program will make a difference, that the members expect BOMA to find new opportunities for saving money, and that BOMA has built visibility and respect over time so it has credibility.

Decision-Making Process: BOMA and SCAG appear to have very different decision-making processes in their organization. BOMA staff can make their own decisions on programs they feel will help their members, and then go out and implement them without much process or approval necessary. They believe that the split of responsibility between BOMA and SCE is very good; SCE provides the information and expertise, and BOMA helps organize events and provides a conduit for information.

SCAG, on the other hand, seems to hold very little decision-making power. They have a relatively onerous process to go through to approve implementing programs from the central SCAG office. The cities themselves hold the most decision-making power. In fact, it seemed that SCAG may not be the best conduit for the SCE endeavor, given this lack of decision-making authority. Alternatively, SCE may need to go directly to cities/counties that could be leaders, and then have those cities go to SCAG to encourage other member cities/counties to participate as well. When asked about leading communities that could be leaders in EE and DR, Santa Monica was mentioned.

Split Membership in Utility Service Territories: Participants mentioned that many of their members bought power and gas from a utility other than SCE. BOMA said about half their members' buildings were in LADWP territory. While this is well known by SCE, it was mentioned as a barrier for BOMA and potentially for SCAG because it can cause confusion amongst the members. Some will wonder why BOMA is advertising a program that is not universally available to all its constituents. While this problem is inevitable when working with a regional organization, it may be fruitful to try and coordinate with LADWP on DR (or other) offerings to make the message more universal for BOMA and SCAG members.

Problems with Follow-Through: There was a fairly high level of frustration expressed by BOMA, SCAG and LA County participants regarding follow-through and communication from SCE and the consultants. While they felt that everyone involved means to do the best job they can, there were significant problems in several areas. One problem had to do with building audits. Apparently, BOMA members were signing up for audits, but SCE could not get to them because of lack of auditors trained to do those buildings (according to reports from the consultant, Navigant). This then reflects badly on BOMA who promised this benefit. Also, BOMA has not been getting any feedback on which members and buildings have been audited, so they feel they are left in the dark. SCAG mentioned that if the communication was poor in the future for their program, they would not be very happy. A report on a monthly basis they said would be ideal.

One example problem was that the SCE consultant said that businesses would get a certificate of DR attendance at a particular event from Governor Schwarzenegger. They marketed this fact on the flyers, and then two weeks before the event it turned out they could not get the governor's signatures. That was a big problem in their view.

> ***"I became a little frustrated. There are gaps (in time), and then all of a sudden we need to rush. And our organization cannot be rushed."***

There was discussion about how SCE had a sense of urgency in starting up DR programs, but the follow-through didn't match the urgency on the SCE side of things. For example, they wanted to do a lot of audits, but then didn't have enough auditors. When asked why this occurred, the participants speculated that it was institutional communications barriers at SCE, or simply the fact that it is a new program and a new channel. They were also quick to clarify that everyone that they had met on the SCE side (including consultants) seemed sincerely eager to do the right thing, to move the programs forward, and to provide good service. For example, they praised the quality of an in-person event: the handouts were good, the visuals of high quality, and the follow-through was strong. However, there were gaps of concern.

SCAG Protocol: SCAG apparently needs to work from the member cities back up to central SCAG organization, not the other way around. This is different from BOMA who likes the centralized approach. For SCAG, it was suggested that SCE could go to a few high-potential member cities, create programs with them, and then have those cities come through SCAG to promote the benefits of the program to other member cities. The participant said "We have member cities that are a little skeptical….They don't trust it. …It would be a stronger sell if individual cities, through facilities managers, for example, would come forward and say we did this and it worked great for us." SCE may be able to obtain examples and case studies of city and county participation in EE and DR programs, and write those up and present them through SCAG to get the word out as soon as possible. SCAG also mentioned that they are not allowed to use consultants without a big process, so having SCE's consultant working with/for them is posing a challenge. They are working on circumventing the problem but it has not yet been resolved.

Education and Messaging: The strongest message for members of BOMA and SCAG, not surprisingly, is saving money. In particular, recent electric rate increases have spurred increased interest in finding new and additional methods to lower bills. This is a good time to present messages about DR, for example. SCAG said that the local environmental message was strong for their members, as they are charged with air pollution issues. If the SCE programs can help improve air quality, it would increase interest.

> ***The truth is that members don't want a lot of detail (in written materials)….Keep the case studies short and get to the bottom line fast.***

Participants mentioned that the educational/advertising material presented to members was too detailed and too full of jargon. They would like to see messages simplified and put into language that matters to members. One person said "put the information in bullet points." The building managers have return-on-investment goals, so they would understand financial language of how energy savings can improve the ROI. They said that case studies would be helpful, but only if they were concise.

Participants were asked whether there were particular customers that would make excellent demonstration projects, because they are leaders and are well respected. Some names were mentioned: McGuire (very civic minded), Kilroy equity, and the City of Santa Monica.

Building Awareness: BOMA discussed how effective "The Building of the Year" (TOBY) award was to improve awareness among membership. SCE sponsored this Energy Excellence Award, which went to the 1888 Century Park East property. In this first year, there was only one energy award given, without regard to category of building. When asked if they might consider giving multiple energy awards in several categories (for example, by building size), they said that it might be a good idea.

Limitations on DR in Office Buildings: Implementing DR and EE in multiple-tenant office buildings faces the significant barriers of split decision making and incentives to save energy costs: tenants are typically billed on a per square foot basis for energy use, not on metered data. And the owner cannot force the tenant to participate in a DR type program. If one tenant decided to participate in DR, they would share the monetary benefits with all other tenants, making the money savings small or irrelevant. A group of tenants could get together and all agree to be on the DR program, making it more plausible. However, this creates more barriers. Only the common areas are under control of the BOMA managers/owners, and that represents only a small fraction of the building's energy demand.

Conclusions & Recommendations – Institutional Outreach

- Conclusions:

    1) The program is well-conceived overall, though its execution has experienced several gaps in carrying out the program's strategy. Its participants have been supportive and optimistic about the program concept.

    2) BOMA is more engaged than SCAG, mainly because BOMA has greater central authority to develop and carry out initiatives with its members. SCAG's involvement has stalled out because of its member orientation being ground-up and the fact that initiatives need to be led by member cities and counties, not SCAG itself. As a result, SCAG may not be the best conduit for this program unless a ground-up "champion city/county" approach is used, which would be fairly process-intensive to work.

    3) The training materials and presentation were good and well-presented. The training guide used has practical DR examples, for example, but appears somewhat too utility-oriented in explaining various concepts.

    4) Aside from economic concerns BOMA and SCAG members may have in considering various DR and EE actions, liability concerns also exist with respect to habitability warranties to which building operators must adhere, and also safety concerns.

    5) Public recognition awards such as TOBY are well-received by BOMA and its members.

    6) Like other programs dealing with tenant-occupied buildings, this outreach effort faces split-incentive and associated decision making problems that constitute a major barrier to customers taking action.

    7) BOMA and SCAG serve members who are outside SCE's territory, so SCE-specific messaging is problematic for non-SCE served BOMA and SCAG members, who may become confused about what programs they can participate in.

8) There appears to be a resource bottleneck whereby energy audits of BOMA member facilities that have been done have been slow in being processed and feedback given. Also, there may be too few office-qualified audit staff to support the program's thrust with BOMA and SCAG.

9) There is a need for monthly status and disposition reporting, to help BOMA and SCAG keep abreast of the outcome of their members' involvement in the program.

10) Educational and advertising materials may be too detailed and jargonistic for BOMA and SCAG members, and perhaps too light on information related to financial return objectives members have.

11) The planned assignment of a staff person at SCE to manage this program would help move the program forward by providing a dedicated resource to address various marketing and administrative needs.

- Recommendations:

1) Consider bifurcating the BOMA and SCAG aspects of the program, to reflect the organizations' different membership and operating approaches. For SCAG, consider approaching prospective "champion" cities and counties and support those entities going to SCAG to encourage other member governments to participate. Santa Monica is one potential candidate.

2) Include assistance with developing business cases for customers who receive other program follow-up services.

3) Consider expanding upon the TOBY award concept to recognize a variety of building types and businesses, and their energy management efforts.

4) Consider further simplification of training materials to minimize utility jargon and streamline the materials. Include selected case studies of facilities similar to those encountered in BOMA and SCAG contacts with their members. Provide financial analysis and business case information to help members understand the value proposition and prepare internal cases to present to decision makers.

5) Provide monthly status reports to BOMA on the outcomes of SCE follow-up in relation to BOMA's member contacts for the program.

3.4 PG&E Programs

3.4.1 PG&E Messaging

PG&E's messaging approach differed from the other IOUs because they developed a set of approved marketing collateral that was used in all of their outreach efforts including the CRWA outreach (3.4.2), Event style outreach (3.4.3) and the Walk Knock and Talk (3.4.4). These were presented in a series of brochures and focused primarily on ensuring reliable and affordable energy for the community. In contrast to SDG&E's collateral materials, which highlight specific energy saving strategies in addition to program offerings, PG&E's materials focused more on Flex Your Power NOW! messaging along with other program descriptions. PG&E has two "spotlight" pieces targeted to larger customers, one highlighting Time of Use (TOU) rates, and the other describing energy efficiency program opportunities.

PG&E also produced a lengthier brochure targeting small business and agricultural customers. These pieces described the difference between demand response and energy efficiency, and encouraged customers to prepare to participate in demand response programs that may be available to them in the future by practicing demand response behaviors today. A more detailed review follows below.

In the Energy Opportunities brochures for Small Business and Agriculture, the phrase “demand response” is used extensively and explained in very simple terms:

> “Demand response means taking short-term action to reduce the demand you are placing on the electric distribution system, in response to a signal from PG&E or the State of California.”

PG&E uses the concept of “Integrated Energy Management” to communicate the interrelated strategies for implementing DR and EE measures, and the benefits of coupling these strategies to achieve the “lowest possible energy costs.” The brochures talk about coming DR programs for “medium-to-small” businesses and institutions, and even residential customers. Furthermore, the brochures promise that these coming programs will “give you advance notice to reduce your demand for a few hours on the following business day.”

However, because there are currently, no true DR “programs” for smaller businesses with demand under 200kW, the brochures focus on encouraging businesses to reduce unnecessary use between noon and 6 or 7 PM[42]. Businesses are encouraged to turn off selected lights, or “raise indoor temperatures” for a few hours on a few “critical days.” The brochures mention technology based solutions in “high-tech buildings” but maintain that DR can also be “as simple as turning off an unneeded light.”

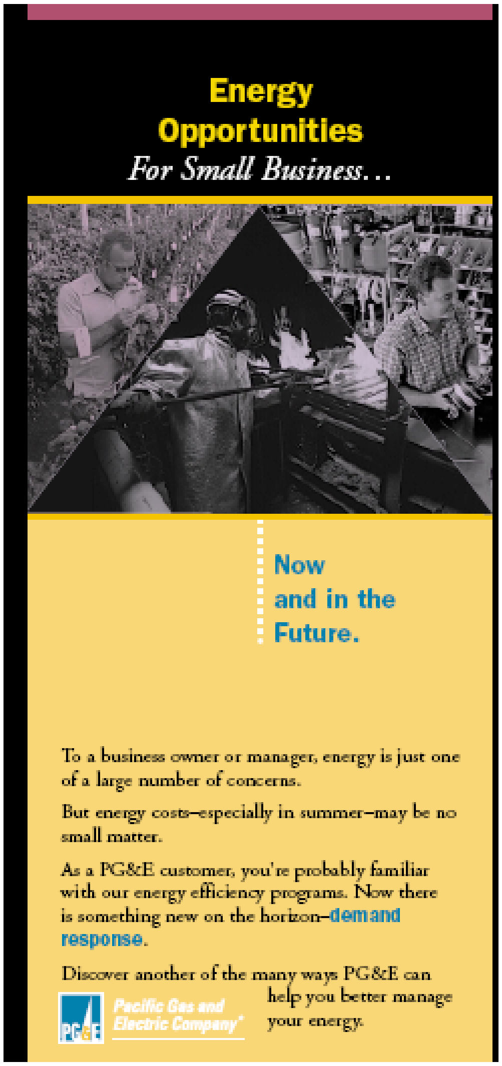
The brochures also serve as a substantial vehicle delivering the messages of Flex Your Power NOW! (FYPN) campaign. Businesses are encouraged to do their part to maintain the reliability of the electric grid:

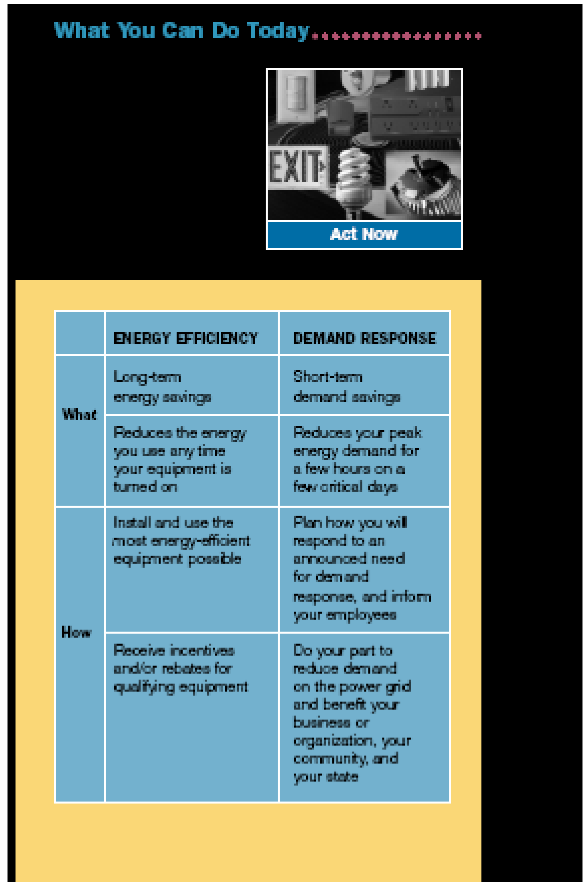
> Your response to Flex Your Power NOW! may be needed because of high peak demand by customers, unplanned generation outages, transmission problems, or extreme weather. But whatever the cause, reducing your electricity use during these critical periods gives you the power to help ensure reliable and affordable electricity for all Californians.

The brochures list several web pages for EE/DR programs, rebates, self-generation opportunities and FYPN information. PG&E’s website and toll-free number are included on each brochure as well. These web addresses and phone numbers are the same for both agricultural and small business brochures.

[42] Times varied mostly because a TOU was referred with a 6 PM end-time and FYPN with a 7 PM end time.

Figure 3-23.





Spotlight on Time of Use Management (TOU): The print on this brochure is somewhat smaller and the topics more focused. The brochures explain why TOU rates are used and how they work as well as what triggers the automatic TOU rate. The brochure distinguishes TOU from DR as follows:

> "Unlike demand response and reliability programs, TOU rates are not associated with curtailment notices or penalties. TOU rates for peak, partial-peak, and off peak periods of the day remain consistent for the duration of each season. This predictability is an additional incentive to schedule operations that take advantage of lower, off-peak rates."

There is an easy to understand graphic that explains that prices are highest from Noon to 6 PM in the Summer.

Spotlight on Energy Efficiency: This brochure reviews the main PG&E program offerings for 2005. Standard Performance Contract, Savings by Design, Express Efficiency, PG&E's 500 Plus Peak Program, Audits and Training. Several phrases with large dollar amounts are present on this brochure to attract attention to the financial assistance aspect of the programs:

- "As much as 50% of project costs"

- "$150,000 depending on the design approach"
- "up to $200,000 in incentives"
- "$300,000 in rebates"

Energy Efficiency Incentive Programs/Technical Audits: This brochure is used a matrix of programs as headers across the top of a large sheet; and availability, eligibility, process and benefits down the vertical access. The print is very fine, and the eligibility requirements are somewhat arcane (e.g. referring to rate schedule E-19V, etc.) However, despite this fine print, several reps mentioned the usefulness of this brochure. In particular, CRWA, Staples reps considered this brochure to be the most helpful. The reps liked that they could target a likely program for the customer they were talking to simply by circling the actions or process they were encouraging the customer to take. The PG&E reps were less of complex brochures such as this.

Discussion

These brochures are relatively successful in that they do present simply-stated messages that promote a few specific actions (Green & Skumatz, 2000). But they could be improved to more effectively appeal to the specific needs and interests of the target audience, and should use humor (as appropriate) or emotion along with distinctive images to capture the audience's attention (Peters, A., 2000). For example the small business brochure could more dramatically emphasize an appreciation of the stresses (in particular the financial stress) of being a small business owner. There are statements to that effect on the cover, but there isn't a single dollar sign anywhere on the brochure. This is concerning because almost all the interviewees indicated that money and time were the biggest stress points for the small businesses.

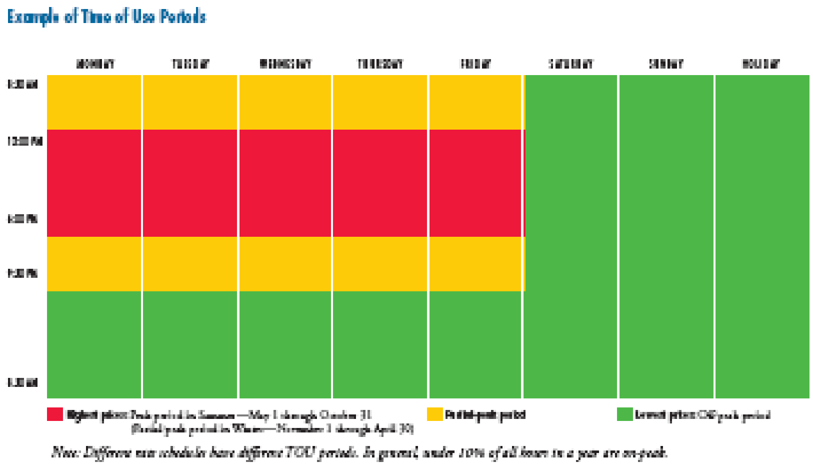
To the extent that the messaging promotes participation in demand response programs, those programs should be explained in as concise a manner as possible with an emphasis on making program participation sound simple and rewarding. The evidence collected from this and other outreach efforts suggests that the "help the community message" is not a top motivator for small business, though there may be geographic variations on this. Moreover, it is still believed that most small businesses do not comprehend the meaning of DR. This is particularly exacerbated by the lack of an actual product offering. It is very difficult to pre-sell a program that may exist at a future time. Small customers are overwhelmed with other business duties and lack the technical understanding to take action.

Each piece provides succinct program summaries that effectively communicate the importance and applicability of PG&E's suite of energy and cost-saving programs. Visual aids such as the Energy Management Pyramid used in the other IOU's collateral or peak demand curve and unique images (there appears to be excessive use of clock and compact fluorescent light bulb images) could provide focus and make the pieces more engaging and help focus the greater amount of information being conveyed.

> ***I would say to the brochure writers: step out side your world and think kindergarten. The pictures were really helpful, red, yellow, green, stoplight colors were good[43].***

[43] Comment from Staples Focus Group.

Figure 3-24.



Unlike demand response and reliability programs, TOU rates are not associated with curtailment notices or penalties. TOU rates for peak, partial-peak, and off-peak periods of the day remain consistent for the duration of each season. This predictability is an additional incentive to schedule operations that take advantage of lower, off-peak rates.

TOU RATES AND INTEGRATED ENERGY MANAGEMENT

If you are on a TOU rate now, you may also participate in some demand response and reliability programs to earn additional incentives for temporarily shifting and reducing your demand.

If you are not already on a TOU rate, your PG&E representative can help you decide whether a TOU rate is right for your business and help you make it part of your Integrated Energy Management portfolio.

WANT HELP?

Your PG&E representative or our Business Customer Service Center at (800) 468-4743 can give you more information about Time of Use rates.

Findings from the survey of customers who were contacted by a PG&E representative (including PG&E employees, CRWA reps or Staples Marketing reps) provide additional perspective on these issues.[44]

More than one-half of customers surveyed did not recall meeting with a rep or did not recognize the person's name listed as the contact. Interestingly, those contacted by a PG&E employee most likely to have recalled the meeting. PG&E employees also received the highest ratings for their knowledge and skill in answering program-related questions and for providing useful information. This suggests that utility employees are more effective at communicating energy issues than non-utility reps.

Survey respondents had a high level of recall for the discussion topics covered during the visit, (58-78%, depending on the type of rep): those who met with a PG&E employee had the highest level of recall. The perceived usefulness of the information customers received was a weakness in the program, however, which the survey firm pointed out as being consistent with other information-only programs. Again, as supported by the literature review, specific, program-supported actions tied to the information are needed to help overcome this perception, even when presented by a utility employee. The most effective messaging is tailored to the target audience (Moezzi et al., 2004; Reed et al., 1999; Wirstshafter et al., 2003). When using each of the delivery channels employed by PG&E's programs, conservation and demand response messages and events should highlight the issues that will resonate with the members of each "community."

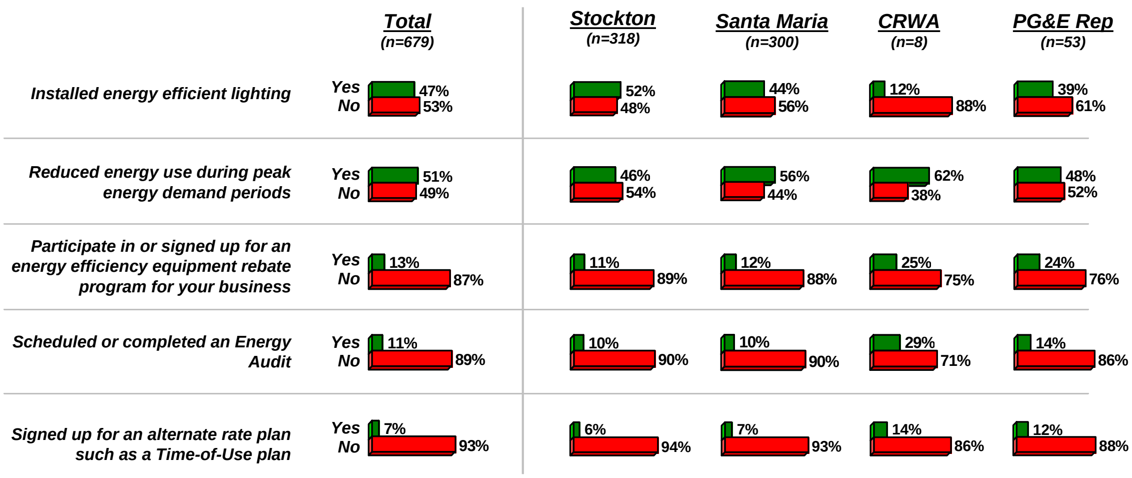
Peak-hour information was, ironically, cited as *both* being of most help and being of least help to roughly equal fractions (11% and 7%, respectively) of respondents. Representatives' knowledge of program

[44] December 2005 CEMP survey, conducted by Hiner and Associates for PG&E.

services and materials was the most valued aspect of the presentation, with <u>PG&E employees receiving the highest rating</u> on this point. This finding further reinforces the credibility brought by the greater depth of knowledge and the organizational association that utility employees have – even compared to CRWA reps who were addressing their peers in the visits. However, it must be noted that the <u>CRWA reps scored higher on post message peak energy reduction *actions* than even the PG&E reps.</u>

Figure 3-25.

<u>After</u> speaking with this representative, which of the following have you done?



The finding that many respondents did not recall a program visit suggests that information in those situations may not have been reaching the appropriate decision-maker, and that there needs to be a better greater focus on contact efforts to reach an appropriate decision-maker.

These findings suggest that information is best communicated through focused in-person visits with energy decision makers, and that the visits be performed in person by a highly trained utility staff representative having in-depth knowledge of energy management actions, including specific information on how to implement those actions. Even though peer-group representatives, like CRWA reps, may have significant credibility with their peers with whom they are visiting to convey the energy-related information, their effectiveness in motivating action may be compromised by their lower level of energy knowledge and, perhaps, by a perception that their energy knowledge is only "supplemental" to their core CRWA knowledge.

3.4.2 CRWA Channel Specific Outreach

<u>Outreach Activities</u>

CRWA is a membership organization that consists of professionals and utilities in the water and wastewater industry serving small communities. They are a non-profit organization dedicated to "enhancing the quality of life in small communities by providing training, technical assistance, and representation to public water and wastewater utilities, while maintaining environmental integrity."[45] CRWA offers specialized trainings covering water and waste-water treatment topics at low or no cost to members to allow the water professionals to upgrade or maintain their skills. CRWA worked in

[45] www.calruralwater.org

partnership with PG&E to deliver energy efficiency and demand response messages to their members, and even some non-members, to encourage participation in PG&E's energy efficiency and demand response programs. CRWA representatives disseminated and discussed the approved set of marketing collateral (described above) during their visits and communications with water utilities. In 2005 roughly 60 out of 1900 possible contacts were contacted by CRWA.

Program Administration

Both PG&E and CRWA referred to this program as "a true partnership." CRWA approached PG&E with their idea to work with the many small, rural water systems that normally would not be approached through PG&E account representatives. CRWA went through a lot of internal analysis to discover whether the program was indeed a good use of their time and effort, and in the end they concluded it was a good match and that the program would bring much needed benefits to the utilities, especially the small disadvantaged ones. The water utilities have significant budget issues, and are looking for any method to lower their energy use and costs.

This is a relatively efficient program in that neither CRWA nor PG&E have had to staff up for the initiative. The PG&E program manager,, trained the representatives selected by the CRWA for approximately half a day. The reps then included discussions about energy efficiency and demand response during their routine visits with water and waste-water utilities. Both the PG&E and CRWA personnel involved in this partnership are mature, educated and experienced project managers. In addition, each CRWA rep is a trained water/wastewater utility operator, and most have actual experience running water utilities of their own. As such, it isn't surprising that the administration aspect of this program went smoothly with a few notable exceptions.

The CRWA reps believe that PG&E has been highly responsive and credible source of energy information. However they want to establish a better feedback loop on which utilities are contacted by PG&E and what follow-ups occur. Moreover, they would like compensation for their work in 2005.[46] There was also apparently a minor supply issue with respect to the brochures:

> ***"Every time I conducted a class, I ran out of PG&E handouts on energy efficiency. Everyone wants to save money."***

This wasn't all bad, because this particular trainer used the scarcity to prioritize the dissemination of the brochures into the hands of decision-makers.

Feedback Loops: The participants were very pleased with the responsiveness from PG&E on the program. When a customer signed up for a PG&E visit, they said that it was done promptly. When pushed on that aspect, some actually admitted that they had no way of knowing what PG&E did, but they had not heard negative feedback from the water utilities. On a number of occasions, CRWA received unsolicited emails and testimonials from utilities that reported that they were very happy with the savings they achieved and the prompt service they received from PG&E. The participants wanted to have some way of tracking when PG&E went out to a utility as well as a method for gathering feedback on what the findings and follow up associated with each visit. Right now, they are blind to the follow up except for when they hear something by chance. They also would be interested in going on site with PG&E reps to see what is actually going on during follow on assessments.

[46] As of March 2006 the CRWA had not been paid, but it is unclear if this is due to contractual issues with the prime contractor on this project and out of the control of PG&E.

Consistency of Messaging. CRWA reps are concerned with the gap in service that has occurred since December. They are unable to continue working on the EE and DR promotion because there is no agreement in place. They are somewhat concerned that the time lag will be an issue for customers. There was also a mention of the need for quality control if the program gets larger in the future. As with other programs, uncertainty about the future program funding contributed to the difficulty of establishing ideal program infrastructure.

Demand Response Understanding and Definition: Participants were asked about their own understanding of what DR is and how they would define it. About half of the people had an accurate notion of it, while the other half did not describe it properly.

After some collective discussion, the definition of DR that best resonated with the group was a parallel to peak load problems with water demand. They all knew that when pumping loads were extremely high, they had trouble keeping up with demand and it would be beneficial if demand dropped. Under those conditions, pumping pressure goes down, and this might be the equivalent to transmission overloads. They also noted that having water storage would be beneficial to water utility systems, for both water system stability and electrical rate optimization. After this "discovery" during a focus group they better appreciated the parallels between the peak demand issues of the energy and water utility systems, they remarked that better use of this analogy would make it easier for them to communicate DR to utilities. They requested development of a brochure and slide presentation to highlight these parallels.

Program Design: When asked about the program design, participants had a few suggestions. The primary need was to have a PG&E design engineer available in person, by phone, or by email in order to answer technical questions for water utilities. One called this a "trouble shooter line." The other suggestion was to make the tool lending library more accessible and to have the CRWA reps go to the Pacific Energy Center and learn more about the benefits of the tools and how to apply them.

> ***"It would be great to have quick access to a PG&E engineer for trouble shooting problems out in the field. A phone or email hotline might work well."***

Marketing Collateral

The CRWA reps were in agreement with other reps engaged by PG&E that the Technical Assistance/Technical Audit brochure was the best and most useful for them. They felt that the small business brochure was not at all useful to their customers, and perhaps mildly irritating. They described the CRWA member as an independent breed with a very specific mission and focus. They felt that if they had water utility-specific marketing materials, as opposed to using the more general business information provided by PG&E, they could be more effective. They wanted more pictures and suggested that because water utilities understand concepts of PEAK flow and demand, a peak shaving graphic could work well for them. This is corroborated by the PG&E CEMP survey in which half of the surveyed CRWA members rated the brochures as "fair", the lowest rating given by the respondents. A likely difficulty here is that the water utility operators are more sophisticated than the average small business owner. They are familiar with TOU, and many have already taken steps to reduce peak demand. The CRWA reps generally believe that those who can, or are willing to take advantage of TOU already are on TOU rates.

Selling DR: The CRWA reps felt like they understand EE quite well and can talk extensively with utilities about EE improvements. They are not confident that they could sell DR, however, until they are trained to understand it better. They were very interested in getting up to speed on DR and bringing it as another cost savings option to their members.

They wanted DR case studies that were specific to the different types of water systems they serve. Examples work very well, especially when the case study is local or known to the potential "buyer". In particular, the reps suggested that case studies declare specific cost savings levels.

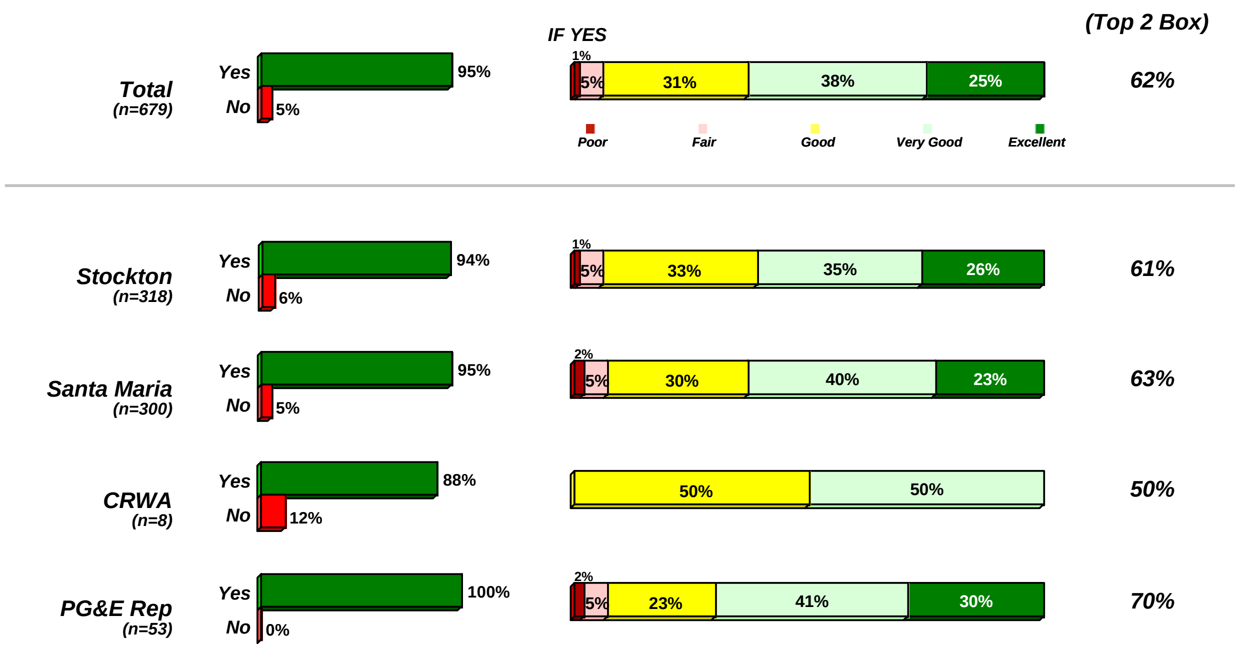
As mentioned earlier, they also felt as if much of the existing PG&E marketing material was not useful because it was too general; for example, some brochures talked about small business programs, lighting, HVAC, or exit signs. Instead, they wanted water utility specific collateral to use, and feel that would help them tremendously (for both DR and EE). In particular, they really liked the "blue brochure" since it was very specific. They would also like to have a Power Point slide deck for use both on site and also during training sessions or seminars. One person mentioned that a leave-behind CD might also be beneficial, with a self guided or animated show about EE and DR and how it could help water utilities. They said it would be fine to include water delivery and wastewater treatment in one brochure or presentation.

> ***"We really need marketing materials that are geared just to the water utilities, not to general businesses. Our needs are very different."***

Figure 3-26.

Did the representative leave materials behind for your reference?

IF YES, How would you rate the usefulness of these materials?



The participants also said that keeping the messages simple is important. One person mentioned: "Give them 4 or 5 things that they can do to avoid the blackout." Another said: "Use pictures and graphics to explain concepts such as DR. Customers retain the visual better than words."

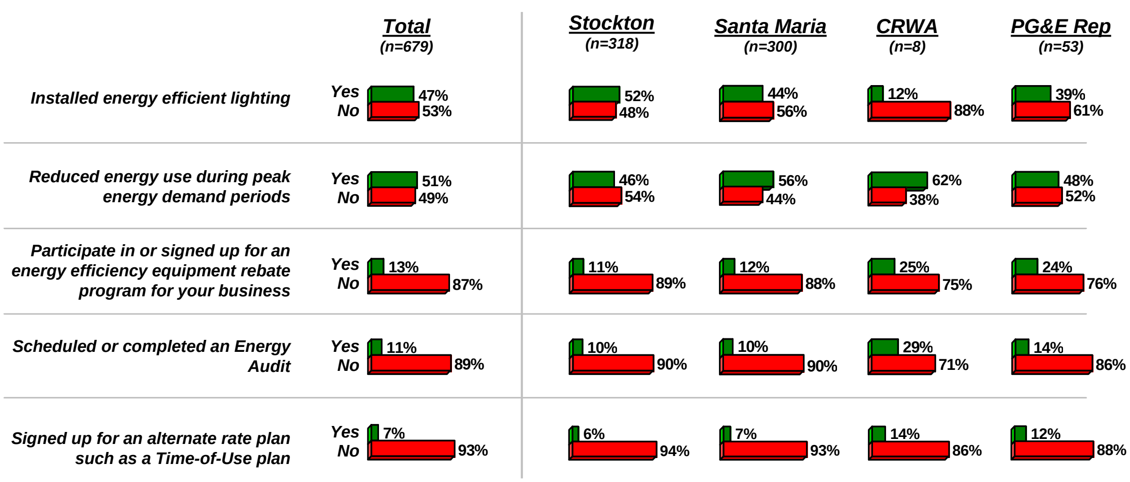
A concept that was mentioned was a cooperative effort to conduct and succeed in DR. In this method, a group of utilities would get together and agree to reduce load by some amount. In the case where one of the utilities got into a bind and could not reduce load on a particular day, the others would pitch in to make up the difference. The utilities are used to working cooperatively already.

Channel Effectiveness

This is a very effective outreach channel. The CRWA representatives need more training and better marketing collateral to support their efforts as they scored lower than either PG&E representatives or the outsourced Staples representatives on their ability to explain the materials. However, CRWA *members* were more likely than other PG&E messaging efforts cover red in this report to report taking action to reduce energy use during peak demand *after* receiving information from a CRWA rep. In the case of the water utility audience, having the conservation and demand response messages delivered by trusted entities other than the utility may lead to greater action. Furthermore, as highlighted in the literature review, using peers as a message delivery channel can help the audience see desired conservation behavior as a positive social norm. (Keifer and LeBlanc, 1994; Ajzen, 1991). This should increase the likelihood that they will adopt such behaviors in the future. Curiously, the CRWA reps were rated lowest on the ability to answer questions posed by customers. This may be due to the relative sophistication of the audience or the lack of training for the CRWA reps or both.

Figure 3-27.

***After* speaking with this representative, which of the following have you done?**



This result could also be explained by the greater familiarity of the CRWA membership with TOU rates and peak demand. However it may be a function of the ability of the CRWA rep to get in front of a decision-maker at a utility. Indeed this is one of many key findings gathered from the focus group of PG&E reps.

The results of the focus group with CRWA reps is summarized briefly below then followed by a more comprehensive discussion of the focus group findings.

Key Findings:

- CRWA representatives have a strong bond with the smaller water utilities in California, allowing them unique access to decision-makers for the purposes of convincing them to participate in energy efficiency and demand response programs.
- Although the reps have focused somewhat more on energy efficiency thus far, they would be very interested in expanding their DR messaging, possibly even helping educate their members further

on rate design options to help their members save money. The reps are technically savvy, and should have no problem learning and explaining the DR message.

- The market potential, based on the number of utilities, is high. There are approximately 1900 water utilities in the PG&E service territory, and only 60 or so were approached for the pilot this year. Almost universally, when the reps have recommended efficiency measures, the utilities have taken the next step to investigate the costs and benefits, and most have adopted some efficiency measures.

- To improve the marketing effectiveness, the CRWA wants to have water utility-specific marketing materials, as opposed to using the more general business information provided by PG&E (with the exception on one water specific brochure they like.)

- Only certain utilities could *readily* take advantage of DR due to structural issues. Typically, only those that already have water storage capabilities would be able to ride through the peak periods[47]. Most utilities also have backup generation, and many of those are slowly converting over to propane due to stringent air regulations in California.

Design Assistance: Participants mentioned several times that PG&E could provide high value through design assistance when a water plant was being built or modernized. The knowledge about new technologies, high efficiency motors, VFDs, and other design aspects are not familiar for many of these small utilities, and by designing the facilities right the first time, efficiencies could be much higher. One person mentioned that design is the place where the most savings could be realized.

[47] A follow on interview with Lon House, of Water and Energy Consulting challenges the assumption that storage is necessary for a water utility to be demand responsive. House explains that there is a certain amount of unutilized capacity or freeboard built into water or wastewater systems that is typically underutilized. Most utilities don't like to use this capacity but in an emergency, he believes that many water utilities could use this built in storage to ride through shorter demand response events. Additional follow on with CRWA finds that the reps concur that most water utilities would not want to use this type of storage unless absolutely necessary.

Having better feedback loops can help locate target markets.

PG&E could also help in designing DR into water utility systems. For example, helping to size or even underwrite storage systems could enable a water utility to take advantage of TOU savings by shifting pumping to off peak or the ability for a water utility to participate in DR activities. Storage was one the criteria that CRWA reps felt would make DR a significantly easier sell. CRWA reps also think that there is a large need for additional storage at “eight out of ten” rural water systems.[48] They explain that it is difficult for smaller utilities to qualify for Department of Agriculture grants for storage, and even with qualification, only 30% of the cost of a storage tank is underwritten. Many of the water utilities that do qualify for assistance typically have health code violations or struggling finances. They believe that assistance grants for storage would be welcomed by water-utilities even if it was predicated upon a promise to be demand responsive.

Drawing on the work of House and Reely (2004)[49] who conducted a demand response engineering analysis of the El Dorado Irrigation District (EID) El Dorado Hills Sub-System to identify opportunities to implement demand response measures. In their study, under certain conditions EID can drop over 2,000 KW with expected savings of between $15,000 and $20,000 over an entire summer by participating in the California Critical Peak Pricing (CPP) program. The study points out that EID can participate in the Demand Bidding Program (DBP) and the CPP simultaneously. The DBP savings would be $225-300 per hour during a Day-ahead DBP event, and $750-1000 per hour in a Day-of DBP event. Both of these amounts are in addition to over $50,000 available for performance based incentives for participation in these programs and up to $50/kW for curtailed load under the utility technical assistance program.

Customer water demand in this system ranges from 10MGal/day to 14.5MGal/day. This upper demand represents the peak day capacity of the EID El Dorado Hills Sub-system. The DR participation levels are determined by system modeling for specified water demands (i.e. 10-14.5 MGal), during the summer peak period (i.e., 12:00 to 6:00pm), assuring the system is still able to safely meet water delivery requirements. The kW savings represent approximately 40% storage participation in the DR program.

The results of this analysis can be used to derive a rough estimate of the value of water storage. The amount of savings available to the water district can be used to offset water storage construction costs and provide a long-term revenue source in addition to the added system reliability resulting from increased capacity. In the case of EID approximately 40% of the storage capacity is available for demand response participation or about 7.5MGal. Concretively, the incentive payments will contribute $120,000 per year (not including the per hour DBP rates). Over the life of the storage facility, the net present value of the participation payments would exceed $2.3 Million – or over $300,000 per MGal in storage capacity.

The example above refers to a larger system than most CRWA member’s systems, but the analysis clearly demonstrates that it would be worthwhile for DR program designers to investigate whether providing incentives for water storage capacity expansion projects or grants to smaller water storage systems would net. Smaller water systems are also often perceived as being “renewable” as opposed to their larger cousins. Still, it is important to note, that once a water utility has additional storage, they may likely shift much of their operations off peak and not be as available for true demand response “events” or they may decide to hedge their efforts if the value they can achieve for their capacity reductions can be realized, perhaps even through longer term wholesale contracts. If the increased storage system could also be fitted with microturbines to create generation, the possibility of doubling down on the investment is present.[50]

[48] Jon Curry, of CRWA speculates that if an organization offered assistance for storage installation, 8 out of 10 water utilities would be interested.

[49] House W. Lon and Blaine T. Reely, 2004. “Demand Response Engineering Analysis of El Dorado Irrigation District’s El Dorado Hills Sub-Subsystem.” Prepared for El Dorado Irrigation District by Efficiency Analysis International. October 12.

[50] Discussion with SCE trader, Muir Davis.

CRWA's Credibility: The participants strongly believed that their personal relationship and credibility with the utilities was a large benefit when selling energy efficiency. They each visit dozens of utilities a month, speak the language, and have gained the trust of the utilities. They pointed out that the fact that when people pay them for membership, it automatically creates a bond of trust. CRWA feels like they have an "in" so they can get to talk with decision makers easily, and since they aren't seen as selling a product. They have not promoted DR strongly yet, but felt the same way: that they could do it well if trained properly. They also believed that PG&E could not get nearly as high a sales hit rate with the utilities compared to CRWA. One person mentioned that every utility they visited was interested in some sort of efficiency program.

Marketing Channels: Many avenues of marketing were discussed with regard to reaching the utilities and having them ultimately make the decision to participate in EE or DR programs from PG&E. One avenue is through training courses that CRWA conducts on an ongoing basis. They feel that the courses are an excellent method to explain how the PG&E programs work and what benefits may be achieved. The setting is not rushed, and questions can be answered. Also, training often focuses on creating efficiency and lowering costs, so the EE programs are a good match.

> ***"Every time I conducted a class, I ran out of PG&E handouts on energy efficiency. Everyone wants to save money."***

When asked why they were finding so much EE potential with their members, given that PG&E has had programs for so many years, there were a couple of responses: 1) new operators are coming on all the time and there is no knowledge transfer on these programs, and 2) like most small businesses, these people are so busy just keeping their plants up and running that they don't have time to seek out information on energy management strategies.

Motivating Factors: By far, monetary savings drive decisions by the water utilities. Even though they are public entities (for the most part), they are highly driven by constrained budgets and need to look for every possible dollar savings potential. When asked "How much of a savings is needed to motivate the utilities?" the answer was "anything." A one percent savings matters. They don't care where the savings comes from efficiency, rate structure, or even DR.

Other factors come into play after money savings. Pump efficiency leads to longer service life, which is a benefit. Some are using diesel generators and will need to stop (due to emerging environmental laws), so they are looking for alternatives. Increased reliability is a driver as well, so new equipment can deliver that benefit. They also like the fact that an engineer may come on site if they participate in a PG&E program. They get valuable information from those engineers about technology and applications. Another factor is that some utilities are writing grant applications (from the State and Prop. 50), and could use the additional benefits of PG&E programs to enhance those grant proposals.

Power Quality: The utilities are also motivated by power quality issues. This was mentioned several times. They have pump problems when voltage sags, and this can occur more commonly during peak electricity demand periods (by their observation). Peak times then are connected to problems for the utilities that they want to avoid, and they mentioned both brown outs and black outs as terms that would influence utility decision-making. If breakers trip, if motors burn out, and if pumps fail, they are not able to provide the water service and a host of regulatory problems occur.

DR – Making It Work at Water Utilities: Participants initially noted that when it comes to reducing peak electricity demand on hot days, it would be exceedingly difficult because the utilities have no choice but to continue to provide service. But after more probing and discussion, there were many options emerged that a select group of utilities could take to reduce electricity demand. Probably the best option was with utilities that have existing storage facilities. They could continue to process water without pumping for periods of time, and the service would not be interrupted. If a utility is pumping from groundwater without storage, they would not readily have a chance to lower electric demand.

The potential for creating new storage was also mentioned. They were unsure whether the savings from DR programs would be able to offset the costs of new storage, but they were willing to investigate this option.[51]

The other area for electric demand reduction could come from backup generation. Most, but not all utilities have generators so that when the power goes out they can still run the water systems. However, statutes have changed over the years and diesel generators cannot be run for the most part (short emergencies only). Many utilities are selling their diesel generators and some are then installing replacement equipment to run off of propane. These replacement generators could provide peak load reduction. The number of these is anticipated to grow in the future.

TOU Rates: Time of Use rates were mentioned several times. The participants did not relate TOU to peak load reductions per se; they really looked at it simply as a way to reduce the energy bill. They said that most of the utilities that could be on TOU (e.g. could lower demand every day) already are. They estimated that maybe 25 or 30% of members were on TOU, but had no way of confirming that number. Many times, one meter was on TOU and others were on flat rates. One person emphasized that TOU is not always good because if you have to run during peak times just for one day of the month, you end up paying the higher demand charge for the whole month.

The CRWA reps do not emphasize the benefits of TOU with their members, preferring for PG&E to make detailed rate recommendations, but they were interested in learning more about how they could sell the concept to their members. Again, training was mentioned as an avenue to get up to speed.

Market Potential: The CRWA says there are 1900 water utilities in PG&E's service territory. During the pilot, they only conducted analysis of 60 utilities, so there is a great amount of potential. The size of each utility was not discussed or estimated. However, several times someone mentioned that energy savings or $3000-4000 per month were being realized by utilities that took advantage of the efficiency improvements.[52]

Conclusions & Recommendations – CRWA

- Conclusions:

    1) The program succeeded in reaching decision-makers in a target market that appreciates TOU energy management implications.

    2) The post message peak reduction rate of this group was the highest of all PG&E outreach efforts tested in a follow on survey.

    3) The perceived usefulness of the marketing collateral received and knowledge of PG&E programs by CRWA reps, was the lowest of all PG&E outreach efforts.

[51] They mentioned Groveland as an example of a place that had storage.

[52] However project planning documents for PG&E describe CRWA as having only 455 accounts, of which 90% are under 200kW monthly demand.

4) CRWA would like better feedback loops to know what is happening with their members after they bring the PG&E message.

5) Water utilities are constantly concerned about budgetary constraints.

6) Some water systems are much more likely to consider TOU and DR than others, with storage being top considerations in this regard.

7) Peak electrical usage is believed to be connected to power quality issues that water utilities wish to avoid

8) Water utilities have a history of cooperative relationships and are a natural aggregation target.

- Recommendations:

1) Increase training of CRWA reps so that they may more effectively communicate about PG&E programs.

2) Create specialized brochures for this group with graphics that emphasize an understanding of water utilities, particularly the parallels between peak water use or treatment and peak electrical usage. DR case studies specific to water and wastewater treatment systems are desirable.

3) Develop tracking systems to allow this engaged partnership to track post member contact by PG&E.

4) Investigate partial underwriting of storage as a means to enable smaller utilities to shift operations off peak.

5) Create access to a water systems-energy expert that could trouble shoot via e-mail or telephone.

6) Consider targeting this group for aggregation opportunities with respect to DR.

3.4.3 Events: Clean Energy and Air Quality Exposition and Paso Robles Chamber

Outreach Activities

PG&E also sponsored events with other community based organizations, the most notable of which was the Energy and Clean Air Business Exposition (Expo). This event was a collaborative effort between the Greater Bakersfield Chamber of Commerce (GBCC), Southern California Edison, Sempra, Valley Clean Air Now (CAN), the Kern County Energy Watch, and PG&E. The event was held on Thursday, January 19, 2006. Over 400 people attended the luncheon and received two keynotes from Roland Risser, Director Customer Energy Efficiency for PG&E. Mr. Risser spoke on IDSM and Secretary, California Department of Food and Agriculture, A.G. Kawamura spoke on the role of clean air, energy efficiency and the need for a sustainable agricultural industry in California.

The exposition featured vendors of energy saving products and clean air technologies as well as governmental agencies. All three utilities had booths as did local car dealers featuring low emission vehicles. It is estimated that approximately 750 trade show attendees visited the 53 exhibitor booths. The PG&E booth had excellent traffic allowing PG&E to reinforce the IDSM message. A main purpose of the partnership was to connect customers with energy efficiency vendors. Break out sessions were theoretically designed to address the specific needs of attendee groups (PG&E, SCE, SoCalGas, GBCC/ValleyCAN, CRWA). At these sessions, speakers addressed a variety of topics ranging from energy efficient lighting and PG&E's tool lending library to regulatory updates and clean air values in big businesses.[53]

PG&E also had smaller trade show cosponsoring other outreach activities with the GBCC, having a booth at the Bakersfield, Business and Technology Expo and sponsoring memberships in the Paso Robles Chamber of Commerce and the Paso Robles Vintners and Growers Association as well. The comments below focus mainly on the large Expo event, but interviews with Paso Robles contacts were also conducted and information from these discussions is also included in this channel. Unfortunately the planned visit with the Paso Robles Vintners Association did not get scheduled during 2005, and attempting to make plans in the fall during the busy winery crush season were not possible. However the Vintners have agreed to do a monthly newsletter which would promote EE/DR actions in the winery or agricultural business spaces. The local rep, Mr. Howard, also uses ongoing attendance and presentations to the Paso Robles Chamber of Commerce to deepen and develop relationships in this area.

Program Administration

This was the first time an event like the EXPO had been put together by this group of people. The speakers and vendors at the fair generally thought that the program was worthwhile, but the speakers were disappointed in the number of attendees at the break-out sessions reporting "sparse" attendance at the breakouts. Several reasons were given for this: 1) the breakouts were held close to the "car crusher" and hybrid car test drives which were enormously popular by all accounts. 2) there were so many break outs that the audience was unnecessarily divided (e.g. Energy Efficient Lighting was being covered in both the SCE and PG&E rooms). 3) the luncheon speakers did not promote the break outs 4) the membership could have promoted the value of the educational aspects to the sessions more and 5) the trade fair may have been attended by more business wearing "market development" and purchasing hats, rather than their facilities hats. 6) the SCE breakouts seemed better attended, especially their rebate talk. Many of the attendees also seemed to go back to work after the luncheon and come back afterwards for the cocktail social hour. It's likely that addressing one or several of these concerns would substantially boost breakout attendance.

The EXPO was held on one of the days that the GBCC regularly schedules an evening get together, so it was generally believed that this assisted in attendance. Approximately 20,000 mailings were sent advertising the event and newspaper advertisements were also placed. By working with ValleyCAN and ExpoDeco (primarily Mario Viramontes), the project tapped organizations that have experience working with, and energizing, large groups of people and the feedback is consistent with this.

> ***That guy that did the vendor fair had lots to give away and so the vendor fair was awesome.***

[53] Bakersfield is located in Kern County which is the leading oil-producing county in the continental U.S., producing 10% of the nation's oil and 1% of the world's oil. The Tehachapi Wind Resources Area generates almost half of the wind energy produced in the state (approximately 1% of the state's overall electricity needs). Nearby is the Edwards Air Force Base, which is a major employer. $115 million was recently approved for construction projects at Edwards and another military base in Kern County. Bakersfield is also very close to the border of PG&E and Southern California Edison and So Cal Gas.

> ***The organizational guy was very motivational. He was very good with energizing our volunteers.***
>
> ***There was unusually high participation at the booths [compared to similar events].***

The EXPO show also did a good job of getting free advertising by getting publicity on 2 local radio stations and local television stations. TV Channel 17 covered the event with an interview with the Agricultural Secretary and Roland Risser. The media was reported to especially like the car crushing events as they related to taking gross polluters off the road. The car crushing was timed to work with the media production schedules and that also helped gain good free coverage. Selected vendors were also able to make free 1-2 minute live radio spots to highlight their products in the context of the Expo. The vendors we spoke to reported obtaining several viable leads at low cost.

A local school district also sent high school seniors to the event to learn about energy efficient products.

It was probably a missed opportunity to not place the attendance list in a database which could be used for opt-in marketing similar to the Walk-Knock and Talk program (discussed below) or FYPN messaging.

Paso Robles contacts are not typical presentations like other trade shows. The Chamber meets once a month for breakfast and allows members to distribute “hot sheets” which the local rep, Jeremy Howard, often does. Jeremy has also joined the ambassadors committee that encourages members to go to the local functions. As Jeremy sees it, it’s a way to get involved to the point that PG&E is a recognized face and entity in the local community.

Marketing Collateral

The EXPO brochure should be retooled for next year. There were a few typos and the program breakout sessions were not very descriptive. However, since this brochure had to be printed and billed in full by December of 2005, it may not have been possible to include more detailed descriptions since speakers had likely been confirmed just in time for press.

As mentioned earlier, event planners worked strategically to obtain free media coverage of the event. In addition to coverage by local radio and TV stations, the Bakersfield Business Journal promoted the Expo as well:

> “Learn something new to achieve Better Air; Better Business and a Better Life for all of us when you attend one or more of the breakout mini seminars at the Energy and Clean Air Expo, Thursday, January 19th at the Holiday Inn Select.[54]

In Paso Robles, Mr. Howard finds that he spends much of his time on the tail gate of a pick up truck. As a result he tends to draw and sketch out his communications on plain paper, and doesn’t typically speak to the brochures.

Channel Effectiveness

PG&E representatives were very positive on the EXPO event as a productive way to connect small business with vendors of energy efficiency equipment. Even speakers that were disappointed in session turn out conceded that it was impressive to get business representatives out to a meeting:

[54] http://www.bakersfieldchamber.org/metro.asp?id=387; http://www.bakersfieldcity.us/pdfs06/2006RedevelopmentMeetings.pdf

> ***"I instruct thousands of people a year …and the only way we get activity with small business is to meet on site. And then they don't do anything unless and until they are helped."***

Traditionally one-off events like the EXPO are not thought of as being very effective mechanisms for social messaging. However, there did seem to be an unusual buzz in the air at this event. Many participants interviewed referred to the high "energy level" of the exhibit hall. The very fact that so many small businesses were able to attend is a measure of the value proposition of this event. However for an opt-in audience like this, a few key additional measures could improve future success:

For example, in the future with more adequate timing, an EXPO event is a natural time to give out an award to community members that have made significant DR/EE or clean air contributions or progress. The award could be handed out by a PG&E executive, with thanks from the chamber, for making Bakersfield a better place to live, which is consistent with the GBCC mission. Pat Smith of Harris Ranch, speaking about clean air values at big business, commented,

> ***"I know it's important for us to tell our story. We had such a positive result from our program…we even host people that want to come and kick the tires."***

Some attendees of the event commented that they appreciated learning what other businesses had done to implement clean energy projects and mitigate air impacts. They thought that there should be more case-studies to show how projects had been done in the area, commenting that some abatement technologies used in petroleum can also be used for examples in dairies. One attendee commented that he was surprised not to see an example of power generation from methane. A number of attendees said they would have like to see more information presented on who to talk to for specific regulatory issues. Another attendee indicated that the crowd was more interested in Air Issues than energy issues and would like to see the keynote speakers really deliver a message consistent with the program.

> ***I liked the expo a lot. I thought it would be broader, more case studies for business, less HVAC…for a first time event, though, that's a feather in your cap. Good job.***

An additional natural partner on this project going forward might be the Bakersfield Redevelopment Agency as an agency that is looking to bring in business to the Bakersfield area. It could benefit from being able to tout EE/DR programs and awareness in the community in much the same way Ontario does.

In the Paso Robles outreaches, the efforts focused more on "belonging to the community" and seems to be effective. The local PG&E rep. Mr. Howard, reports being able to get a MW shed within 15 minutes just by making some pone calls.

> ***The wineries really know each other. It's a community. They might not share their latest recipe but they will sometimes share other resources. … So they are more receptive possibly to the community message. …Especially a green winery like Fetzer.***

By learning the operations of the wineries, Mr. Howard is also able to challenge customers who report they cannot be demand responsive. He asks, what they would do if a compressor went down? On average, the winery reports that it simply rides it out. Mr. Howard uses that kind of hanging tough response to suggest that they could hang tough for DR too. However, he cautions that the financial rewards are not enough to consistently engage the customer. He thinks he could get good deal flow if customer incentives for DR were closer to 5 percent of their total electricity bill.

Mr. Howard has some unique means of communicating with customers and appears to be doing a solid job of building relationships. There should be a means for reps like him to be able to share what words and styles of interaction are most successful. For example Mr. Howard's presentations use phrases like, "we can control our destiny, build a power plant in a week [and] keep rates in check."

Conclusions & Recommendations – Events

- Conclusions:

    1) Speakers and vendors at the EXPO generally thought the fair was worthwhile, vendors spoken to reported gaining qualified leads. Attendees interviewed thought that for a first time event, this was generally well executed.

    2) Speakers were disappointed in the break out session attendance and lack of marketing of the sessions, both in print and by keynote speakers. Program development lead times contributed to this.

    3) Working with experienced local event coordinators can energize a meeting.

    4) Publicity channels for print, radio and television were well utilized.

    5) Some missed opportunities, such as failure to keep an attendance list were noted.

- Recommendations:

    1) Retool the EXPO brochure. Advertise the sessions better with engaging descriptions of the talks.

    2) Reduce the number of break out sessions and focus on the topics of real interest to attendees. Then market those talks both in the brochure and within the EXPO.

    3) Keep attendance records for possible subsequent opt-in marketing, such as the EnergyGram.

    4) Use more local case-studies with cross over technology potential so as to appealing to the broadest group of attendees.

    5) Consider instituting an award ceremony for outstanding EE or DR contributions

    6) Take additional care with timing events out side of the EXPO such as car crushing so as not to coincide with session talks inside the EXPO.

3.4.4 Walk, Knock and Talk

Outreach Activities

In this direct contact channel effort, PG&E went door to door to contact small business customers in Placer County, Stockton and Santa Maria. In Placer County, reps were supplied on an incremental labor basis by PG&E. In the Stockton and Santa Maria outreaches, outsourced labor supplied by Staples

Marketing was utilized. The visits targeted businesses with a monthly peak demand of less than 200kW and the same pre-approved messaging that was used in the CRWA outreach was also used in this effort. Three reps of incremental labor from PG&E were utilized for the outreach which consisted of an in person contact of the business by one of the PG&E or outsourced reps who discussed energy management opportunities and left behind the approved set of marketing materials. About 350 customers were reached in this manner in Placer County and about 7,000 customers in Santa Maria and Stockton were reached.

Program Administration

Deciding where to allocate program dollars both within the Walk Knock and Talk Programs and between other programs is a question of quality versus quantity. Door to door cold calling is a labor intensive way to build rapport and there is a general perception on the part of management that many people took the information just to be kind. This is corroborated somewhat by the lack of recollection of a visit during a subsequent survey. However, approximately 150 follow on audit visits were generated from these activities and e-mail addresses were gathered on the site visit documentation forms. These e-mails were used to generate invitations to PG&E's EnergyGram **-** a targeted e-mail contact program designed to bring industry and demand specific advice on an opt in basis.

There was difficulty in keeping the representatives on the job in Santa Maria. The high turn over may have been due to the outsourced reps being paid on a per complete basis and having a hard time completing enough visits to make the work economic. Also some addresses were from the CIS system and turned out to be well heads in empty fields. Interestingly, despite these difficulties, the Staples reps were rated less effective than the PG&E reps but so much lower as to completely discount the value of the contact. It may be that cheaper outsourced labor could be used to generate "warm leads" that could be followed up on in an opt in basis such as the EnergyGram pilot that PG&E is testing. Note that there was some confusion about whether or not emails were to be collected in this pilot, necessitating many additional phone calls. Lower cost resources, like Staples, are not amenable to even small operational changes mid-stream. Mario Viramontes comments:

> ***Let's get it right upfront. … If you are not careful, the momentum that is built is lost. If my team could go out with lap tops they could send in the information about businesses contacted everyday. That way it doesn't become an elephant to PG&E. The monitoring would be better and PG&E could send out an e-mail right away thanking them for their time, maybe a light bulb coupon. This would also help me attract and keep help because I would be teaching them a useful skill.***

Mario also commented that it would help him to be able to outfit his employees in PG&E corporate wear and give them a generic business card to prove that they are not selling anything.

Channel Effectiveness

When asked to consider the overall efficacy of "knocking and talking" in retrospect, PG&E program managers think that CRWA and attendance at other events, like the Paso Robles chamber, are a better way to make a connection than cold calling. Overwhelmingly, small business owners were reported to be surprised and happy to see a representative making a personal call. A dramatic upswing in calls to PG&E's call center was reported following the program, and though many of these questions were reported to be fairly simple, it was still an additional opportunity for PG&E to have a successful customer interaction to continue to build credibility in the small business community.

PG&E and outsourced representatives from Staples had very similar field experiences. They report that small businesses do not understand the term demand response and ***agree universally that the brochures***

they are using have too much text for such a busy customer class. They feel pressured to hurry through their interaction and so they all prefer to discuss Flex Your Power NOW! over demand response, much less “Integrated energy management.” As a result each set of reps felt that the personal communication they bring to the customer, their real concern for the customer is more motivating than the actual message they are carrying.

The PG&E reps commented:

> ***“You can offer them the world, but they [small business] can only turn off so much.”***

Rebates & Installation Several interview subjects reported that a turn-key operation with totally free installation of upgrades was the only way to get small business to make improvements. Each group of reps expressed a desire for greater rebate levels, and indicated that this term would help get, or keep, the conversation going.

> ***I’ve done all kinds of walking and talking… that free stuff really helps you.***

Other areas of concern each rep group expressed concern about contacting customers that were leasing and wished there were some way to get in front of land lords so as to overcome difficulties of selling improvements to customers with short leases.

The Staples group commented.

> ***Even customers that said that they didn’t have time to talk, they would ask follow on questions when I highlighted one area of the brochure for them as being relevant to their business. And often they would ask about their home too.***

Segmentation. There were mixed views on whether Spanish language messaging would have helped the efforts. Some representatives reported speaking Spanish almost all day long, but others feel that most decision-makers understand enough English to make a decision in English. In fact, according to the census, 41 percent of Stockton residents and 51% of Santa Maria residents speak a language other than English at home.

> ***I feel we missed out on a lot of good response by not having Spanish literature.***

Field representatives expressed a willingness to learn more about particular market segments, but management felt that would be too complicated to administer and make an effort too dependent on the skill sets of a particular individual. Market segments that were reported to be struggling were older restaurants, e.g. Pizza parlors and ice cream stores were mentioned as having a particularly hard time with bills while medical facilities were reported as being less receptive to messaging. The reps also report finding very different energy usage patterns at seemingly similar businesses. They speculated that finding those exceptions would be a better target market for the “walk knock and talk” or perhaps a “talk by appointment.”

When asked if they would prefer another mechanism to deliver the message such as a hand held video player, the reps responded that it would be best to keep it very simple.

Conclusions & Recommendations – Walk, Knock & Talk

- Conclusions:

  1) The economics of per complete outsourced labor for “walking and talking” may not be compelling enough to retain quality labor. Program messaging may have suffered as a result.

  2) More effective marketing collateral related to the primary concerns of small businesses are desired. Brochures should use less and simpler text and should emphasize monetary rewards for DR.

  3) Follow on opportunities could be better maximized and data entry could be reduced by using some kind of electronic system to upload data daily.

  4) Outreach efforts suffered from having no “program” to sell.

  5) Targeted marketing was desired by reps: e.g. customers with unusually high bills relative to business type or landlords were mentioned as desirable targets.

  6) Mixed feedback on the importance of Spanish language was received. Some felt it was key, others less so.

  7) It is difficult to reach decision-makers when cold calling.

- Recommendations:

  1) Consider modifying cost structure of rep compensation.

  2) Redesign brochures for customer class. Use less text, more pictures and emotion and increase monetary references and examples.

  3) Consider use of wireless devices to upload customer contact information to decrease follow on time and keep “warm” contacts “warm.” Additionally outsourced reps could be used to generate “warm leads” for follow up with a PG&E representative.

  4) Consider development of a small business DR programs.

4. CONCLUSIONS AND RECOMMENDATIONS

This recommendations section is divided into six parts:

- overarching statewide conclusions that are applicable to all or most programs in the state,
- three sections on specific program conclusions and recommendations
- overarching statewide recommendations
- recommendations for further work to enhance programs.

This process evaluation included a broad range of programs targeting the general public, children, and large businesses, though the core focus was on small business customers. The unifying theme of the programs is their focus on increasing awareness and educating customers about demand response program opportunities and strategies for curtailing load during periods of peak demand. This theme links closely to product and market evolution theory that cuts across product category.

The typical 'customer' must move through several stages before taking a 'purchase'. These stages are basically:

awareness ->knowledge->preference-> action[55].

In many cases, including energy efficiency rebate programs, the focus in on the preference and action stages of this continuum. In this case, the action would be to actively participate in a demand response event. Since the programs are primarily designed to increase awareness and knowledge regarding demand response, the effects tend be less measurable, but equally as important. Without first establishing awareness, no later preference or action is likely.

In order to meet regulatory requirements, the evaluation team had limited time to review the portfolio of programs and their effectiveness in detail. In addition, the programs vary significantly in their stages of implementation, and some programs were not yet ripe for a detailed evaluation of end-user message comprehension. Given the pilot nature of the programs, the lack of existing comprehensive market research on DR awareness, and the limited time available, the evaluation team focused on understanding channel effectiveness. This was accomplished primarily through focus groups and interviews with staff and channel partners.

This section provides a summary of some cross cutting findings, including channel and message effectiveness.

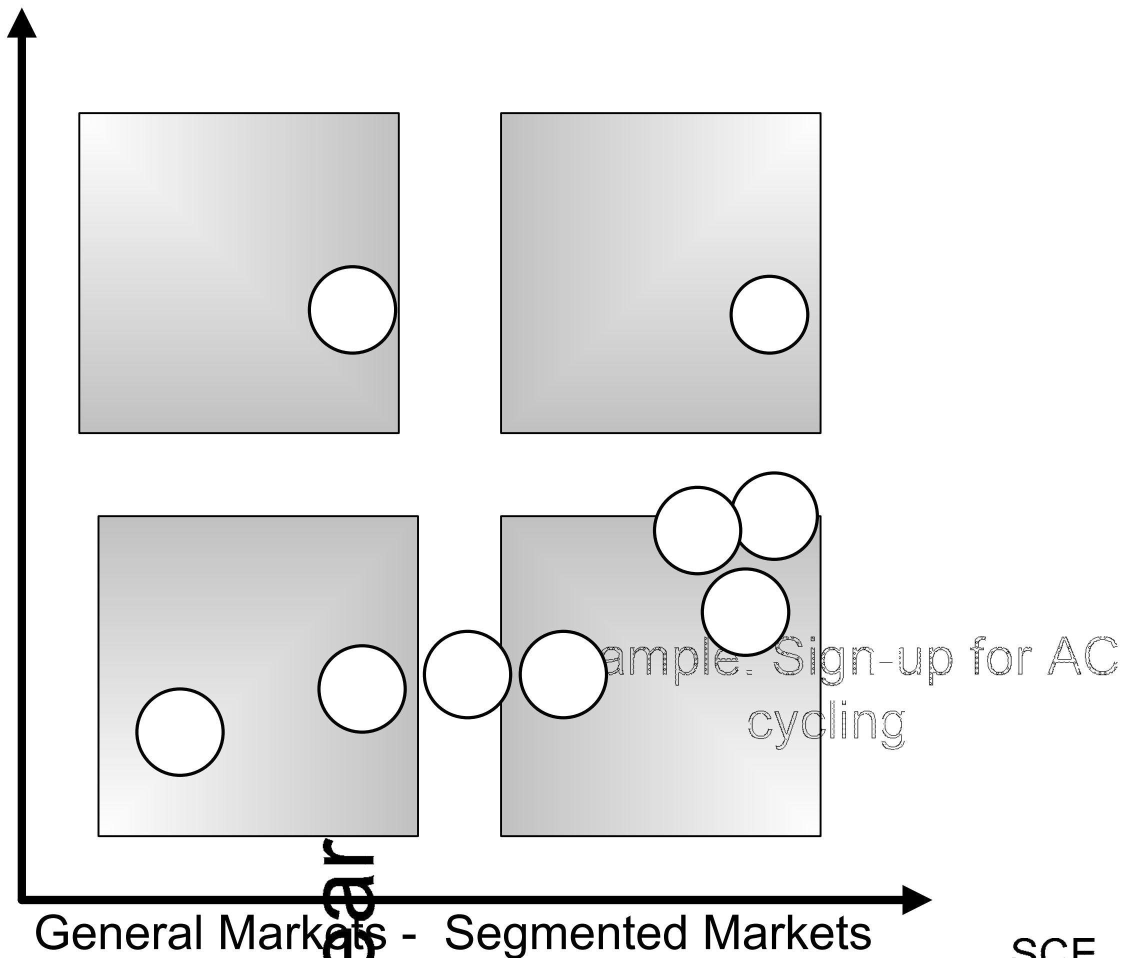
4.1 Overarching Statewide Conclusions

Some common themes emerged during the review of the programs being administered by the three IOUs. To effectively move from awareness to action requires a clear enunciation of the steps required for action. In addition, while some actions may be pertinent across a broad class of customers, in many cases, the actions required will be more specific to a particular customer segment. Figure 4-1 below provides a perceptual view of where some of the programs reviewed fit in this regard. An example of both clear

[55] This continuum is sometimes represented as Awareness, Interest, Decision, Action (AIDA), but the basic steps are the same

steps and a segmented market is provided with the message to water utilities to pump during off-peak periods. Outreach efforts with this group have been pretty effective at getting this message through to them.

Figure 4-1



We can look at what is happening with the rollout of DR programs in the context of the product development 'stage-gate' process discussed at the beginning of Chapter 3. The four key steps in this process are:

- Concept Development: Brainstorming, coming up with ideas.
- Concept Screening: Culling the longer list, usually utilizing market research to do so.
- Product Demonstration/Pilot Phase: The concept is developed and proven through test marketing.
- Commercialization or Production: Full scale implementation.

The two scenarios outlined below (Table 4-1) demonstrate that while decisions must be made regarding whether a specific 'product design' passes the *gate* at the concept screening *stage*, or at the product demonstration (pilot) phase, there are a variety of external factors which may cause quick decisions to doom potentially successful approaches/programs. There are a number of specific instances of current actions that may not have sufficient feedback loops built into the process yet to effectively determine whether they pass the gate from one stage to the next. However, while it is important to develop the feedback loops to check on pilot progress, it is also equally important not to overly saddle pilots with so much process that they cannot adapt and respond to new market information.[56]

Table 4-1.

DR Struggles to Grow	DR Given Room to Grow
Changes in regulatory values and infrastructure needs demand that DR programs develop and grow quickly	DR messaging given time to develop
Aggressive deliberate strategies are believed necessary to achieve measurable cost-effective results	DR pilots discover viable strategies
DR investments are substantially less than EE	DR pilots are launched in a supported and targeted effective manner
EE delivery mechanisms do not flex to accommodate DR program delivery	Resources ultimately allocated to effective programs

A few overarching conclusions are included here:

- Building relationships with a large number of community representatives during such a short period of time was a challenge for staff.
- A major challenge faced by the demand response outreach staff was to balance and coordinate their messaging with other related initiatives.
- The most substantive challenge faced by the demand response staff was that of getting their audience to understand and act upon the demand response message.
- There were only a limited number of demand response programs available to small businesses, and the value propositions for these programs were limited.
- It was hard for the outreach staff to compel businesses to take action on the demand response front.
- The demand response message was overshadowed by others that were easier for businesses and communities to comprehend.
- It takes a long time for any new concept to take hold and these organizations have only been exposed to the demand response concept for one season. However, there is little doubt that the demand response message gets somewhat lost in the broader energy management message. And this situation, unless corrected, will likely persist in future years.

[56] Geltz, Christine, & Mark Martinez. 2004. “Diffusion in the Desert: Adoption of Demand Response Technology by Rural Small Business”. *Proceedings of the 2004 ACEEE Summer Study*, pp. 7.62-7.73. Midcourse corrections are necessary in outreach campaigns to take advantage of opinion leaders discovered during the course of the campaign.

- The Energy Management Pyramid flyer is also a valuable communications piece. It uses a very simple and familiar visual aid to highlight how demand response, conservation and energy efficiency can fit together to form an effective energy management strategy. The flyer also describes the differences between the three concepts and provides examples of a few simple demand response actions businesses can take.

- Moreover, the flyer is organized in a simple question and answer format, but the content is dense. Since the audience includes small businesses, the complex language and heavy use of text is problematic.

- There is great diversity in the needs and decision-making frameworks of business owners and managers, and many small businesses are unable to curtail their load during peak demand periods.

- Most interviewees reported that their constituents would not have time to attend presentations at an energy-focused conference. However, a presentation would be more effective than print materials at reaching their member businesses, as long as the presentation occurred as part of a meeting that the member businesses would have already attended.

Success Stories

SDG&E Community Partnership Program – Interviews with leaders at community and trade organizations revealed a great appreciation for the relationships that SDG&E has built and maintained with these organizations and their constituents. The associations appreciate the ability to pass along energy-saving information and solutions that help their constituent businesses thrive and direct a greater portion of their resources to their core business. Association representatives consistently reported that the greatest value they see themselves offering to the utility is their ability to provide meaningful access to their constituents. Their constituents do not have time to read materials or attend events outside of their existing scope of activity. Therefore, using the existing communication channels and trustworthiness of the trade and community organizations provided SDG&E with a much more effective platform for conveying messages to small businesses in partner communities.

City of Ontario – Even when pushed to consider that a message of a lack of power could be detrimental in attracting businesses, the City of Ontario working group stoutly defended the demonstration program and said, “it’s better to be proactive and face this issue head on. We want industry to know that Ontario is prepared.” An unusually proactive community, Ontario may be to California, what California is to the rest of the country. This program also recently received an AESP award for innovative marketing approaches.

CRWA – Focus group conversations uncovered unsolicited testimonials for PG&E that resulted from this outreach effort and that were broadcast at training classes. One individual, for example, had previously received the joint CRWA /PG&E message and was anxious to tell his peers about his savings. Thus far this program has touched 60 water systems. CRWA estimates that there are over 1,900 additional water systems in PG&E territory, however, so the potential of this segment and use of the CRWA channel for outreach has substantial upside opportunity. CRWA field representatives offered clear guidelines on which utilities can participate in DR: target water utilities with storage capacity and in the wastewater field, and consider whether the digesters could be “turned down” during peak times if necessary. As trained “operators” of water systems themselves, CRWA reps are perceived as insiders to the industry and frequently reach decision-makers during their visits to the rural water systems.

4.2 SDG&E Programs

Conclusions & Recommendations – Community Partnership Program

- Conclusions:

  1) The Community Partnership Program had insufficient time to be adequately developed and launched to have an effect on summer peak resource needs.

  2) Due to the relatively complex, technical nature of the DR message (for the primarily small business market being targeted) It will require multiple exposures before it fully takes hold with customers. The challenges associated with delivering the demand response message to small businesses will take years to overcome.

  3) The program must juggle many objectives and does not provide action options that are specific enough to the needs of different types of small businesses.

  4) SDG&E's materials generally focus on the simple concept of smart energy management (the pyramid concept is particularly effective in this regard).

  5) Tenants in leased space continue to exhibit major split-incentive barriers to taking EE actions. DR actions may be more saleable but not unless the customer pays the energy bill.

  6) The Small Business Super Saver's program is addressing a number of the recommendations suggested below, and may be a good base on which to build further.

- Recommendations:

  1) Recognize in planning that the program will take years to have its full effect and plan program development and field activities accordingly. This includes coordinating messages and timing of message delivery with statewide initiatives to avoid confusing customers and inundating them with similar, and in some cases, inconsistent messages.

  2) Set program regulatory approval filings and approvals on a schedule that enables utility staff to make timely program marketing and sales plans for each season so that the program can be better developed and have a more timely effect in the market. SDG&E should also make an effort to plan and seek approval for longer-term implementation of core programs so that each year they can make minor adjustments and build upon investment in program infrastructure from previous years.

  3) Continue to expand the base of support in the communities through leadership involvement and building upon existing relationships with partner organizations.

  4) Narrow the messages to focus on monetary savings and offer just two or three key strategies and tips. These should be options that are practical for implementation by small businesses. SDG&E should consider conducting research into a few specific small business segments most common within the neighborhoods where their partnerships exist (i.e., restaurants, laundromats, etc.) to identify the most relevant demand response strategies and technologies for a few select segments with the highest potential for implementing demand response actions. Specific materials and initiatives could be developed to reach these target audiences.

5) Use terms that describe the recommended action, not the concept ("AC Cycling" not "Demand Response").

6) Incorporate appropriate testimonies and case studies into outreach materials and presentations. Create a stable of them by various business types as a way to inexpensively supplement generalized program awareness collateral, and as a way to create empathy with various kinds of businesses without having to create specially differentiated general program collateral. Have available additional layers of information to deepen customers' understanding as they learn more about the concepts and program options, laid out in ways that facilitate customers' decision making, but avoid using such information until customers are ready for it. Utilize opinion leaders more, particularly in group presentations, to testify to the value of the program actions.

7) Consider using high-interest customer service options like the Level Payment Plan as a lead-in to doing other things including DR actions (especially for demand-billed customers who potentially can reduce billing demand).

8) Where landlords pay the energy bills (embedding energy costs in tenants' lease rates), sell to landlords on the basis of their facilities being more competitive (e.g., lower per-square foot costs).

9) Develop sub-metering initiatives with the CPUC to enable cost-effective tenant energy tracking as part of the Advanced Metering Infrastructure development.

10) Develop one-stop shopping arrangements for small businesses, to reduce the time needed for the utility to sell and the customer's time to consider their options and take action. Include follow-up facilitation services to assist customers with contacting their preferred contractors to maintain and install equipment, for example, or to understand the financial consequences and return on the investment.

11) Provide selected marketing materials in Spanish and some Asian languages.

12) Don't put on special energy conferences for small businesses, but instead try communications channels already used by small businesses, including specialty trade newsletters as well as group events. Use such events as opportunities for public recognition.

13) Utilize local newspapers (including Asian and Spanish newspapers) and other high-visibility media as a low-cost yet highly visible activity in conjunction with participating in small business events and providing recognition at those events.

Conclusions & Recommendations - PEAK

- Conclusions:

  1) This program had <u>too little time</u> available to accomplish its objectives and ended up being rather a rather passive approach.. As implemented, it provided little value. In its full conceptualization, however, PEAK is <u>on target with social marketing and educational theories</u>.

  2) The program faces a daunting hurdle to become integrated with deeply entrenched curricula, due to curriculum development requirements that include addressing education standards.

Nonetheless, teachers expressed interest in using PEAK in the classroom if it were developed in accordance with curriculum development requirements.

3) The workbook content was too focused on games to be taken seriously as a classroom tool. However, teachers would consider using it as a homework assignment to follow up on classroom activity that was more appropriate to the education standards requirements they must apply.

4) Some terms remain overly complex for younger students to understand, but the concept of good versus evil is intuitively appealing. The internet-based Community Blackout Game may be too confusing and slow – but blackouts are a reality and are not an inappropriate topic for students. The Home Simulation game has empowerment and decision making features that teachers think would be appealing to students, but the terminology could perhaps be simplified further by putting it in more descriptive terms.

5) Assemblies are a popular and effective mode for presenting new topics and achieving increased levels of message retention among students.

- Recommendations:

1) Use dedicated program staff, to assure focus and coverage of program management responsibilities.

2) Start program development and outreach efforts sooner, in order to better align the program with the general school year and various curriculum developments within the various school districts. This includes the difficult effort of addressing curriculum development and approval requirements in relation to education standards now in effect.

3) Consider trying alternatives for using PEAK that do not require it to go through a full curriculum development and approval process, but that instead can be more expeditious to incorporate as a sub-unit in science. Assemblies may be one work-around, and would offer a venue where characters like Bulbman could attend and help promote the concepts being taught. Another alternative is using the energy material as the focus for teaching other subjects like math. Examples of saving energy could be used to teach arithmetic, or one might use historic electric usage as the content for generating graphs. Educational videos are yet another alternative and provide easy use.

4) Develop a Spanish-language version, and provide alternative working materials that do not require internet usage.

5) Make the drawing for the Disneyland trip connect directly to the learning of PEAK, such as requiring responses to specific energy questions on the entry card for the prize drawing. Consider alternative prizes that are more in line with the objectives of the program.

6) Promote environmental protection more aggressively with the program. This is a more compelling message for students than saving money, which is currently the lead point highlighted on the www.peakstudents.org home page. However, the economic message is important to communicate to parents, so parallel messaging is something to consider as well – perhaps a two-track activity list, one for kids and one for parents, that the family can work on together.

7) Find two or three select "leadership" school districts to work with on making PEAK a full-fledged curriculum component, most likely within a science curriculum. Creating leadership schools and working within the curriculum development process including educational standards requirements, would create a template to use with other school districts and reduce the cost of subsequent replication of the program.

Conclusions & Recommendations – Orb

- Conclusions:

1) The Orb is an excellent tool to get general public attention and to stimulate dialogue. It was limited by the brief exposure had to it during the summer of 2005. It's effectiveness is limited unless it is used over a long period of time (to help ensure multiple exposures) and is surrounded and supported by ongoing additional awareness and education efforts.

2) The Orb is not by itself effective in educating the public about peak energy demand and demand response strategies. The Orb would be much more effective if additional information such as a kiosk and take-away brochures were distributed at the orb display site.

3) The Orb's red, blue, green color scheme is confusing. The red, yellow, green color scheme of traffic signals would be much easier to understand.

4) Using a commercial TOU pricing scheme for the Orb is confusing for a largely residential audience not accustomed to TOU rates.

- Recommendations:

1) Conduct specific training for Orb keepers so that they are able to handle general questions and know how to direct inquiries for further information.

2) Provide the Orbs with a higher-visibility, more protected setting such as a kiosk. Such displays could be produced in ways that communicate the facility's or community's energy usage, energy management initiatives or other relevant activities that complement the Orb's presence.

3) Provide take-away brochures that have simple graphics and messages describing the concept of varying energy costs and associated DR actions people can take, as well as traditional energy efficiency advice. Provide several types of brochures targeted to specific audiences that might view the Orb , including residential, small business and large customer audiences (including, perhaps, PEAK workbooks). This will help ensure that each of the potential audiences has the opportunity to take something meaningful from the display.

4) Change the colors to red, yellow and green to align with people's perceptions of traffic controls, which would be consistent with the "traffic jam" concept being used in SDG&E's literature.

5) Use either levels of strain on the electricity grid, or generalized production costs as the basis for the Orb display and color thresholds, and have associated literature that graphically portrays the respective cost periods/levels of system strain and how using energy at different times affects these issues.

6) Placeman Orb in an even more public place, such as a shopping mall, possibly on a larger scale.

4.3 SCE Programs

Conclusions & Recommendations – Business Solutions Audit Program

- Conclusions:

  1) The program is well-liked by the vast majority of participants, which is a reflection of the program's components being well-designed and operated. Some room for continuing improvement remains, however, as indicated by a non-trivial fraction of negative feedback expressed in the participant survey.

  2) Customers participate primarily to find ways to save money, though comfort, productivity and altruistic reasons also underlie participation reasoning.

  3) Those who are more satisfied tend more to have been well-informed, and tend to be taking more action.

  4) Account representatives, bill inserts and word of mouth (driven by the program's credibility) are important channels for creating awareness for this program.

  5) Ensuring that prospective participants have a good understanding of the program appears to be linked to their subsequently being more satisfied with the program and their taking recommended actions. This dynamic is associated with the quality of the customer service contacts involved with promoting the program, including the use of account representatives as a primary channel for creating program awareness and interest.

  6) Related to the point above, prospective participants are likely to be concerned about the value of the audit results, indicating a need to work diligently with customers to educate them about the audit's value. Where this is done, positive results for the program are more likely to ensue.

  7) The leased-space market remains problematic, as respondents who rent their facilities tend to be in greater need of information about the program and actions to take. This may reflect the dilemma they face concerning split economic incentives and control of the facility's space conditioning and lighting equipment. Participants who rent their facility act on recommended measures in about the same proportion as those who own their facility, but it is uncertain to what extent measures are undertaken.

  8) Audit field staff have impressed the vast majority of participants with their professionalism and knowledge, an encouraging sign for the training and dedication to the job that program staff have had.

  9) The audit processes and reports are of value to most participants, the majority of whom rated all facets highly.

  10) Proactively following up on the audit visit and report appears to be related to assuring satisfaction with the program and participants taking recommended actions. Those who believe they are lacking for next-step information are tending to take fewer actions, in

part because they feel they lack time or resources to proceed. Thus, a combination of information, time and resource factors continue to plague customers. More aggressive follow-up efforts may help overcome some of these difficulties.

11) Many participants have taken a variety of energy management-related actions in association with or in addition to the audit recommendations, and some spillover appears to be occurring among those who have taken actions.

12) A significant minority of those who have not yet taken action still intend to take one or more recommended actions. It appears that those who get some sort of follow-up contact are more likely to take action than those who do not receive audit follow-up.

13) Many of those who have not taken action, despite their stated intentions, show symptoms of being unlikely to take action due to budget and time constraints. Others are delaying their actions pending equipment failure or as part of a broader remodeling or other project.

14) The combined EE/DR approach is sound, though the lack of DR programs hinders the ability to sell customers on that concept. The DR concept itself is much more difficult to explain to customers, and the actual term “demand response” often is not used – alternative phrases that are more descriptive are preferred by reps and customers alike.

15) Tracking Summer Discount participants referred by the audit is important to measuring the effectiveness of the audit program.

16) The PALM audit tool has significantly increased audit productivity, enabling more time for customer follow-up and/or more audits.

17) The PALM audit tool is not used to its maximum capability in the current program, and there is potential for it becoming more efficient and widespread in its uses, such that there are opportunities to expand the device’s functionality and utilization.

18) There is significant untapped program potential, based on the survey findings that most audit participants have not participated in various other SCE programs.

19) The enhanced Summer Discount program that the audit promotes may need refinements to reduce confusion about the enhancements and also the incentive payment calculation.

20) Customers are faced with an onerous job in following up on audit recommendations. A single point of contact for follow-up support to customers may improve the program outcomes, and make customers happier

21) DR may be more attractive to small customers in leased facilities than EE investments because little or no capital is required in most cases.

- Recommendations:

1) Consider bolstering the program’s marketing through greater use of SCE account representatives to create awareness, increase customers’ knowledge of the audit and sell customers on the audit’s benefits.

2) Consider more aggressive follow-up efforts to confirm the audit's value and influence customers to follow through on audit recommendations. Utilize the PALM device's wireless communications capabilities to provide such follow-up information as appreciation emails and e-documents to share with decision makers, or even lists of available contractors to contact.

3) Consider ways to address customers' lack of time and resources to take action.

4) Track how many Summer Discount sign-ups are received as a result of the audit process. Also work closely with reps on tracking program leads.

5) Consider measuring operational changes post-audit, perhaps through billing analysis, to reinforce the audit's outcomes with customers and help demonstrate the influence of the audit on actual demand and energy changes.

6) Support reps' use of alternative terminology to "demand response" in their work with customers

7) Consider an ombudsman type of coordinator to assist customers in following up on audit recommendations.

8) Target the audits to those customers most likely to sign up for programs, using messages that are focused on high-potential market segments which reps often are able to identify.

Conclusions & Recommendations – Ontario Demonstration Community

- Conclusions:

1) The program has succeeded in engaging the city's leadership. Participants are very pleased with the partnership and feel it was designed very well.

2) The program has enabled better coverage of small businesses that SCE likely would not have been able to reach without the partnership effort. SCE staff have been able to get in front of groups that would not have been contacted otherwise.

3) Participants feel businesses in Ontario are likely to sign up for SCE programs more rapidly with the city's involvement. The city is seen as a neutral player whose primary objective is to help businesses succeed.

4) The program's awareness building efforts have begun to have a ripple effect out to other businesses.

5) The pilot effort has stalled out short of following up with business contact leads to sign up participants to DR programs, however. Why this is, is unclear but may be due to either a need to better communicate leads that have been generated, or due to lack of time and priority for account representatives to follow up on leads being generated.

6) The leadership working group have been trained and understand the basic concepts of DR and EE, but need more practical supporting information such as case studies and targeted contact lists to help focus their contact logistics and provide practical success story examples to their contacts.

7) There are more avenues that could be utilized to promote the program, including real estate channels, city events and trade allies. Some of these would require extending the training being done for the demonstration to other market actors being recruited to the outreach effort. The city manager would be a productive addition to the outreach team, and the city council could provide policy support.

8) Information coordination between SCE and the city has been stymied by confidentiality issues, making it more difficult to coordinate program efforts.

9) There is a need to provide feedback to committee members regarding the ultimate disposition of contacts they have made, to see whether customers have signed up for SCE programs or not, outstanding issues, etc.

10) Committee members appropriately feel it is their job to create awareness but not get into details of programs; that is SCE's responsibility via follow-up contact work.

11) In creating awareness, customers are not understanding DR terminology and concepts very well, but they strongly relate to saving money and reducing costs.

12) There is a need for segment-targeted contact lists to help focus outreach efforts on high-potential customers.

- Recommendations:

1) Improve coordination of contact lists between the city and SCE, including consideration of confidentiality concerns associated with sharing information between the organizations.

2) Focus on scheduling follow-up contacts by SCE account representatives to be as timely as possible to keep customers interested and increase the likelihood of signing up for DR and EE programs. Consider shifting follow-up responsibility to SCE's Ontario city representative in some capacity, understanding the organizational issues that may be associated with such a shift.

3) Provide case studies and targeted, high-potential business prospect lists for outreach use, including profiles of what types of businesses make the most likely DR candidates.

4) In committee member training, focus more on examples and high-potential market segments, and condense the conceptual aspects of the training to keep trainees focused on the practical aspects of successful outreach.

5) Expand the venues and associated allies for outreach to include additional civic leaders, real estate channels and actors, and technical trades. Consider articles in selected area print publications, TV shows and business networking events as well.

6) Generate periodic disposition lists to feed back to committee members the ultimate outcomes of contacts they have made.

7) Consider a Spanish-version set of collateral and also involve Spanish-speaking outreach members to better reach the Latino business market.

Conclusions & Recommendations – Institutional Outreach

- Conclusions:

1) The program is well-conceived overall, though its execution has experienced several gaps in carrying out the program's strategy. Its participants have been supportive and optimistic about the program concept.

2) BOMA is more engaged than SCAG, mainly because BOMA has greater central authority to develop and carry out initiatives with its members. SCAG's involvement has stalled out because of its member orientation being from the ground up, and the fact that initiatives need to be developed that need to be led by member cities and counties, not SCAG itself. As a result, SCAG may not be the best conduit for this program unless a ground-up "champion city/county" approach is used, which would be fairly process-intensive to work.

3) The training materials and presentation were good and well-presented. The training guide used has practical DR examples, for example, but appears somewhat too utility-oriented in explaining various concepts.

4) Aside from economic concerns BOMA and SCAG members may have in considering various DR and EE actions, liability concerns also exist with respect to habitability warranties to which building operators must adhere, and also safety concerns.

5) Public recognition awards such as TOBY are well-received by BOMA and its members.

6) Like other programs dealing with tenant-occupied buildings, this outreach effort faces split-incentive and associated decision making problems that constitute a major barrier to customers taking action.

7) BOMA and SCAG serve members who are outside SCE's territory, so SCE-specific messaging is problematic for non-SCE served BOMA and SCAG members, who may become confused about what programs they can participate in.

8) There appears to be a resource bottleneck whereby energy audits of BOMA member facilities that have been done have been slow in being processed and feedback given.. Also, there may be too few office-qualified audit staff to support the program's thrust with BOMA and SCAG.

9) There is a need for monthly status and disposition reporting, to help BOMA and SCAG keep abreast of the outcome of their members' involvement in the program.

10) Educational and advertising materials may be too detailed and jargonistic for BOMA and SCAG members, and perhaps too light on information related to financial return objectives members have.

11) The planned assignment of a staff person at SCE to manage this program would help move the program forward by providing a dedicated resource to address various marketing and administrative needs.

- Recommendations:

  1) Consider bifurcating the BOMA and SCAG aspects of the program, to reflect the organizations' different membership and operating approaches. For SCAG, consider approaching prospective "champion" cities and counties and support those entities going to SCAG to encourage other member governments to participate. Santa Monica is one potential candidate.

  2) Include assistance with developing business cases for customers who receive other program follow-up services.

  3) Consider expanding upon the TOBY award concept to recognize a variety of building types and businesses, and their energy management efforts.

  4) Consider further simplification of training materials to minimize utility jargon and streamline the materials. Include selected case studies of facilities similar to those encountered in BOMA and SCAG contacts with their members. Provide financial analysis and business case information to help members understand the value proposition and prepare internal cases to present to decision makers.

  5) Provide monthly status reports to BOMA on the outcomes of SCE follow-up in relation to BOMA's member contacts for the program.

4.4 PG&E Programs

Conclusions & Recommendations – CRWA

- Conclusions:

  1) The program succeeded in reaching decision-makers in a target market that appreciates TOU energy management implications.

  2) The post message peak reduction rate of this group was the highest of all PG&E outreach efforts tested in a follow on survey.

  3) The perceived usefulness of the marketing collateral received and knowledge of PG&E programs by CRWA reps, was the lowest of all PG&E outreach efforts.

  4) CRWA would like better feedback loops to know what is happening with their members after they bring the PG&E message.

  5) Water utilities are constantly concerned about budgetary constraints.

  6) Some water systems are much more likely to consider TOU and DR than others, with storage being a top consideration in this regard.

  7) Peak electrical usage is believed to be connected to power quality issues that water utilities wish to avoid

  8) Water utilities have a history of cooperative relationships and are a natural aggregation target.

- Recommendations:

  1) Increase training of CRWA reps so that they may more effectively communicate about PG&E programs.

  2) Create specialized brochures for this group with graphics that emphasize an understanding of water utilities, particularly the parallels between peak water use or treatment and peak electrical usage. DR case studies specific to water and wastewater treatment systems are desirable.

  3) Develop tracking systems to allow this engaged partnership to track post member contact by PG&E.

  4) Investigate partial underwriting of storage as a means to enable smaller utilities to shift operations off peak.

  5) Create access to a water systems-energy expert that could trouble shoot via e-mail or telephone.

  6) Consider targeting this group for aggregation opportunities with respect to DR.

Conclusions & Recommendations – Events

- Conclusions:

  1) Speakers and vendors at the EXPO generally thought the fair was worthwhile, vendors spoken to reported gaining qualified leads. Attendees interviewed thought that for a first time event, this was generally well executed.

  2) Speakers were disappointed in the break out session attendance and lack of marketing of the sessions, both in print and by keynote speakers. Program development lead times contributed to this.

  3) Working with experienced local event coordinators can energize a meeting.

  4) Publicity channels for print, radio and television were well utilized.

  5) Some missed opportunities, such as failure to keep an attendance list were noted.

- Recommendations:

  1) Retool the EXPO brochure. Advertise the sessions better with engaging descriptions of the talks.

  2) Reduce the number of break out sessions and focus on the topics of real interest to attendees. Then market those talks both in the brochure and within the EXPO.

  3) Keep attendance records for possible subsequent opt-in marketing, such as the EnergyGram.

4) Use more local case-studies with cross over technology potential so as to appeal to the broadest group of attendees.

5) Consider instituting an award ceremony for outstanding EE or DR contributions

6) Take additional care with timing events out side of the EXPO such as car crushing so as not to coincide and overshadow session talks inside the EXPO.

Conclusions & Recommendations – Walk, Knock & Talk

- Conclusions:

  1) The economics of per complete outsourced labor for "walking and talking" may not be compelling enough to retain quality labor. Program messaging may have suffered as a result.

  2) More effective marketing collateral related to the primary concerns of small businesses are desired. Brochures should use less and simpler text and should emphasize monetary rewards for DR.

  3) Follow on opportunities could be better maximized and data entry could be reduced by using some kind of electronic system to upload data daily.

  4) Outreach efforts suffered from having no "program" to sell.

  5) Targeted marketing was desired by reps: e.g. customers with unusually high bills relative to business type and landlords were mentioned as desirable targets.

  6) Mixed feedback on the importance of Spanish language was received. Some felt it was key, others less so.

  7) It is difficult to reach decision-makers when cold calling.

- Recommendations:

  1) Consider modifying cost structure of rep compensation.

  2) Redesign brochures for customer class. Use less text, more pictures and emotion and increase monetary references and examples.

  3) Consider use of wireless devices to upload customer contact information to decrease follow on time and keep "warm" contacts "warm." Additionally outsourced reps could be used to generate "warm leads" for follow up with a PG&E representative.

  4) Consider development of a small business DR programs.

4.5 Overarching Statewide Recommendations

1) Since small businesses are such a difficult target market, creating a one-stop, simple-to-participate, simple-to-understand program would help tremendously in this area. This is true in

particular for demand response programs that are naturally more complex than energy efficiency programs. Participation drops off if the customer must chase down multiple contacts.

2) Businesses could be grouped by type rather than by location, in order to hone in on the small businesses with the greatest load-shedding potential

3) While the EE and DR messages are somewhat different, it still makes sense to have the messages delivered alongside one another using the same marketing channels. EE and DR are both seen as ways to save money off the energy bill, and EE and DR should be presented as part of a spectrum of options to help the business customer manage its energy bills.

4) When first reaching small business customers with a DR message, presentations and outreach materials should present simply-stated messages that are customer-centric and not utility-centric, and then immediately promote a few specific actions that are customized to that small business sector. Those specific actions should include signing up for a DR program. More content-rich flyers or booklets can be warranted as supplementary sources of detailed information, but should not be used as the “lead” pieces for broad distribution, and should not be presented until the customer is ready for them after they have a basic understanding of what DR is.

5) The lead message for small businesses should be: financial savings off the energy bill and control of escalating prices. Secondary messages should be targeted by market sector if possible, and may include messages about avoiding blackouts, and helping the community (especially for public and community-based organizations). Messages about helping the environment and avoiding power plant construction did not seem powerful, yet more study should be done to determine the strongest DR messages in various market sectors.

6) The limited content in collateral materials should also feature testimonials from businesses that have successfully implemented demand response strategies. These testimonials must be appropriate to the size and business type of a given audience to be effective.

7) Another way to bolster the impact of future presentations would be to invite community leaders or small business owners to speak for a few moments about their demand response experiences. - Presentations can be an effective tool for reaching the small business audience when they are targeted and compelling, and when they occur in the appropriate forums.

8) Another simple, but important step that utilities should consider is to print materials in Spanish and some Asian languages.

9) Utilities should work on using terminology that conveys the DR message in terms to which small businesses can easily relate. It appears that there are not many options for programs for small businesses at this time, and it would be worthwhile being able to offer these customers a choice of DR program types so that they can participate in ways appropriate to their capability and desire.

10) Utilities should not give up easily on efforts to educate the public about the concept of DR. Like any new concept, it will take time and many exposures for the concept to take hold.

4.6 Research Recommendations

1) The utilities should conduct research to develop a more thorough understanding of the unique challenges and opportunities available to different types of small businesses (i.e. restaurants,

florists, ice-cream shops, convenience stores, etc.) so that they can focus on very specific behaviors and technologies for each business type.

2) Methods to track the effectiveness of education needs to be combined with the ultimate impact evaluation of getting DR sign-ups. This may require using methods common in advertising campaigns, test marketing, and also in computing return-on-marketing-investment (ROMI).

3) If not already completed, a baseline study on understanding of, and behavior around DR issues should be completed for the small business and residential markets. Through such a market research study, changes due to utility efforts can be measured and their costs evaluated.

4) It may turn out that the cost of gaining DR megawatts from the small business sector is too expensive compared to the cost of getting incrementally more megawatts in the large customer sector. In other words, it is worth taking a close look at whether it's cost effective to go after the small business sector for true DR as opposed to consistent peak load reduction.