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2013–2015 California Statewide Marketing, Education, and Outreach Program: Verification and Integrated Effectiveness Study

California Public Utilities Commission
Prepared by Opinion Dynamics
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Glossary

The following table presents and defines key marketing terms used through the report.

Table 1. Key Marketing Terms

Term	Definition
Bounce Rate	The percentage of single-page sessions where a session is a group of interactions that take place on a website within a given amount of time
Click-through	The number of users who clicked on a specific Internet advertisement or link
Click-through Rate (CTR)	The number of click-throughs per impression (i.e., the percentage of people visiting a web page who access the website via a link on digital paid media.)
Digital Media	Digitized content that can be viewed over the internet.
Earned Media	Free media coverage on multiple forms of media (i.e., television, radio etc.)
Engagements	The number of interactions between individuals and the program
Impression	A single view or display of an ad. Total impressions indicates the number of times an ad was displayed.
Media Placement	Placing an advertisement or story in various media
Out-of-Home Media	Advertising that reaches consumers while they are away from their homes or "on the go". Out-of-home formats typically fall into the following categories: billboards, street furniture, transit and alternative.
Page Views	The number of times a web page is viewed
Paid Media	Advertising on television, radio, print and other forms of media
Reach	The number of unique individuals exposed to a particular advertising channel.
Social Media	Forms of electronic communication that individuals use to share information, ideas etc.
Unique Website Visitors	The number of individual people within a specific timeframe that make one or more visits to a website

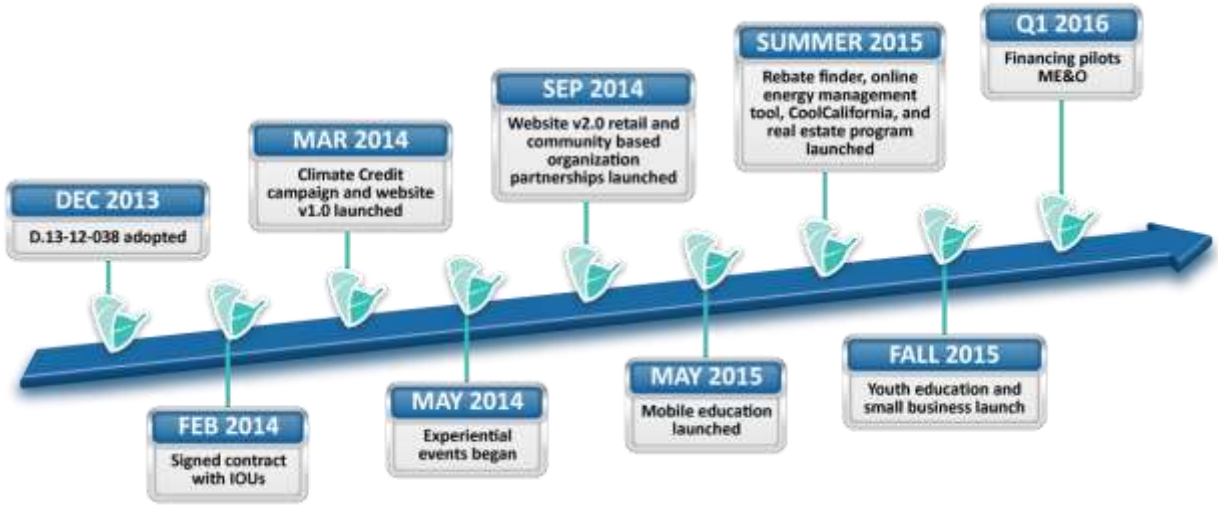
1. Executive Summary

The purpose of this study is to document the effects of California's Statewide Marketing, Education and Outreach (SW ME&O) program. The primary objective of this study is to assess the effectiveness of SW ME&O efforts overall, as well as against established performance metrics.[1] Overall, the SW ME&O program achieved six of its seven performance metrics within the 2014-2015 period. However, broader indicators of program effectiveness show mixed results.

The SW ME&O program is a social marketing campaign implemented under the brand of Energy Upgrade California designed to educate, activate, and motivate Californians to take energy-saving actions. The Center for Sustainable Energy (CSE) administers the SW ME&O program utilizing a total budget of $42.8 million across two program years. CSE used a wide range of marketing channels to engage residential consumers including paid and earned media, community based outreach and events, mobile educational displays, social media, and the Energy Upgrade California website. While continuing to use a wide range of channels during the second year of the two-year period, CSE shifted its emphasis from paid media efforts administered through mass media channels (television, radio, and print) to one-on-one interactions with consumers using community outreach strategies. This shift in approach was driven by a desire by the California Public Utilities Commission's (CPUC) Energy Division to move away from solely raising awareness of the brand across the general residential population and towards high-quality engagements (i.e., direct interactions) with consumers that would motivate them to take action.

Given that 2013 was a planning and brand transition year, and that CSE began administering this initiative in early 2014, this study focuses on the 2014-2015 implementation period, which covers March 2014 through November 2015. Figure 1 summarizes the implementation timeline covered by this study. Note that the CPUC did not finalize the program's performance metrics until May 2015.

Figure 1. Energy Upgrade California Launch Timeline



Source: Center for Sustainable Energy.

[1] The evaluation team is also conducting a Cross-Cutting Process Study, which focuses on the ME&O activities of the Investor Owned Utilities and Regional Energy Networks.

1.1 Program Objectives and Evaluation Framework

The long-term objective of SW ME&O is to contribute to reaching California's ambitious energy and climate goals by helping Californians understand the value of energy efficiency, demand response, and distributed generation, which leads to demand for products, services, and rates for their homes and businesses. More specifically, the CPUC charged SW ME&O with providing:

> "California residents and small business owners with information about energy concepts, programs, services, rates and benefits of taking action so that Californians (1) begin to understand their energy use, the opportunities available for them to act, and the benefits of their action, and (2) begin to take well informed action to better manage energy."[2]

As part of the CPUC mandate, nine objectives were outlined for SW ME&O:

1. Use the Energy Upgrade California brand to educate consumers about the Home Upgrade programs, why energy use matters, and how California homes and businesses use energy, as well as energy efficiency, demand response, distributed generation, and energy management actions available to them.[3]
2. Encourage consumers to engage with resources and tools to learn more about their energy use.
3. Inform consumers about the benefits of participating in local program opportunities, seasonal opportunities, or no-/low-cost actions.
4. Provide direction about how consumers can learn more about and enroll in local program opportunities and time-sensitive opportunities, or how to take no-/low-cost actions.
5. Identify and pilot messaging and message delivery for partners that complements existing utility partnerships, including local governments, CBOs, retailers, and realtors.
6. Identify and pilot methods to provide information to small business owners.
7. Work with a marketing firm and use behavior research to develop a social marketing campaign.
8. Coordinate local, regional, and statewide marketing efforts, messaging, and tactics.
9. Develop an evaluation, measurement, and verification (EM&V) roadmap for utility local marketing and statewide marketing to understand the impacts of local, utility-led marketing, and how local and statewide efforts can best be coordinated and complementary.[4]

In conjunction with the objectives outlined for the SW ME&O program, the CPUC, CSE, and stakeholders participated in a process to develop specific metrics by which to judge performance of the program. The CPUC

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[2] Decision 13-12-038.

[3] Decision 13-12-038 includes two versions of this objective. The Ordering Paragraph version was not updated from the proposed decision to the final, though the one in the dicta was. The one in the dicta explicitly lists financing in addition to Home Upgrade as a program for special feature. In Resolution E4663, the Commission directed CSE to coordinate ME&O for the statewide financing pilots as an extension of its work with the Energy Upgrade California brand and the SW ME&O program. The financing scope of work and budget were added to CSE's contract with Pacific Gas and Electric (PG&E) for this program. Version 6 of the EM&V Research Roadmap provides a Q4 2017 completion date for the evaluation of Finance ME&O.

[4] Note that while this objective was included as part of the list of objectives for SW ME&O, per Decision 13-12-038, the development of this roadmap is the responsibility of CPUC staff, not the SW ME&O implementer.

approved the metrics through the advice letter process, which provided final metrics in May 2015. While these metrics are narrow in scope and do not provide a full assessment of program effectiveness, they represent a starting point. Below we outline the metrics, their associated targets, and underlying rationale.

Table 2. Summary of SW ME&O Metrics and Associated Objectives

Objective(s)	Metric	Target	Rationale
1, 3, 4	Awareness of Energy Upgrade California	20% aware (aided)	Demonstrates that consumers are familiar with Energy Upgrade California
1, 3, 4	Knowledge among IOU ratepayers who are aware of Energy Upgrade California of the specific actions and opportunities communicated by the initiative that they can take to better manage their energy use	25% can identify highlighted programs (aided)	Provides a sense of program or topic awareness among the general population either from SW ME&O or other sources
		25% can identify actions to save energy (unaided)	Gives an indication of whether consumers know how to save energy based on information either from SW ME&O or other sources
		25% know to go to the website to learn more (aided)[a]	Indicates that consumers know that EnergyUpgradeCA.org will provide them with information on energy management
2	Engagement with Energy Upgrade California website, digital media, social media, and community outreach	Website: 1.3 million unique visitors	Demonstrates potential audience for content
		Website: 25% of visitors view ≥3 pages or click on a link to an external site	Indicates that content is interesting enough for visitors to view multiple pages
		Website: 30% of visitors spend >5 sec on a page	Indicates that content is interesting enough that visitors spend some time on the website
		Social media: 40,000 Facebook fans	Demonstrates potential audience for content
		Digital media: 0.08% click through rate	Demonstrates immediate interest in program content
5	Participation in and engagement with Energy Upgrade California by CBOs, local governments, retailers, and realtors	Yes/No	Illustrates the use of partnerships to reach CA consumers
6	Small business messaging is researched and piloted	Yes/No	Demonstrates progress towards developing a small business outreach strategy
8	RENs and IOUs provide information to CSE and the marketing firm in a timely manner	Yes/No	Provides an indication of coordination between the various program administrators
9	EM&V roadmap for Energy Upgrade California is completed	Yes/No	Indicates a commitment and plan related to evaluation

[a] The final version of this metric refers to unaided awareness, which is less than 1%. In an amended advice letter approved in January 2016, the CPUC approved to change this metric from "unaided" to "aided." This reflects the staff's realization that the unaided target was unrealistic.

Note: CSE is not responsible for the achievement of metrics 6 and 7, which pertain to information sharing and EM&V.

Given the limited scope of the program performance metrics, the evaluation team identified and included in this study four additional areas that would provide valuable inputs to assessing effectiveness of the program.

- **Unaided Brand Awareness**: Do consumers mention, without prompting, Energy Upgrade California as a brand or campaign that encourages people to save energy?
- **Brand Familiarity and Knowledge**: Do consumers simply know the name Energy Upgrade California or are they aware of what it stands for and promotes?
- **Energy Self-Efficacy**: Do consumers feel capable of managing their energy use and taking the actions encouraged by the program?
- **Energy Saving Action**: Are consumer taking energy-saving actions due to the program?

Collectively, the program's formal performance metrics and the additional areas of inquiry outlined above form the foundation of this study.

1.1.1 Evaluation Approach

The evaluators contracted by the CPUC to perform this study used a wide range of research approaches to verify and assess program performance. Methods used include multi-wave general population Internet and telephone surveys, Internet surveys with consumers known to have engaged with the SW ME&O program, observations of community outreach events, and in-depth interviews with participating Community Based Organizations (CBOs). Table 3 summarizes each of these activities as well as potential limitations associated with the use of the collected data and information on how the evaluation team used the data collected for the purposes of this study.

Table 3. Overview of Evaluation Activities

Evaluation Activity	Description	Completed Interviews	Potential Limitations	Evaluation Purpose
In-Depth Interviews with Program Staff	Conducted in-depth interviews with CSE and implementation partner staff	n=5	N/A	Provides context around overall strategy and implementation of program activities
Program Material Review	Reviewed marketing plans, calendars, collateral, and other relevant materials	N/A	N/A	Serves as documentation of program activities
Observations of Retail and CBO Events	Observed retail and CBO events	n=7	May not be able to extrapolate beyond the observed events	Provides qualitative data on the implementation of retail and CBO events, including the consumer experience
In-Depth Interviews with CBOs	Conducted in-depth interviews with participating CBOs (N=75) to explore the role this channel plays in communicating with consumers	n=10	May not be able to extrapolate beyond interviewed CBOs	Provides qualitative data on the role of CBOs in the program, their feedback on the process, challenges and recommendations for improvement
Residential General Population Surveys	Conducted an Internet-based survey with residential consumers to assess changes in key metrics over time	Multiple Waves n=1,083, 1,102, 1,052	Self-Selection and Coverage Bias	Provides a measure of change over time for key metrics among the general population

Evaluation Activity	Description	Completed Interviews	Potential Limitations	Evaluation Purpose
Self-Report Attribution Survey	Conducted an Internet-based survey with consumers who provided their email address to CSE as part of engaging with the program	n=865	Coverage and Non-Response Bias	Provides a measure of attribution to the program for key metrics such as awareness, knowledge and action taking
Event Follow-Up Survey	Conducted an Internet-based survey with consumers who attended a CBO or retail event, and responded to a survey at the time of their engagement	n=146		
Mobile Outreach Survey	Conducted an Internet-survey with consumers who visited a mobile display and provided their email address as well as, in some cases, responded to a survey	n=62		

1.2 Key Findings

Overall, the findings from this study provide a mixed picture of SW ME&O effectiveness. In terms of the formal program performance metrics established for the 2014-2015 period, CSE achieved four of the five metrics for which they are directly responsible based on data collected through September 2015. As shown in Table 4, these metrics include both quantifiable targets and process outcomes designed to ensure a collaborative SW ME&O process.

Table 4. SW ME&O Program Performance against Approved Metrics

Metric	Description	Target	Actual Performance	Page Number	Data Source
1	Awareness of Energy Upgrade California	20% aware (aided)	20%	62	Wave 2 Tracking Survey
2	Knowledge among IOU ratepayers who are aware of Energy Upgrade California of the specific actions and opportunities communicated by the initiative that they can take to better manage their energy use	25% can identify highlighted programs (aided)	40% - 60%	71	Wave 2 Tracking Survey
		25% can identify actions to save energy (unaided)	67%	73	Wave 2 Tracking Survey
		25% know to go to the website to learn more (aided)[a]	43%	74	Wave 2 Tracking Survey
3	Engagement with Energy Upgrade California website, digital media, social media, and community outreach	Website: 1.3 million unique visitors	907,144	52	Program Material Review
		Website: 25% of visitors view ≥3 pages	21%	53	Program Material Review
		Website: 30% of visitors spend >5 sec on a page	35%	53	Program Material Review
		Social media: 40,000 Facebook fans	48,752	52	Program Material Review

Metric	Description	Target	Actual Performance	Page Number	Data Source
		Digital media: 0.08% click through rate	0.11%	53	Program Material Review
4	Participation in and engagement with Energy Upgrade California by CBOs, local governments, retailers, and realtors	Yes/No	Yes - Achieved	41	Program Material Review
5	Small business messaging is researched and piloted	Yes/No	Yes - Achieved	38	Program Material Review
6	RENs and IOUs provide information to CSE and the marketing firm in a timely manner	Yes/No	Yes – Achieved by IOUs/RENs	50	Program Material Review
7	EM&V roadmap for Energy Upgrade California is completed	Yes/No	Yes – Achieved by CPUC	N/A	N/A

[a] The final version of this metric refers to unaided awareness, which is less than 1%. In an amended advice letter approved in January 2016, the CPUC approved to change this metric from "unaided" to "aided." This reflects the staff's realization that the unaided target was unrealistic.

Note: CSE is not responsible for the achievement of Metric 6 and Metric 7.

Beyond the performance metrics, the evaluation team identified the following key findings around campaign effectiveness:

Unaided Brand Awareness

Californians struggle to name any energy-related brands without prompting, and unaided awareness of Energy Upgrade California remains low. In particular, only a handful of consumers named Energy Upgrade California when asked what brands, campaigns, or initiatives they had heard of that encourage Californians to save energy (1% in April 2015 and 2% in November 2015). If increased brand awareness continues to be an objective of the program, CSE should work to increase this value in future program years.

Brand Familiarity and Knowledge

First, while awareness of Energy Upgrade California increased by only 3 percentage points since the brand assessment study in January 2013 (17% compared to 20%), those who are aware of the brand are somewhat more familiar with it. In particular, the average familiarity rating increased significantly from 3.09 in January 2013 to 4.11 in November 2015.[5] Second, aided awareness of energyupgradeca.org among those aware of the brand increased significantly between April 2015 and November 2015 from 19% to 43%. These findings suggest a deepening of brand awareness among consumers as opposed to a broadening of awareness among a greater portion of the population. This is consistent with the direction that CSE received from the CPUC's Energy Division through the advice letter process.

[5] This value is based on a scale from 1 to 7 where 1 is "I have only heard the name" and 7 is "I know a lot about it".

Energy Self-Efficacy

An objective of the program is to empower Californians to better manage their energy use. As a result, the evaluation team explored the degree to which consumers felt they were capable of managing their energy use. We found that consumers have moderate levels of energy self-efficacy (average scores of 4.7 to 5.0 on a scale from 1 to 7), which remained consistent over the course of 2015. This indicator will likely take longer to change as it requires a more fundamental shift in people's understanding of both the need for change and available energy management solutions. The program should strive to increase this value moving forward.

Energy Saving Action

In contrast to these advances on key measures of awareness, a deeper analysis of consumer engagement with and actions taken due to the program suggests that its effects on behavior are limited. In particular, the team assessed the performance of different community outreach channels (i.e., CBO, retail, and mobile outreach) at the center of CSE's move towards direct, one-on-one in-person engagements. Through surveys with consumers who attended events and agreed to take a follow-up survey, we found that there was significant variation across the one-on-one outreach channels of retail, CBO, and mobile displays. Overall, we found that consumers had greater recall of retail and mobile events compared with CBO events and took a greater number of actions as a result of those engagements than those who engaged with CBOs.

These findings suggest that the retail and mobile channels have been more effective than CBOs. In particular, mobile and retail events are creating experiences that are more memorable for consumers than those at CBO events. While all three community outreach channels (i.e., CBOs, retail, and mobile) offer one-on-one, customized experiences for consumers, CBOs have the added challenge of communicating SW ME&O program messaging at events that may have a very different focus. In these cases, consumers may not see the campaign as aligned with their interests and therefore may be less inclined to interact with program representatives. The fact that CBOs collected a greater number of email addresses at events than retail or mobile representatives but have the lowest levels of event recall is one indication that consumers are not interacting with CBOs in the same way that they are in retail and mobile display settings.

1.3 Recommendations

The strategy employed by the implementers of the SW ME&O program will always depend on the objectives and associated metrics established for the Energy Upgrade California campaign. One of the key challenges in implementing, as well as evaluating the 2014-2015 program was that implementation began before the metrics were finalized. Because of this, data tracking and, to some extent, messaging and marketing content changed over the course of the program period. Based on this experience, it is clear that providing early and consistent direction to the implementation team on the objectives of the campaign is critical to its success.

As part of an overall focus on establishing a framework for assessment moving forward, particularly in the next program cycle beginning in 2017, the evaluation team recommends the following:

- **Establish more comprehensive program performance metrics.** While the metrics established for the SW ME&O program will always depend on the objectives outlined by the CPUC, it is important that the next set of metrics provide a more holistic picture of program effectiveness. As outlined, the 2014-2015 metrics provided discrete measurements of awareness and knowledge, but did not require that the results be tied directly to the program (i.e., awareness and knowledge may be the result of other marketing efforts or information sources). Further, if awareness and knowledge of the brand continue to be important components of the program's objectives, unaided measures of these metrics should

be included as they can provide a sense of whether the brand has made a strong impression on consumers, and whether consumers understand what the brand is and what it provides.

- **Engage the SW ME&O evaluator in developing program performance metrics**. The CPUC should consider giving the evaluation team a greater role in the development of program performance metrics. In the 2014-2015 period, the evaluation team was asked to comment on draft metrics and provided input regarding potential measurement challenges. Expanding this role would help ensure that the metrics provide a more holistic view of program performance.

- **Consider setting internal implementation team targets for event recall**. Results from this study show that it is difficult for consumers to remember their engagement with the campaign, particularly through the CBO channel (54% of participants remember interacting with an Energy Upgrade California representative). While this is an inherent challenge of implementing and assessing program performance, setting internal goals related to recall of event participation will motivate implementation team members to develop improved ways of interacting with consumers within a community setting. It can also encourage implementation team members to conduct an internal analysis of which types of events lead to the greatest levels of engagement with the campaign. The goal of setting targets in this area and increasing recall of event participation more generally is to increase the likelihood that consumers will take desired actions after the engagement and attribute that action to the program.

  Given the lack of established benchmarks for event recall in this and other industries, the evaluation team suggests using the results of this study as a baseline. The determination of target recall values moving forward should be addressed as part of the stakeholder process and consider future campaign objectives.

- **Continue to implement outreach through the retail and mobile channels**. Given that CSE plans to continue its focus on what it refers to as "higher quality" engagements with a smaller section of the California population, outreach should continue through both retail and mobile channels. The findings suggest that these channels have been more effective than the CBO channel in catalyzing action. CBO outreach could be improved with more consistent implementation across organizations, as well as performance-based targets.

- **Debrief with participating Community Ambassadors to understand what is working well in terms of consumer engagement and what the program could improve**. This report provides a number of targeted recommendations related to working with CBOs to implement SW ME&O. In particular, recommendations covered additional training, the data submission process, and marketing collateral. To get greater context from these partners, CSE should consider holding an in-person meeting or focus group with participants from 2014-2015 to understand where it makes the most sense to use this channel and whether it may not be appropriate for reaching certain sub-populations.

- **To facilitate future evaluation of the SW ME&O program, CSE should establish a centralized database that tracks program activities in a consistent manner and with consistent definitions across channels**. Implementers should be required to enter their activities and customer interactions on a regular basis, and the information should be at both the aggregate and individual level. For example, each event should have information on the date, location, number of customers attending, number providing contact information, etc. The individual customer contact information should then be linked to the information about the event itself. This database should be the source of information for a dashboard that is continuously updated, as well as the source for monthly metrics reports. To allow greater transparency into the cost-effectiveness of different activities, the database should also contain updated expenditures by channel. The centralized database will allow ongoing and real time evaluation

so that feedback can be provided on a timelier basis. We suggest the evaluation team work directly with the implementer to ensure appropriate information is collected and documented.

- **Pursue additional research strategies to address gaps in the 2014-2015 research**. As documented through this report and discussed with the CPUC and stakeholders over the course of conducting this study, evaluating the effectiveness of statewide marketing programs is challenging given the crowded media space, the complexity of promoted energy management topics, and the issues around self-reported exposure to marketing and outreach. Given the environment in which SW ME&O is implemented and evaluated, it is important that all parties continue to work together to test new and different approaches to researching effectiveness. The evaluation team continues to believe there is a role for the following approaches previously proposed to the CPUC and stakeholders:

  - **Experimental Design** – While not reflective of actual exposure, an experiment in which evaluators can control who is exposed to marketing and outreach mitigates the problems of self-selection, which were encountered as part of this study. Used in conjunction with other data collection methods, an approach that utilizes a control group and treatment conditions that vary the level of exposure to selected campaign content would strengthen the internal validity of study findings.

  - **Real-Time Data Collection on Exposure** – Another strategy to address the biases that are associated with self-reported campaign exposure is the use of passive media measurement techniques. If the campaign were to place greater emphasis on paid mass media, technologies that record customer exposure to different campaign ads provide additional opportunities for measuring campaign impacts. [6]

[6] Passive media measurement typically operates through a smartphone app that collects information about advertisements that users are exposed to on television or over the radio. The app also tracks on-line and social media behavior to measure cross media campaign impacts. That is, the technology can detect whether a television ad drives someone to the internet for more information.

2. Introduction

In 2012, the California Public Utilities Commission (CPUC) established Energy Upgrade California as the brand for Statewide Marketing, Education, and Outreach (SW ME&O) activities to increase ratepayer awareness of energy efficiency, demand response, and distributed generation, and to offer ways for consumers to better manage their energy use. In addition, the CPUC selected the Center for Sustainable Energy (CSE) to implement all SW ME&O efforts. Subsequently, the CPUC tasked the SW ME&O program with nine objectives, and in an effort to produce quantifiable target values to assess SW ME&O program performance, directed CSE to develop program performance metrics (PPMs) linked to these objectives. These PPMs provide concrete indicators for the measurement of program effectiveness, which is the focus of the Verification and Integrated Effectiveness Study.

2.1 Overview of the Statewide Marketing, Education, and Outreach Program

2.1.1 Program Description

The overarching goal of the SW ME&O program is to educate, motivate, and activate consumers to manage their energy use and to provide them with a path for doing so. To that end, the 2014–2015 program began with efforts to raise consumer awareness and understanding of the value of energy efficiency, demand response, and distributed generation. The program also sought to connect the concept of energy management to the Energy Upgrade California brand, as well as to enhance energy management efficacy, a sense among target audiences that energy management is worthwhile and that their energy actions will make a difference.

Energy Upgrade California, first launched in May 2014, is a multifaceted, statewide marketing, education, and outreach program that uses social marketing techniques to influence human behavior for a social good. The program used paid, earned, digital, and social media to establish the brand in consumers' minds across the state and to make it the go-to resource for all energy management information. In addition, the program conducted extensive person-to-person outreach and education through community-based organizations (CBOs), retail engagement, mobile education, and experiential events.

Table 5. Description of One-on-One Outreach Channels

One-on-One Outreach Channels	Description of Activities
CBO	CBOs attend a wide range of events from community fairs to Chamber of Commerce events where they give formal presentations about the program. At community events, CBOs set up tables or booths where they meet with consumers, play game and/or share information about program topics. CBOs are typically one of many participants in community events.
Retail	Retail events involve engaging consumers while they visit a retail store, such as Home Depot or a local hardware store. Program representatives set up tables and display information about specific program topics, as well as energy-saving measures. They may also provide giveaways to consumers who visit the booth or table.
Mobile	Mobile events feature a temporary display located within a mall, museum or other setting where consumers can engage with a program representative, take a quiz, learn "sticky" facts by viewing information via iPad, or take their photo and make a pledge to save energy.

In the 2014–2015 period, the Center for Sustainable Energy (CSE) also focused attention on creating a new Energy Upgrade California website (energyupgradeCA.org) to serve as a comprehensive, interactive, and easy-to-use resource for varied audiences.[7] To augment its direct marketing efforts, CSE also engaged in partnerships and sponsorships that reached the program's targeted audiences and their influencers.

In addition to implementing ME&O activities targeted to California residents, CSE conducted research into the small business market to inform development of a marketing and outreach strategy for this sector. The research, which was performed in the first half of 2015, was designed to create small business customer segments that could be used in targeting and message development. CSE ultimately launched pilot outreach efforts aimed at the small business sector in November 2015. They plan to roll out a full small business campaign in 2016.

Through all of these endeavors, CSE worked closely with SW ME&O stakeholders, including CPUC staff, designated marketing leads at the investor-owned utilities (IOUs), and regional energy networks (RENs) and parties to the SW ME&O proceeding.

2.1.2 Program Objectives

The long-term objective of SW ME&O is to contribute to reaching California's ambitious energy and climate goals by helping Californians understand the value of energy efficiency, demand response, and distributed generation, which leads to demand for products, services, and rates for their homes and businesses. More specifically, the CPUC charged SW ME&O with providing:

> "California residents and small business owners with information about energy concepts, programs, services, rates and benefits of taking action so that Californians (1) begin to understand their energy use, the opportunities available for them to act, and the benefits of their action, and (2) begin to take well informed action to better manage energy."[8]

As part of the CPUC mandate, nine objectives were outlined for SW ME&O:

1. Use the Energy Upgrade California brand to educate consumers about the Home Upgrade programs, why energy use matters, and how California homes and businesses use energy, as well as energy efficiency, demand response, distributed generation, and energy management actions available to them.[9]
2. Encourage consumers to engage with resources and tools to learn more about their energy use.
3. Inform consumers about the benefits of participating in local program opportunities, seasonal opportunities, or no-/low-cost actions.
4. Provide direction about how consumers can learn more about and enroll in local program opportunities and time-sensitive opportunities, or how to take no-/low-cost actions.

[7] The website can be viewed in five languages: English, Spanish, Chinese, Korean, and Vietnamese.

[8] Decision 13-12-038.

[9] Decision 13-12-038 includes two versions of this objective. The Ordering Paragraph version was not updated from the proposed decision to the final, though the one in the dicta was. The one in the dicta explicitly lists financing in addition to Home Upgrade as a program for special feature. In Resolution E4663, the Commission directed CSE to coordinate ME&O for the statewide financing pilots as an extension of its work with the Energy Upgrade California brand and the SW ME&O program. The financing scope of work and budget were added to CSE's contract with Pacific Gas and Electric (PG&E) for this program. Version 6 of the EM&V Research Roadmap provides a Q4 2017 completion date for the evaluation of Finance ME&O.

5. Identify and pilot messaging and message delivery for partners that complements existing utility partnerships, including local governments, CBOs, retailers, and realtors.
6. Identify and pilot methods to provide information to small business owners.
7. Work with a marketing firm, and use behavior research to develop a social marketing campaign.
8. Coordinate local, regional, and statewide marketing efforts, messaging, and tactics.
9. Develop an evaluation, measurement, and verification (EM&V) roadmap for utility local marketing and statewide marketing to understand the impacts of local, utility-led marketing, and how local and statewide efforts can best be coordinated and complementary.[10]

2.1.3 Program Performance Metrics

Along with the objectives described in the preceding section, the CPUC outlined seven metrics against which performance of the Energy Upgrade California campaign would be evaluated in the 2014–2015 period. These were developed by CPUC staff with input from stakeholders and from the program evaluator, and approved in the CPUC's advice letter process. As shown in Table 6, three of the seven metrics have target values associated with them, while the other four metrics require only verification that they have taken place. These metrics were finalized in March 2015.

Table 6. SW ME&O Metrics

Metric	Description	Target
1	Awareness of Energy Upgrade California	20% aware (aided)[11]
2	Knowledge among IOU ratepayers who are aware of Energy Upgrade California of the specific actions and opportunities communicated by the initiative that they can take to better manage their energy use	25% can identify highlighted programs (aided)
		25% can identify actions to save energy (unaided)
		25% know to go to the website to learn more (unaided)[12]
		Tracking only: energy management self-efficacy
3	Engagement with Energy Upgrade California website, digital media, social media, and community outreach	Website: 1.3 million unique visitors
		Website: 25% of visitors view ≥3 pages[13]
		Website: 30% of visitors spend >5 sec on a page
		Social media: 40,000 Facebook fans
		Digital media: 0.08% click through rate
4	Participation in and engagement with Energy Upgrade California by CBOs, local governments, retailers, and realtors	Yes/No
5	Small business messaging is researched and piloted	Yes/No

[10] Note that while this objective was included as part of the list of objectives for SW ME&O, per Decision 13-12-038, the development of this roadmap is the responsibility of CPUC staff, not the SW ME&O implementer.

[11] In January, 2016, the CPUC amended this to be 16%.

[12] In January, 2016, the CPUC amended this to be aided awareness.

[13] In January, 2016, the CPUC amended this to be 3 or more pages or the viewer follows a link to a program administrator's website.

Metric	Description	Target
6	RENs and IOUs provide information to CSE and the marketing firm in a timely manner	Yes/No
7	EM&V roadmap for Energy Upgrade California is completed	Yes/No

Note: CSE is not responsible for achieving Metric 6 or Metric 7.

2.2 Research Questions Addressed by the Study

Overall, the evaluation team identified around 20 research questions in the evaluation plans for this study. These questions fell into three main areas, which shaped the approach to assessing the SW ME&O program: documentation, program performance, and causal effects (Table 7).

Table 7. Study Research Questions

Research Topic	Research Questions
Documentation of ME&O Activities	• What ME&O activities have been carried out for residential and small business customers? What messages and channels were piloted with program partners? • How are key audiences identified and targeted? • Do marketing activities and plans align with program objectives? • What are the resources and tools promoted through SW ME&O? • What benefits to program participation is SW ME&O communicating to customers? • What did SW ME&O efforts tell customers about how to get information about programs, and how to participate? • How were the piloted tactics (messages and channels) selected? How did the tactics used complement existing program efforts? • How were pilot methods for small business identified? How do the pilot methods align with best practices? • Do marketing activities, plans, and results align with the metrics? • What has the SW ME&O campaign messaging and approach offered that is unique or "differentiating" in this crowded space?[14] • SW ME&O is just one source of energy information for California residents. They also receive information from brands like ENERGY STAR®, as well as retailers and manufacturers. Does this confluence of messengers or duplication of messages confuse or motivate Californians? Which audiences are more likely to act due to SW ME&O messaging? Or due to multiple messengers (e.g., IOU and SW ME&O)?[15]
Performance of ME&O Activities	• How did SW ME&O perform against its objectives? • Do we see change in the key ME&O metrics over time? What effects does SW ME&O have on the target market in terms of customer awareness or attitudes about marketed issues and program enrollment? • Are customers using the resources and tools promoted through SW ME&O? • Do customers understand where to get additional information about programs and actions? • Do small businesses find the information provided through SW ME&O useful and actionable?[16] • Among customers who are aware of Energy Upgrade California, to what extent do they view the brand as trusted "voice" about energy and energy usage in the marketplace? Do these customers think of Energy Upgrade California as a "go-to" source of information?

Research Topic	Research Questions
Causal Effects of ME&O	• Do consumers find the information provided through SW ME&O useful and actionable? • Are customers who are exposed to SW ME&O different in terms of key metrics, such as awareness and intent to take action?

3. Evaluation Methodology

The evaluation team designed the Verification and Integrated Effectiveness Study as a two-part research effort both of which are presented in this report. The first part of the study focused on auditing and verifying the ME&O activities conducted by CSE in support of the SW ME&O program and consisted of three main tasks: (1) in-depth interviews with CSE and implementation partner staff, (2) a detailed review of program materials and tracking data, (3) observations of CBO and retail events. The second part of the study involved assessing the effectiveness of CSE's ME&O activities, which the evaluation team accomplished through two channels: (1) tracking surveys and (2) causal research.

Table 8. Verification and Integrated Effectiveness Study: Evaluation Activities

Research Phase	Evaluation Activity	Description	Fielding Dates	Target Population	Relevant Metric
1. Audit and Verification	In-Depth Interviews with Program Staff	Conducted in-depth interviews with CSE staff during 2015	Rolling	N/A	4
	Program Material Review	Reviewed marketing plans, calendars, collateral, and other relevant materials produced by CSE and its implementation partners	Rolling	N/A	3, 4, 5, 6
	Observations of Retail and CBO Events	Observed retail and CBO events during Q2 and Q3 2015	June-September 2015	Retail and CBO events	4
	In-Depth Interviews with CBOs	Conducted in-depth interviews with 10 participating CBOs to explore the role this channel plays in communicating with consumers	November - December 2015	Participating CBOs	4
2. Effectiveness	Residential General Population Surveys	Conducted an Internet-based survey with residential consumers to assess changes in key metrics over time	Wave 1: Mar-Apr 2015 Wave 2: Oct-Nov 2015	California Residents	1, 2
	Self-Report Attribution Survey	Conducted an Internet-based survey with consumers who provided their email address to CSE as part of engaging with the program	October - November 2015	Visitors to retail events (Oct 2014-May 2015), CBO events (Apr-May 2015), and the Energy Upgrade California Website (Oct 2014-Aug 2015)	1
	Event Follow-Up Survey	Conducted an Internet-based survey with consumers who attended a CBO or retail event, and responded to a survey at the time of their engagement	September - November 2015	Visitors to retail or CBO events (Jun 18-Sept 21, 2015)	1, 2

Research Phase	Evaluation Activity	Description	Fielding Dates	Target Population	Relevant Metric
	Mobile Outreach Survey	Conducted an Internet-survey with consumers who visited a mobile display and provided their email address as well as, in some cases, responded to a survey	Rolling: September - November 2015 (Approximately 1 month after engagement)	Visitors to mobile displays (Aug-Sept 2015)	1, 2

The following sections provide detailed information about each activity.

3.1 In-Depth Interviews with Program Staff

The evaluation team conducted five in-depth interviews with CSE and implementation partner staff from BDS Marketing and Momentum, which were responsible for retail and mobile outreach respectively. The majority of the interviews focused on the retail, CBO, and mobile outreach channels and were designed to gather information on training and materials provided to event staff, timing of events, and topics covered at events. We also used these conversations as an opportunity to coordinate pre-event and event follow-up survey efforts.

3.2 Program Material Review

The evaluation team conducted a thorough review of program materials for the SW ME&O program. The materials reviewed included, but were not limited to, integrated communication plans (ICPs), channel briefs, channel-specific tracking data, quarterly metrics reports, the Trumba online calendar used to track events, the Energy Upgrade California website, and marketing collateral. The evaluation team reviewed program materials on a rolling basis through November 2015.

As part of the evaluation team's verification efforts, we compared CSE's high-level monthly metrics reports with detailed tracking data from their implementation partners where feasible. In cases where we identified discrepancies, the evaluation team used the underlying tracking data collected by CSE's implementation partners. We note the source of all data presented throughout the report.

3.3 Observations of Retail and CBO Events

As part of this study, the evaluation team conducted a series of observations of Energy Upgrade California retail and CBO events to understand what and how program representatives communicate with consumers. The goals of observing these events were to: (1) document the content being communicated to consumers, (2) confirm the alignment of the content with ICPs, and (3) document the characteristics of engagement (e.g., frequency, length, and level of interaction).

The evaluation team observed three retail and four CBO events during the 2015 program cycle. In particular, we conducted either three or four observations within each channel at different times during Q2 and Q3 2015. In selecting the specific events by channel, the team went to events in both northern and southern California. This approach enabled us to gather information about the communications process at different types of events at various locations, as well as on different topics.[17] The evaluation team created an observation guide in advance of the events, which was completed by the observer at each event.

[17] The topics covered at retail, mobile, and community events change and vary over the course of different ICP periods.

3.4 In-Depth Interviews with CBOs

The evaluation team conducted in-depth interviews with Energy Upgrade California CBOs, also referred to as Energy Upgrade California Community Ambassadors, to explore how CBOs interact with their local communities, as well as to provide insight into the effectiveness of the marketing materials and training provided by CSE. As part of this effort, the team spoke with large-scale (Tier 1) CBOs and small-scale (Tier 2) CBOs. Overall, the program worked with 35 Tier 1 organizations and 40 Tier 2 organizations throughout 2014–2015. It should be noted that Tier 1 organizations were required to recruit, train and manage up to two additional Tier 2 partners in their respective markets.

The evaluation team drew a random sample of five Tier 1 and five Tier 2 organizations for in-depth interviews. We could not complete interviews with two of the selected Tier 2 organizations because one respondent was not available during the time frame of this study and another respondent did not respond to five interview requests. We therefore approached the next two randomly sampled organizations. In total, the team completed 10 in-depth interviews between November 12 and December 7, 2015.

Table 9. CBO Community Ambassador Population and Completed Interviews

CBO Tier	Community Ambassador Population	Sample Frame	Completed Interviews	Response Rate
Tier 1	35	5	5	100%
Tier 2	40	7	5	71%
Total	**75**	**12**	**10**	**83%**

In terms of the CBOs that the evaluation spoke with, respondents encompassed a diverse range of organizations. They included organizations with an environmental focus, organizations that serve disadvantaged citizens, charter schools, and a local chamber of commerce. Most of these organizations had a narrow regional focus, but others served stakeholders across California.

Further, three of the ambassadors we spoke with were also involved with Energy Upgrade California outside of the SW ME&O program. In particular, two were involved through the RENs and one managed an energy efficiency program on behalf of the CPUC.

3.5 Residential General Population Surveys

The evaluation team fielded three surveys with representative samples of California residents to track the impact of the SW ME&O program on consumer attitudes, knowledge, and actions. The surveys are a key tool to assess the approved program performance metrics. In addition, Opinion Dynamics conducted a brand assessment study for CSE at the end of 2012 to help CSE position and market the brand in the future. Where appropriate, we make comparisons to the brand assessment study. Table 10 provides the fielding details for these surveys. For detailed survey dispositions see Appendix D.

Table 10. Residential Tracking Survey Fielding Details

Survey	Respondents	Mode	Dates	AAPOR Response Rate	Precision at 90% Confidence Interval
Brand Assessment	2,000	Telephone	November 30, 2012 – January 5, 2013	4.7%	1.8%
English	*1,789*				1.9%
Spanish	*211*				5.7%
Climate Credit	1,083			40.6%	2.5%
English	*883*	Internet	April 30 – May 12, 2014		2.8%
Spanish	*100*	Telephone	June 3 – 19, 2014		8.2%
Mandarin/Cantonese	*100*				8.2%
Tracking Wave 1	1,102			52.4%	2.5%
English	*937*	Internet	March 26 – April 10, 2015		2.7%
Spanish	*81*	Telephone	March 26 – April 9, 2015		9.1%
Mandarin/Cantonese	*84*				9.0%
Tracking Wave 2	1,052			43.1%	2.5%
English Fresh Respondents	*522*	Internet	October 21 – November 6, 2015		3.6%
English Wave 1 Panel Respondents	*530*				3.6%

We also provide the following figures, which illustrate the timing of survey fielding compared to SW ME&O program activities. Figure 2 outlines survey efforts with the general population.

Figure 2. General Population Tracking Survey Fielding Details

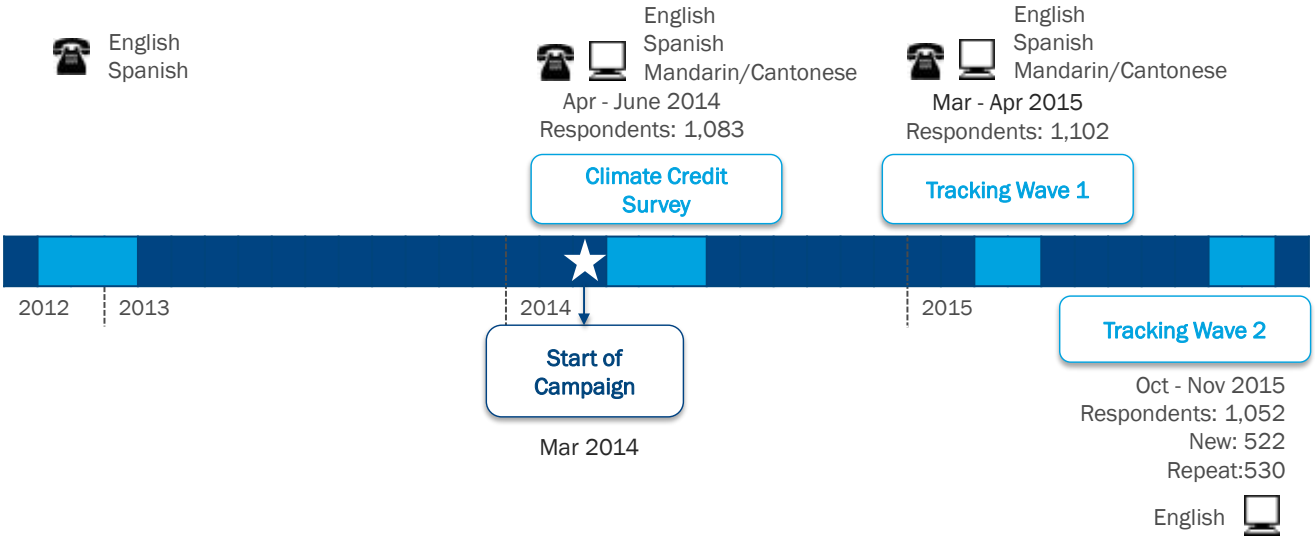
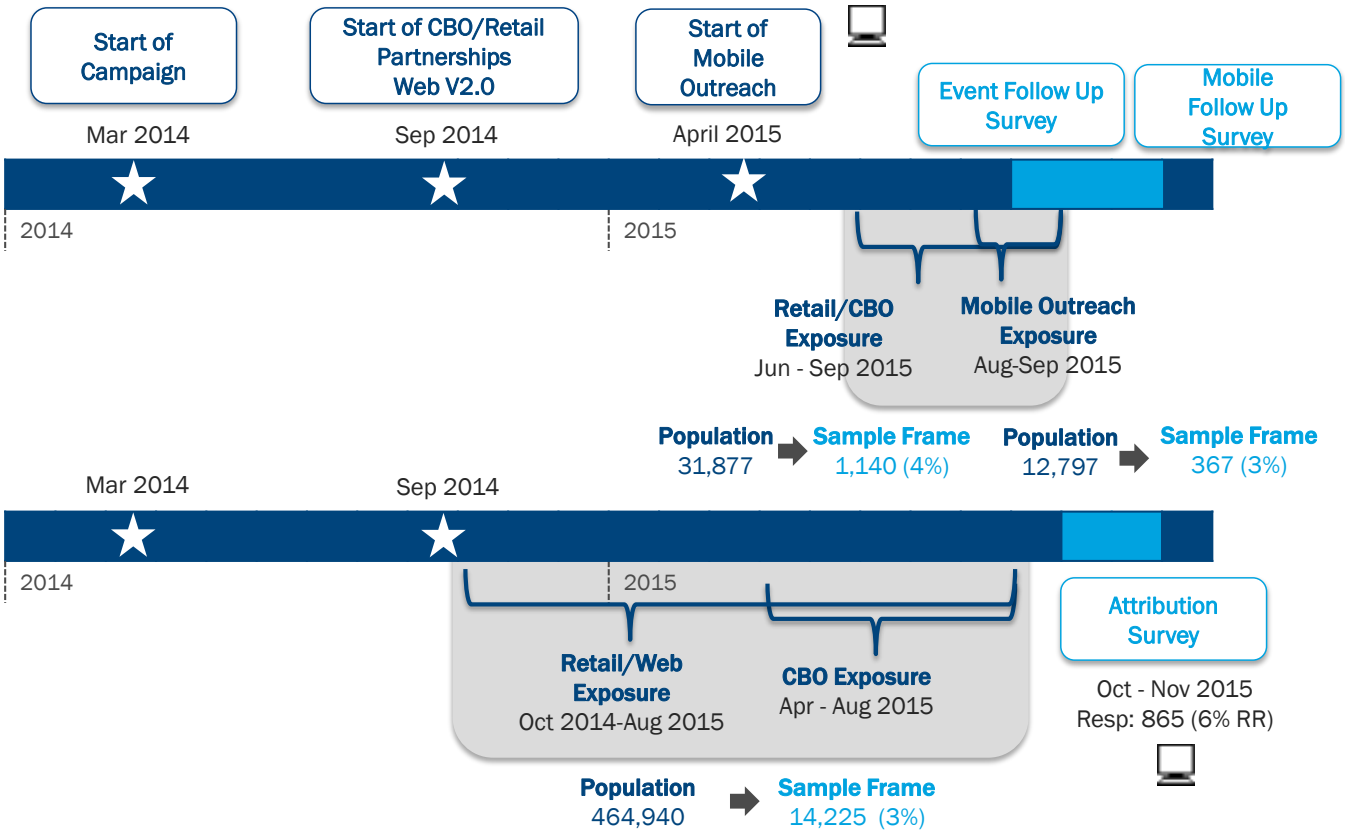


Figure 3 illustrates the evaluation team's survey efforts with consumers reached by the campaign at CBO, retail or mobile events.

Figure 3. Surveys with Consumers Reached by the Program



3.5.1 Brand Assessment Survey

An objective of the brand assessment survey was to gain information about public awareness and understanding of the Energy Upgrade California brand name.[18] The IOUs used the brand name to promote the statewide Whole House retrofit program beginning in 2010. In 2013, the IOUs began to transition the retrofit program name to Energy Upgrade California *Home Upgrade*. Opinion Dynamics conducted the brand assessment study to help CSE position and market the brand in the future. The survey included questions measuring awareness and understanding of Energy Upgrade California that the evaluation team asked on future evaluation surveys. Because the brand assessment survey provides a measurement of consumer awareness prior to the start of the SW ME&O program, awareness of Energy Upgrade California (at the time of the Branding Survey in January 2013) should be attributed to the marketing efforts of the whole home program now referred to as the Home Upgrade program.

The brand assessment survey was conducted via telephone in both English and Spanish. The survey contained oversamples of non-Whites to increase the precision of subgroup analyses. To account for these oversamples,

[18] Opinion Dynamics. *Energy Upgrade California Brand Assessment Study* (February 2013). The study also included questions measuring general energy management knowledge and barriers to action.

we weighted the survey results by key demographic characteristics including age, region, education, and ethnicity so the overall sample was representative of the population.

3.5.2 Climate Credit Survey

The Climate Credit is a result of the State of California's cap-and-trade program, which generates revenues in the electricity-generation sector. Beginning in 2014, the California IOUs passed these funds along to customers through a credit on their electric bills. CSE conducted a marketing campaign in April and May 2014 to educate California residents about the Climate Credit, and encourage them to use it to make energy saving improvements to their homes. We conducted a survey to assess the effectiveness of the marketing campaign. The survey also contained a number of questions on awareness and understanding of the Energy Upgrade California brand that we asked on the brand assessment survey and continued to ask in the next two waves of the tracking surveys. The survey provides an updated measure of Energy Upgrade California brand awareness at the time of the brand relaunch.[19]

The Climate Credit survey included an internet survey in English and a telephone survey in Spanish, Mandarin, and Cantonese. We used a multi-method approach because no internet panel exists with sufficient numbers of non-English speakers. We utilized the YouGov internet panel to complete the English survey. YouGov employs a sample-matching approach to draw a representative sample of the target population from its panel members. The sample for the survey was matched to the California population in terms race, gender, and age. We conducted telephone surveys in three languages that represent a large proportion of California non-English speakers: Spanish, Mandarin, and Cantonese. We completed the survey with respondents whose English skills were limited to ensure representation of the target population for the non-English marketing campaign. Upon completion of the surveys, we combined the three data files and weighted the combined file so that it was representative of the California population in terms of age, gender, education, and ethnicity. The final weighted sample was representative of the California population on these as well as other characteristics.

3.5.3 Wave 1 Tracking Survey

For the Wave 1 tracking survey, we used the same sample design as the Climate Credit survey. We completed English interviews using the YouGov internet panel and completed interviews in Spanish, Mandarin, and Cantonese via a telephone survey. We completed this survey approximately one year following the launch of the campaign.[20]

The survey contained the same brand awareness and understanding questions that we asked on the brand assessment and Climate Credit surveys. Though the program performance metrics were not yet final, we

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[19] The evaluation team conducted an additional survey at the beginning of the Energy Upgrade California campaign that provided another measure of brand awareness. We conducted a telephone survey in March 2014 with 400 English speakers to see if there had been a change in brand awareness since January 2012 when we conducted the brand assessment study. We also tested survey questions for future evaluation surveys. We found that awareness levels had not changed. We do not report the results of the March 2014 survey in this evaluation and instead rely on the Climate Credit survey. The Climate Credit survey has a larger sample size and makes use of the sample design we used for subsequent tracking surveys, which makes comparisons to the tracking survey easier. Brand awareness in the March 2014 and Climate Credit survey is the same.

[20] The evaluation team had originally planned to conduct quarterly tracking surveys during the campaign. A key objective for the surveys was to track progress towards meeting the approved program performance metrics. We delayed developing and fielding the first survey to ensure the survey questions would match the program metrics. Because the approval process took until May 2015 and we did not want to miss out on measurement opportunities, we conducted the wave one survey in March 2015 before the metrics became final in May 2015. We had time to conduct one additional survey wave for inclusion in this report. We made some slight modifications to the survey instrument between waves one and two to ensure we could assess the final metrics.

included questions that would measure the draft metrics as well as program objectives outlined in Decision 13-12-038.

3.5.4 Wave 2 Tracking Survey

We used a slightly different sample design for the Wave 2 tracking survey. Due to the challenges and associated costs of locating and interviewing respondents with limited English skills, the evaluation plan called for including the non-English oversamples every other survey wave. Therefore, we did not complete interviews in non-English languages in Wave 2. When we make comparisons over time in the body of the report, we limit the results from Climate Credit and Wave 1 surveys to just the English-speaking internet interviews to ensure any changes we see are due to actual change and not a change in sample design. We provide the results for all Climate Credit and Wave 1 respondents in the Appendix.

The Wave 2 survey is also different from the Wave 1 survey because it contained a panel component. Approximately half of the respondents to the Wave 2 survey also completed the Wave 1 survey. The other half of the Wave 2 sample were fresh respondents. A panel survey design is very powerful as it allows us to observe actual change in the same respondents rather than infer change from independent cross-sections of survey respondents. The changes we observe in independent cross-sectional surveys may be due to sampling error. Even if a difference is large enough to be considered statistically significant by industry standards, there is still a chance that the difference is due to differences in the makeup of the two samples, not actual change.

In the case of this evaluation, the panel also allows us to examine the persistence of awareness of Energy Upgrade California over time. Even if awareness changes in the aggregate, some people may learn about the brand while others forget. Likewise, a lack of change in the aggregate could mask learning and forgetting at the individual level that cancels out in the aggregate. Interviewing the same people over time allows us to uncover what is driving change or lack of change in awareness.

While panel designs are useful for understanding change over time, a concern with panel designs is that the survey experience itself can have an impact on respondents (i.e., a panel effect). In our case, respondents may learn about Energy Upgrade California from the Wave 1 survey so that increases in awareness between Waves 1 and 2 are due to their participation in the survey and not the campaign itself. We conducted several tests to determine if our overall Wave 2 survey results might be biased due to a panel effect. The tests suggest that we might have a slight panel effect (we present some of these results in Section 5.2.1 and additional comparisons in the Appendix). To avoid the possibility of bias when we make comparisons between Waves 1 and 2, we only compare the responses of respondents who have completed a single survey (i.e., all Wave 1 respondents with just the fresh respondents from Wave 2). We also provide results from the panel respondents to look below the surface of the aggregate numbers to assess how much change is occurring, and in what direction, between Waves 1 and 2.

3.6 Self-Report Attribution Survey

In order to assess the impact of the campaign on customers that we know were exposed as opposed to the general population, the evaluation team completed an internet survey with 865 Californians that interacted with the Energy Upgrade Campaign through a retail or CBO event or visited the Energy Upgrade California website. The target population for this survey included anyone attending a retail event between October 2014 and May 2015, a CBO event between April 2015 and May 2015, or visited the Energy Upgrade California website between October 2014 and August 2015. While attending these events or visiting the website, consumers could provide their email address and receive information from Energy Upgrade California. Our

sample frame is the 14,225 individuals who provided email addresses.[21] We fielded the survey between October 13 and November 9, 2015.

Table 11 shows the population, sample frame, and completed surveys by marketing channel. Across the three channels, only 3% of consumers that interacted with the campaign provided email addresses, which is likely to result in coverage bias. Just 2% of website visitors provided an email address compared to 8% of retail and 18% of CBO event attendees. We discuss the implications of this bias for our findings in the Research Limitations section below.

Table 11. Self-Report Attribution Survey Sample

Marketing Channel	Population	Sample Frame (% of population)	Completed Surveys
Retail	14,438	1,166 (8%)	20
Community Outreach	23,623	4,138 (18%)	89
Web	426,879[a]	8,921 (2%)	756
Total	**464,940**	**14,225 (3%)**	**865**

[a] The population for the website is the total number of unique visitors from California.

We attempted a census with all consumers in the sample frame. The evaluation team sent an initial invitation to complete the survey to each email address, as well as three reminders sent a week apart. To encourage survey participation, respondents who completed the survey were entered into a drawing to win $100.

Table 12 shows the final disposition for the attribution survey. Out of the 14,225 email invitations that were sent, 26 were undeliverable due to invalid email addresses and 7 were deemed ineligible due to automated replies. The final response rate, calculated as the number of completes divided by the eligible sample, was 6%. We discuss the potential for non-response bias in the Research Limitations section below.

Table 12. Self-Report Attribution Survey Response Rate

Disposition	
Total Sample	14,225
Undeliverable/Ineligible	33
Eligible Sample	14,192
Completes	865
Response Rate (Completes/Eligible Sample)	6%

This survey was a census attempt so the concept of sampling error does not apply. Therefore, we do not provide estimates of precision associated the survey estimates. The survey results are subject to other sources of error as noted above and discussed further in the Research Limitations section.

3.7 Event Follow-Up Survey

The objective of the Event Follow-Up survey is similar to the attribution survey. We used the survey to assess the impact of the campaign on customers that interacted with the campaign at retail or CBO events. We had more information about the time and content of the campaign interaction for the event follow-up survey respondents. We were able to interview customers approximately one month after the event and could ask

[21] In preparing the sample frame, the evaluation team removed an additional 314 email addresses associated with the program implementer (i.e., CSE employees or associated organizations).

some directed questions about the interaction. Otherwise, many questions were the same across the two surveys.

The evaluation team completed a follow-up internet survey with 146 Californians. The target population for this survey was anyone who interacted with the campaign at these events between June 18 and September 21, 2015. While attending these events, consumers could complete a short survey and provide their email address to receive information from Energy Upgrade California. Our sample frame is the 1,140 individuals who provided email addresses during this time period.[22] We fielded the survey on a rolling basis between September 14 and November 11, 2015.

Table 13 shows the population, sample frame, and completed surveys by marketing channel for the event follow-up survey.[23] We received email address for 12% of retail and 1% of CBO event attendees. The exclusion of such a large percentage of attendees will likely result in coverage bias. We discuss the implications of this bias in the Research Limitations section below.

Table 13. Event Follow-Up Survey Summary

Marketing Channel	Population	Sample Frame (% of population)	Completed Surveys
Retail	6,850	811 (12%)	92
CBO	25,027	329 (1%)	54
Total	**31,877**	**1,140 (4%)**	**146**

We attempted a census with all consumers in the sample frame. The evaluation team sent an email invitation to complete the survey to each email address. We fielded this survey on a rolling basis between September 14 and November 11, 2015, approximately one month after each attendee's event attendance. As part of administering the survey, we sent each attendee an invitation to complete the survey, as well as three reminders four to five days apart. The team also offered a $10 incentive for completing the survey.

Table 14 shows the final disposition for the event follow-up survey. Out of the 1,140 email invitations sent, 11 were undeliverable due to invalid email addresses and one recipient replied to our invitation indicating he was ineligible to take the survey. The final response rate, calculated as the number of completes divided by the eligible sample, was 13%. We discuss the potential for non-response bias in the Research Limitations section below.

[22] We only received the email addresses of customers who agreed to participate in a follow-up survey. While this number is likely less than the number of people who provided their email address to receive additional information, it is still likely greater than the number of email addresses we received. We do not have any additional information why we received fewer addresses.

[23] The population and sample frame counts are from the campaign reports. It was not possible to independently verify the number of people who attended events or provided their email addresses.

Table 14. Event Follow-Up Survey Response Rate

Disposition	
Total Sample	1,140
Undeliverable/Ineligible	12
Eligible Sample	1,128
Completes	146
Response Rate (Completes/Eligible Sample)	13%

Like the attribution survey, the event follow-up survey was a census attempt so the concept of sampling error does not apply. Therefore, we do not provide estimates of precision associated the survey estimates. The survey results are subject to other sources of error as noted above and discussed further in the Research Limitations section.

3.8 Mobile Outreach Survey

Beginning in May 2015, Energy Upgrade California set up mobile displays in malls throughout California. These temporary displays were designed to provide visitors with educational and motivational experience that encouraged them to begin to think about why energy matters to them and to enter into an ongoing relationship with Energy Upgrade California.

Figure 4. Example of Mobile Display Footprint

The evaluation team completed a follow-up internet survey with 62 Californians who interacted with the campaign through a mobile display. The target population for this survey is anyone who visited a mobile display in August and September 2015. While attending interacting with the display, 1,632 consumers provided their

email address to receive information from Energy Upgrade California. Our sample frame is the 367 individuals that CSE provided to the evaluation team.[24] We fielded the survey between September and November 2015.

Table 15 shows the population, sample frame, and completed surveys for the mobile survey.[25] We received email address for 3% of mobile participants. The exclusion of such a large percentage of participants will likely result in coverage bias. We discuss the implications of this bias in the Research Limitations section below.

Table 15. Mobile Outreach Survey Summary

Marketing Channel	Population	Email Opt-Ins	Sample Frame	Completed Surveys
Mobile	12,797	1,632	367	62

We sent each email address an initial invitation to complete the survey, as well as three reminders spaced a week apart, and offered a $10 incentive for completing the survey. Table 16 shows the final disposition for the mobile outreach survey. Out of the 367 email invitations that were sent, 4 were undeliverable due to invalid email addresses. There were 62 completed surveys, and the final response rate, calculated as the number of completes divided by the eligible sample, was 17%. We discuss the potential for non-response bias in the Research Limitations section below.

Table 16. Mobile Outreach Survey Response Rate

Disposition	
Total Sample	367
Undeliverable/Ineligible	4
Eligible Sample	363
Completes	62
Response Rate (Completes/Eligible Sample)	17%

Like the attribution survey and event follow-up surveys, the mobile survey was a census attempt so the concept of sampling error does not apply. Therefore, we do not provide estimates of precision associated the survey estimates. Therefore, we do not provide estimates of precision associated the survey estimates. The survey results are subject to other sources of error as noted above and discussed further in the Research Limitations section.

3.9 Research Limitations

As a social marketing campaign, the SW ME&O program attempts to change public attitudes, knowledge, actions, and behaviors regarding energy management. In particular, because consumers receive energy information from a wide variety of sources, it is challenging to link specific campaign activities (e.g., television ads, website content, retail and CBO events) to public attitudes and behaviors. In research terms, the internal validity of this evaluation is a challenge due to the inherent nature its subject matter. To overcome this

[24] We only received the email addresses of customers who agreed to participate in a follow-up survey. While this number is likely less than the number of people who provided their email address to receive additional information, it is still likely greater than the number of email addresses we received. We do not have any additional information why we received fewer addresses.

[25] The population and sample frame counts are from the campaign reports. It was not possible to independently verify the number of people who attended events or provided their email addresses.

problem, the evaluation team must use methods that allow us to have confidence that the effects we observe were caused by the treatment (i.e., the campaign) and not some other factor.

At the same time, external validity is also a challenge for this evaluation. That is, we need to be confident that our study results can be generalized to the larger campaign target population or different situations, and not just the specific ones we evaluate. It is often the case that methods that have high internal validity (e.g., randomized controlled experiments) have low external validity (e.g., the setting was unrealistic so that the study findings are not observed in the real world). The reverse is also true. Our challenge was to design a study that isolated causal effects that are also generalizable.

We use this framework of external versus internal validity to structure our discussion of the limitations associated with our evaluation. We utilized a mix of methods to balance the tradeoffs between external and internal validity. We describe the limitations associated with each method in this section.

3.9.1 General Population Surveys

The four general population surveys were designed to provide results that would be representative of the larger California population, and we use the results to assess the impact of the Energy Upgrade California campaign on all California residents.[26]

Challenges to External Validity

A strength of general population surveys is that sampling theory allows the evaluator to extrapolate the results from a sample of respondents to a larger target population with known confidence and precision. The larger the sample size, the greater the precision of the estimates at a given confidence level. For this evaluation, our general population surveys have large enough sample sizes to produce results at the 90% confidence and 10% precision level for the overall sample, as well as many subgroups. A few metrics focus only on those who are aware of Energy Upgrade California. The sample sizes for these analyses can get small due to the lower awareness levels among the general population.

When planning this evaluation, we were cognizant of the growing threat of survey non-response to the validity of sample surveys. Response rates for most telephone surveys have fallen to the single digits. While sampling error can still be calculated and is a known quantity, there is increased risk of other biases that are much harder to quantify. With low response rates, people who choose to take surveys are likely different from those who do not and there is an increased risk of non-response bias. Coverage bias is also a problem. Due to call screening devices, a significant portion of the population will not answer their phone if a call comes from an unknown number, and as a result, are effectively removed from the sample frame.

To address these challenges, the evaluation team utilized a multi-mode survey approach for the general population surveys. Given the increased costs and biases associated with telephone surveys, we conducted English interviews using the YouGov internet panel. The YouGov panel is an opt-in panel, which has its own limitations, mainly selection bias. One could argue this bias is similar to that of telephone surveys today. To reduce the possibility of selection bias associated with observable demographic characteristics, YouGov employs a sample-matching approach to draw a representative sample of the target population from its panel members. The sample-matching before fielding reduces the need to apply large weights after fielding in which the responses of a handful of people must be dramatically inflated to match the survey to the population. We constructed and applied a post-stratification weight based on age, education, ethnicity, and gender to adjust

[26] The four residential general population surveys were the Brand Assessment Survey, Climate Credit Survey, Wave 1 Tracking Survey, and Wave 2 Tracking Survey.

for any remaining differences between our survey sample and the target population. We compared the sample to the California population on a number of demographic characteristics that are typically correlated with energy attitudes and behaviors. The results show the final weighted sample to be a representative of the population. As with all surveys, the sample-matching and post-stratification weighting processes do not address self-selection bias that results from differences in the people who choose to be part of the panel if those differences are associated with unobservable characteristics.

The YouGov interviews are conducted in English only so the sample does not fully represent California's diverse population. To address this limitation, we conducted telephone surveys in the three most common languages after English (Spanish, Mandarin, and Cantonese). The sample for these efforts was comprised of cell phones and listed landline numbers. We used geographic targeting for the cell sample and focused on areas with high concentrations of non-English speakers. We used surname targeting for the landline-listed sample. These techniques increase survey production but increase the possibility of coverage bias by excluding non-English speakers who live outside our targeted areas or have typically Anglo surnames.

As outlined in the research plan, we intended to include non-English interviews in every other survey wave due to the high costs and challenges of locating sufficient samples of non-English speakers. The most recent wave of our tracking survey conducted in November 2015 only used the English YouGov panel. To ensure any comparisons we make between waves are similar, we only compare the English interviews in the body of this evaluation. We weight the samples to match the overall California population, which can mitigate but is unlikely to remove all the bias from excluding non-English speakers. For the surveys with non-English samples, we provide the full sample results in the Appendix. Comparisons of the results with and without the non-English interviews help us assess the extent of any remaining bias.

Challenges to Internal Validity

We conducted multiple waves of general population surveys to track changes in consumer awareness of the Energy Upgrade California brand, recall of campaign messaging, knowledge of energy management topics, and ultimately, energy management actions. We attempt to attribute change in these measures to the campaign but face several methodological challenges.

First, general population surveys rely heavily on respondent recall. It is difficult for people to accurately recall exposure to advertisements and marketing messages, particularly those that reach them through the mass media. Consumers are exposed to so much advertising that it is difficult for them to recall campaign exposure or even accurately report awareness of different brands. If our survey measures of campaign exposure have a lot of measurement error, survey results can vary over time in an inconsistent manner making it difficult to establish a causal connection between the changes we observe in key campaign metrics and the Energy Upgrade California campaign specifically.

To minimize measurement error, we carefully worded and tested each question to ensure that respondents interpreted the question as we intended. We also asked multiple questions and follow-up verification questions to get a richer understanding of the survey results. For example, we asked both unaided and aided brand awareness questions and also asked people what they associate with the brand name to learn if they might be confusing the brand with another campaign. Combined, these questions give us a better sense of whether recall is firm or somewhat tenuous and fleeting.

A second limitation is that exposure to the Energy Upgrade California campaign is not random; there is likely a significant aspect of self-selection. People who are already interested in energy management may be more likely to notice the Energy Upgrade California campaign messaging. As a result, showing that people who are aware of the brand have greater energy management knowledge or are more likely to take actions is not

sufficient evidence of a campaign effect. Conducting repeated tracking surveys can help address this limitation. For example, if the campaign is having an impact, we expect to observe a growing gap in energy management knowledge and actions between those that are aware of the brand and those that are unaware as the brand reaches a wider variety of people. The time needed to detect these types of changes would be quite long and well beyond the time frame of this evaluation.

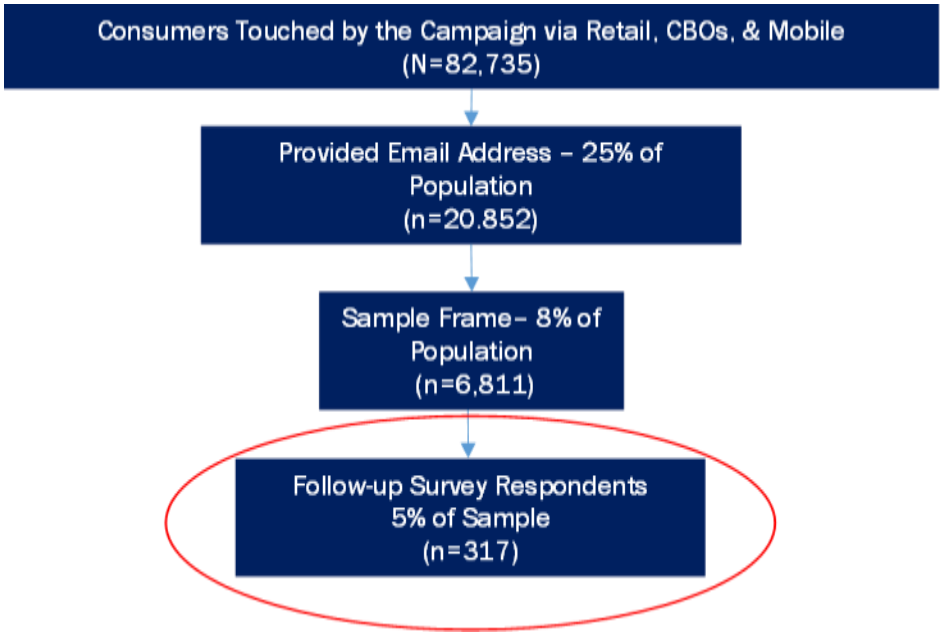
3.9.2 Surveys with Consumers Exposed to the Campaign

To address the recall and associated measurement error problems with the general population surveys, we conducted surveys with consumers we knew were exposed to the campaign based on program tracking data.[27]

Challenges to External Validity

CSE collected email addresses of consumers that visited the website or interacted with the campaign at retail, CBO, and mobile events. Our greatest limitation is our ability to extrapolate the evaluation follow-up survey results to all consumers who interacted with the campaign through these channels. Our sample frame for these surveys comes from consumers who provided their email addresses while interacting with the campaign. As we noted in the Methodology section, many more people interacted with the campaign than provided their email addresses. Figure 5 shows the progression from campaign interaction to survey respondent for retail, CBO, and mobile events.

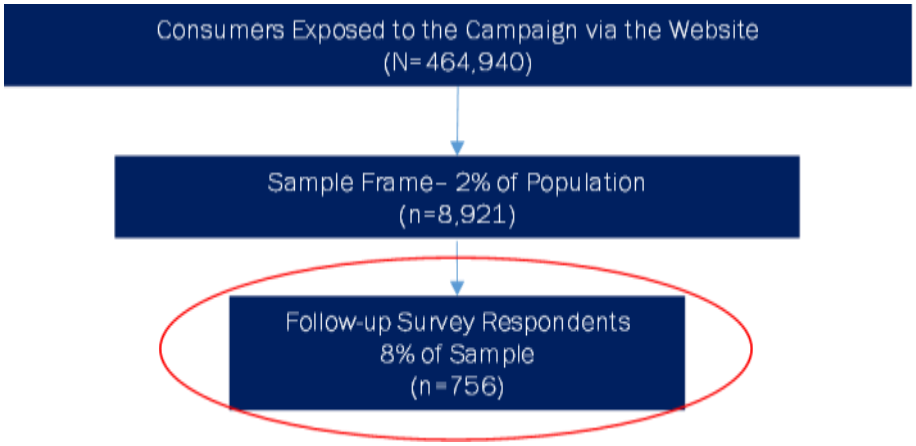
Figure 5. Survey Target Populations Compared to Survey Respondents for Retail, CBO and Mobile Surveys



[27] As outlined in the Methodology section, we conducted three separate surveys with consumers that interacted with the campaign for logistical reasons: attribution survey, event follow-up survey and mobile survey. We refer to all three collectively in this section as "evaluation follow-up surveys" as all three suffer from similar limitations to their external validity. CSE also conducted surveys at the events themselves with attendees, which we refer to here as "on-site" surveys.

Figure 6 provides a similar progression from target population to survey respondent for our survey with users of the Energy Upgrade California website. The figures illustrate two potential biases that are a threat to the external validity of our evaluation follow-up surveys, **coverage bias** and **non-response bias**.

Figure 6. Survey Target Population Compared to Survey Respondents for Web Visitors



Coverage Bias

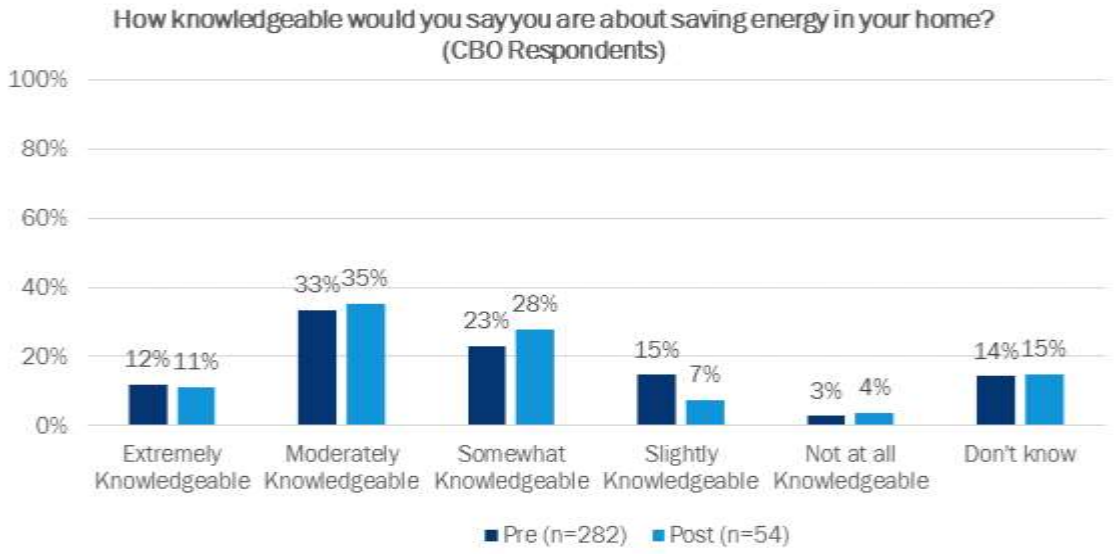
A survey can be affected by coverage bias when a portion of the population to which the evaluator extrapolates survey results is excluded from the sample frame. As Figure 5 and Figure 6 show, our survey sample frames for the follow-up surveys exclude a large percentage of the population. Our survey results will not represent those who interacted with the campaign but did not provide their email addresses. Though bias is not automatic, it is likely in our case. The people who provided their email address are likely to be more interested in energy management or more satisfied with their campaign interaction. Unfortunately, we do not have any information on the population of consumers who interacted with the campaign through the website or at CBO, retail, or mobile events. It is therefore difficult to assess the magnitude of coverage bias. However, it likely that survey results overstate the effectiveness of these marketing channels given that those who are exposed and interested in providing their email addresses may be more receptive to program messaging and likely to take actions.

Non-Response Bias

Non-response bias is another type of bias that may impact our ability to extrapolate our survey results, and in comparison to coverage bias, we have more information about the extent this bias. This is because CSE administered a short survey with consumers at retail, CBO, and mobile events. Since these consumers were our sample frame for the evaluation follow-up survey, we can compare the responses of all respondents who completed the on-site survey (referred to as the "pre" survey) with those who also completed our evaluation follow-up survey (referred to as the "post" survey). We provide the results of these comparisons below.

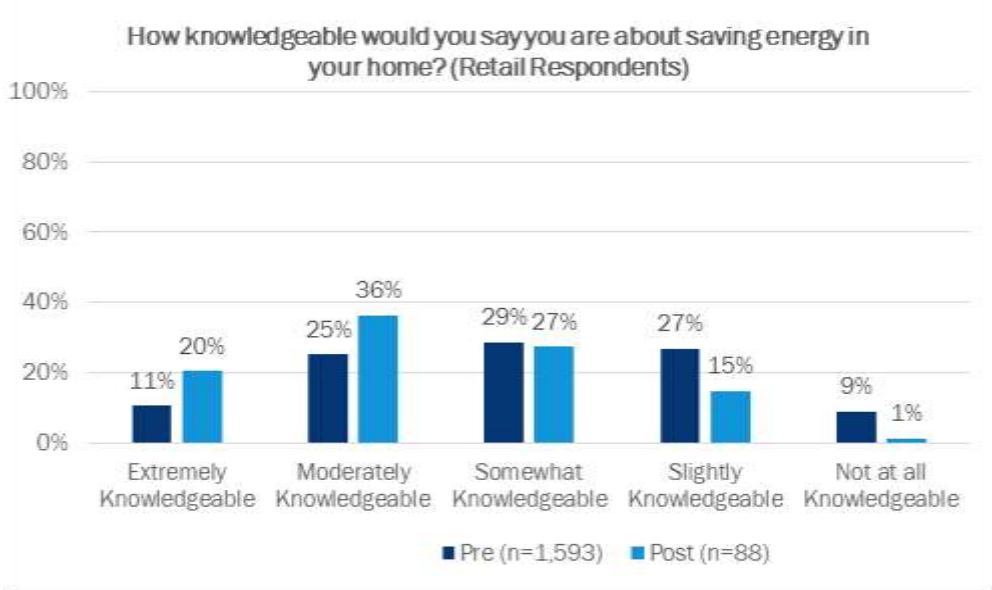
The on-site retail and CBO surveys were relatively short, but did ask respondents how knowledgeable they were about saving energy in their home. For CBOs, the evaluation survey respondents are similar to all who completed an on-site survey (see Figure 7).

Figure 7. Differences between Onsite and Follow-Up CBO Survey Respondents



For retail, we see some differences between those who took only the on-site survey and those who took both the on-site and follow-up survey. In particular, the follow-up, evaluation survey respondents rate their energy knowledge higher than the on-site survey respondents (see Figure 8).

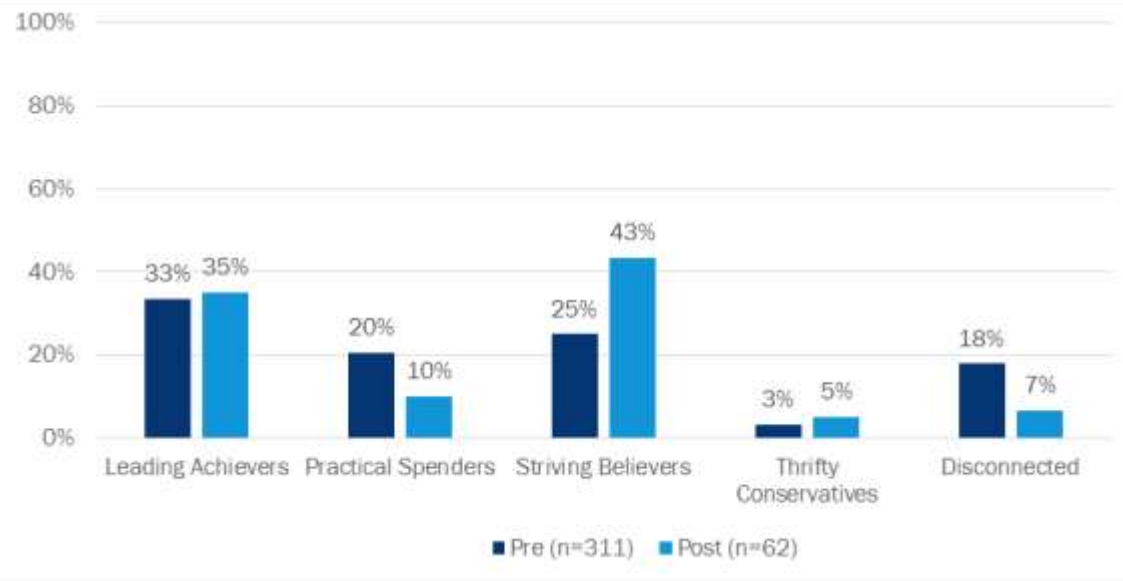
Figure 8. Differences between Onsite and Follow-Up Retail Survey Respondents



In terms of mobile outreach, the mobile on-site survey contained questions that allow us to assign each respondent to a customer segment (we provide more information about these segments in Section 4.2.1 below). When we compare those who took the on-site survey and those who took the follow-up survey, we see that the segments of the mobile evaluation survey respondents are somewhat different from the on-site survey respondents, but the differences are not in one direction. For example, the customers who took the on-site

survey are slightly more likely to fall in the top two segments in terms of their likelihood to take energy efficient action, "the leading achievers" and "practical spenders". The mobile evaluation survey respondents are more likely to fall in the moderate segment, "the striving believers" and less likely to fall into the least likely to act segment, the "disconnected".

Figure 9. Differences between Onsite and Follow-Up Mobile Survey Respondent Segments



The retail and mobile evaluation survey respondents are different from the sample frame on key characteristics that are associated with campaign effectiveness. Given these associations, we would expect that these evaluation surveys may overstate the effectiveness of these campaign channels. We explored the possibility of applying a post-stratification weight to make the results more representative of the sample frame, but chose not to do so for several reasons. First, due to the short length of the on-site surveys, we have only one variable to use when constructing the weights. Second, the sample sizes are small for both the on-site surveys (the population target values), and the follow-up surveys (the sample values that will be weighted). Therefore, the uncertainty around the survey estimates that we would use to construct the weights is quite large. Third, we actually constructed a weight and applied it, but it had little effect on the results. When results did change, the changes were not in a consistent direction in terms of changing our conclusions about the effectiveness of the campaign. Given all of these uncertainties, we chose to report unweighted results.

Challenges to Internal Validity

A strength of the evaluation follow-up surveys is that we do not need to rely on self-reported exposure to the campaign like the general population surveys do. Based on program tracking data, we know our survey respondents were exposed to the campaign through retail, CBO, or mobile events or the website. Therefore, we can have greater confidence when we ask respondents questions about the impact of their campaign exposure on their knowledge and actions.

However, like the general population surveys, the follow-up surveys may still suffer from an element of self-selection bias on some measures of campaign effectiveness. The people who choose to interact with the campaign at retail, CBO, or mobile events may be more interested in the topic. It could be this prior interest and not the campaign exposure that causes consumers to take action after the event. We asked respondents

who said they took action following their campaign exposure (i.e., searched for or shared information) to rate the influence of the campaign. However, we recognize that it can be difficult for people to accurately report why they take actions, particularly when it may be due to multiple influences.

4. Audit and Verification Findings

To assess the effectiveness of the SW ME&O program, it is important to understand what the program is trying to accomplish, as well as how. This section of the report outlines the results of the Audit and Verification research phase and specifically the program theory and logic, core activities conducted by the implementer (CSE), and the output of those activities.

The review and documentation of the SW ME&O program's design and implementation illustrates the framework used by CSE to guide the development of SW ME&O strategy, including the target audience, desired actions, and the marketing mix. In addition, the Audit and Verification phase serves to document CSE's performance against the process-related metrics 4, 5 and 6. These metrics related to participation in and engagement with Energy Upgrade California by CBOs, local governments, retailers and realtors, the research and piloting of small business messaging, and information sharing among the RENs, IOUs and CSE.

4.1 Program Activities and Theory

CSE designed and implemented six main SW ME&O activities to achieve the objectives laid out by the CPUC.[28] We describe these six activities below and indicate which objectives they are associated with. Figure 10 provides a visual representation of the activities, outputs, and outcomes associated with the SW ME&O program. Appendix A provides the full Program Theory and Logic Model (PTLM).

- **Create an integrated campaign to reposition the Energy Upgrade California brand and to engage consumers and help them learn about the concepts and benefits of energy management, demand response, and distributed generation, and about related programs, opportunities, products, and no-/ low-cost actions** (Objectives 1, 3 and 4). Campaigns provide consumers with information about local programs; no- and low-cost actions; seasonal opportunities; and various concepts, such as energy management, demand response, and distributed generation. Some of the messaging also helps educate consumers about why energy use matters and how they can manage it. The CPUC provides direction on featured programs and messaging on an ongoing basis, and marketing plans are subject to stakeholder review and CPUC staff approval.

- **Create tools and resources for consumers to use, as well as messaging to encourage their use** (Objective 2). This activity involves raising awareness of the Energy Upgrade California website, as well as other tools, such as an interactive mobile display designed for community events. In addition to serving as an overall resource for information, the Energy Upgrade California website includes links to the IOUs' web pages for rebate programs, list of contractors and provides an opportunity for consumers to make an energy action plan.

- **Create messaging for education and outreach using multiple channels that complement existing messages from partners** (Objective 5). Energy Upgrade California messaging should be coordinated with that of the IOUs, RENs, and other local entities where appropriate. In addition, the program should account for the outreach activities of partners such as CBOs, retailers, and realtors given that different consumers hold different people and organizations in high esteem and/or relate to them differently.

[28] In addition to these activities, the CPUC specified the development of an EM&V Roadmap for Local, Regional, and Statewide ME&O (Objective 9). While this objective was included as part of the list of objectives for SW ME&O (per Decision 12-05-015), the development of the roadmap is the responsibility of CPUC staff, not the SW ME&O implementer. As a result, it is not included in the Program Theory and Logic Model.

As such, coordination and complementarity of messaging will reduce the potential for competing messages and confusion in the market. Coordination with partner organizations can also help spread energy management messages.

- **Develop and implement methods to reach small business owners** (Objective 6). Specific tactics and messages are needed to reach small business owners and to explain the benefits of energy management and participation in local programs. As a result, CSE conducted, as part of this activity, a Small and Medium Business Segmentation Study, which enabled them to identify the needs of consumers in this sector and determine the best way to reach them.

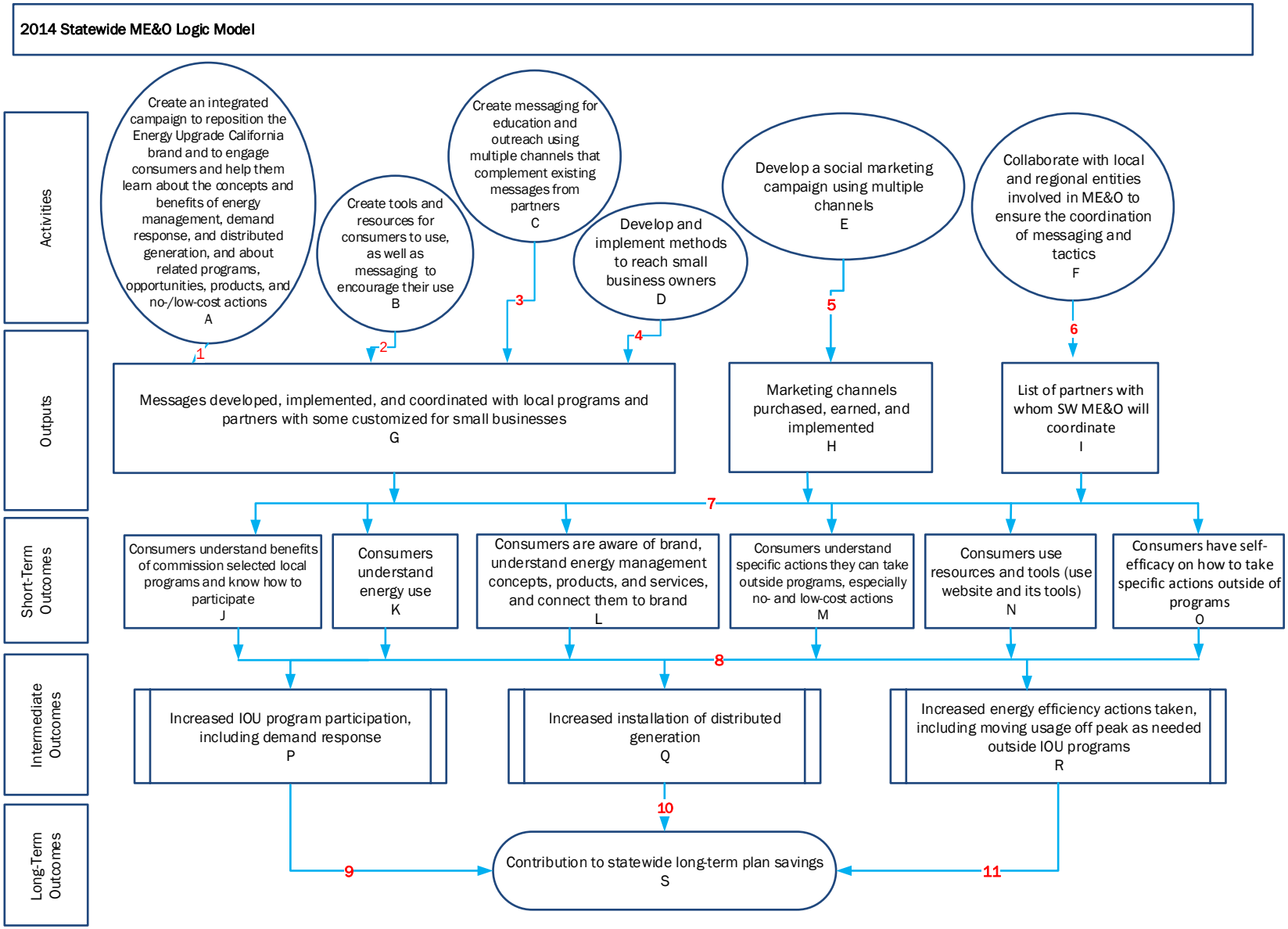
- **Develop a social marketing campaign using multiple channels** (Objective 7). In addition to creating and coordinating integrated communications campaigns, CSE used multiple channels to get the message across to general and targeted audiences. This involved the use of in-language channels, paid (TV, radio, out of home, limited print, digital) media, earned media, and social media, as well as retail engagement, mobile and experiential education, CBOs, and youth outreach and partnerships.

- **Collaborate with local and regional entities involved in ME&O to ensure the coordination of messaging and tactics** (Objective 8). This activity speaks to working with IOUs and RENs with the aim of creating and delivering messaging that is consistent and/or complementary (where appropriate) in order to avoid confusion among consumers. The IOUs, RENs, and CSE are responsible for achieving this metric.[29]

The SW ME&O program has a number of specific objectives involving brand awareness, brand associations, and actions promoted by an integrated social marketing campaign intended to motivate three of the state's five identified residential segments (Leading Achievers, Striving Believers, and the Disconnected). In attempting to increase awareness of and educate consumers about the value of energy management solutions, the program seeks to drive consumers to Energy Upgrade California resources and tools, as well as to IOU programs. The program also tries to encourage consumers to take no- and low-cost actions outside of IOU programs, the ultimate long-term goal of these actions being energy savings.

[29] The evaluation team explores this activity in the forthcoming ME&O Cross-Cutting Process Study.

Figure 10. Statewide ME&O Program Theory and Logic Model



4.2 Program Outputs

As illustrated in the program's theory and logic model (Figure 10), there were three key outputs desired from program activities. The evaluation team describes these outputs, which involve the development and implementation of a social marketing campaign, as well as coordination with key stakeholders and partner organizations, below.

4.2.1 Messages Developed, Implemented and Coordinated

As articulated by CSE, "the goal of Energy Upgrade California is to help Californians learn about the full range of energy management options and access the associated incentives and value streams that are available through statewide and local programs."[30] To achieve this goal, CSE developed messaging related to various energy management topics and campaigns to educate, motivate and activate Californians. As discussed in Section 4.2.3, the CPUC provided extensive guidance in selecting the messages promoted by the Energy Upgrade California campaign.

CSE communicated with Californians on multiple topics over the course of the first program cycle from March 2014 to November 2015 (Table 17). Topics ranged from saving water and energy to buying energy efficient appliances and participating in demand response programs. Energy Upgrade California's overarching message aims to motivate California residents and small businesses to save money, improve comfort, and play their part in helping California achieve its short- and long- term energy and climate goals through continued action and better management of energy use. To achieve these, the campaign conveys various actionable messages such as creating action plans to better manage energy, saving water and energy, saving on utility bills by saving energy, in addition to promoting the various energy efficiency focused programs that California residents and small businesses can participate in to manage their energy use.

Table 17. SW ME&O Campaigns and Topics

Overarching Campaign/Topic	General Description
Where's the Bear?	A pre-campaign initiative introducing Energy Upgrade California.
Stay Golden – Play Your Part	Campaign that is focused on the "Bear", which educates California residents about why energy matters and serves as a call to action for people to commit to an Energy Upgrade Action Plan
Appliance Education	Promotes appliance upgrade, buying energy efficient appliances and appliance recycling to create awareness in the need to upgrade to energy efficient appliances to help the environment and lower utility bills
California Climate Credit	A campaign to raise awareness of the climate credit initiative, how it contributes to the state's energy policy and goals, and the ways in which consumers could use it (i.e., buy low-cost products that help save energy such as LEDs and advanced power strips).
Cold Weather Preparation/Holiday Lighting	Seasonal campaign that promotes benefits of home preparation for the winter and holidays such that consumers improve the comfort of their homes, save money on their utility bills
CoolCalifornia Challenge	An opt-In competition among California communities to reduce energy usage and GHG emissions
Energy Savings Assistance	Promote available low income qualified programs, primarily the Energy Savings Assistance program (ESA), which help residential consumers make energy efficiency improvements, better manage their energy use, and save money on utility bills

[30] Center for Sustainable Energy. Integrated Communications Plan IV (2015).

Overarching Campaign/Topic	General Description
Demand Response/Time Varying Rates/Flex Alerts	Inform and educate consumers various actions that can be done within the household or office to save energy, in tandem with the IOUs' Demand Response and Flex Alert efforts
Drought – Energy and Water	Educate residents about how water and energy use are connected and inform them of no-cost, low-cost actions, behavior changes as well as utility, state and local water agency programs they can take advantage of to help them save water/energy
Energy Management and Energy Upgrade California as a resource	Promote and relaunch Energy Upgrade California, the state brand for integrated demand side management, including energy efficiency, demand response, and distributed generation. The goal is to provide California residents with information on energy, energy programs and services, and better energy management.
Home Improvement/Home Upgrade	Promote the concept of making several home improvements at once to substantially lower energy use, conserve water and natural resources, and make the home more comfortable. Promote the availability of incentives and financing for energy efficient home improvements
Lighting	Promote energy efficient lighting options and lumens education, emphasizing LEDs
Smart Home/Home Automation	Educate residents and small businesses on how energy use is calculated/charged showing them the importance of when energy is used, how it can impact their energy costs and improve the reliability of the energy grid, and what a "connected home or business office" is and how technology can help manage energy use
Small Business	Educate small business owners about the benefits of managing their energy use.

Source: Energy Upgrade California ICPs Phase I – IV.

An integral component of communications on each topic was directing consumers to additional resources and tools that could help them learn more or take specific actions. In particular, SW ME&O messaging consistently directed consumers to the Energy Upgrade California website (energyupgradeca.org) where they could find information on a myriad of topics. In addition, marketing content encouraged consumers to use the website's online energy audit tool to get specific recommendations and find IOU and REN program offerings.

Target Audiences

In terms of the audience for campaign messaging, CSE developed, implemented and coordinated messaging for three key target audiences drawn from a residential segmentation study conducted for the CPUC in 2009.[31] The target audiences included three of California's residential customer segments: leading achievers, striving believers, and disconnected. Table 18 provides a high-level overview of each segment.

[31] Opinion Dynamics. *California Residential Customer Market Segmentation Study (*2009).

Table 18. SW ME&O Program Residential Target Audiences

Segment	General Profile
Leading Achievers	The Leading Achievers have the means and will to take energy saving actions. The Leading Achievers are generally willing to reduce their energy use and are resource-minded, recycle regularly, and index highly compared to other segments on energy-related altruism.
Striving Believers	Overall, Striving Believers are on board with the energy saving movement, but relative to all other segments, this group has adopted fewer energy efficiency measures given their high sense of personal responsibility to take action, strong sense of altruism, and high concern for resources.
Disconnected	The Disconnected are the most limited financially in their ability to take action and have the greatest barriers overall to action. This group tends to perceive their energy use as normal (same usage as others), and are likely unaware of the breadth of energy saving options available to them.

CSE selected two of these segments (leading achievers and striving believers) due to their level of awareness of energy management issues, their likelihood to take energy-saving actions, their receptiveness to engaging online, and their desire to feel connected to goals greater than their own.[32] In contrast, CSE chose to target the disconnected to raise awareness among a broader audience of the "benefits of energy management and to better support the state's income-qualified programs."[33]

Metric 5: Small business messaging is researched and piloted.

In addition, CSE demonstrated progress towards metric 5 by undertaking research into the small business segment in 2015 with the goal of identifying customer segments that could be used for targeting Energy Upgrade California messaging in late 2015 and 2016. The segmentation study, conducted in 2015, identified 5 segments within the small business population. These findings helped to inform CSE's initial small business outreach strategy, which involved targeted communications to specific geographic areas encouraging small business customers to call Energy Upgrade California to receive recommendations on actions they could take to save energy within the facilities. In 2016, CSE plans to integrate small businesses into the overarching strategy for Energy Upgrade California ME&O.

4.2.2 Marketing Channels Purchased, Earned, and Implemented

The evaluation team reviewed all available program materials, including communication plans, tracking data, and collateral, to verify that CSE implemented the social marketing campaign envisioned for the SW ME&O program. In particular, as dictated by the program theory, the evaluation team looked at whether CSE purchased and used multiple marketing channels, social media, and events to provide tips on actions that consumers can take through and outside of established programs, including no- and low-cost energy-saving actions.

Overall, we found that CSE did execute outreach through multiple channels, including paid, earned, and social media. Table 19 summarizes the eight primary channels used by CSE to promote the program.

[32] Center for Sustainable Energy. Phase 1 Energy Upgrade California Integrated Communications Plan: May – September 2014.

[33] Ibid.

Table 19. SW ME&O Channels

Channel	High-Level Summary
Paid Media	Advertising on television, radio, print and other forms of media
Earned and Social Media	Free media coverage on multiple forms of media (i.e., television, radio etc.) and social media efforts on Facebook, Twitter and YouTube
Website	Development and expansion of energyupgradeCA.org
Retail	Energy Upgrade California sponsored tabling events in retail stores
CBOs	Energy Upgrade California sponsored tabling events and presentations at community events
Mobile	Energy Upgrade California sponsored mobile display located in malls and museums
Strategic Partnerships	Partnerships with cities as part of the CoolCalifornia Challenge, as well as with colleges and universities as part of Energy Upgrade California sponsorships of campus events
Youth Education and Outreach	Partnerships with youth organizations such as the Boy and Girl Scouts to educate this demographic

The following sections provide a description of each channel used as part of the 2014–2015 SW ME&O program.[34] Following these descriptions, we provide infographics illustrating their activity and performance on key indicators based on the evaluation team's review of program tracking data gathered by CSE and its implementation partners. Effectiveness of the program's activities overall are presented in Section 5.

Paid Media

Paid media involves the purchase of advertising across any number of media types. Within the SW ME&O program, CSE pursued paid media on television, radio, and out of home, and through digital media. These efforts were designed to reach the general population, but were also tailored to Spanish- and Asian-language outlets.

CSE utilized paid media heavily in the early phases of Energy Upgrade California promotional efforts, but reduced its use dramatically late in 2014. Given the timing of spending on paid media, CSE promoted specific campaigns, such as the California Climate Credit and Stay Golden, more heavily through paid media than other campaigns in the 2014–2015 period. The following are key findings related to the paid media channel:

- Overall, CSE used paid media much more heavily in 2014 compared to 2015.
- The number of paid media impressions (i.e., the number of times an ad was seen) between March 2014 and December 2015 totaled nearly 1.2 billion—72% of which occurred in 2014.
- Digital (44%), radio ads (26%), and out-of-home (e.g., billboards) (20%) generated nearly all of the nearly 1.2 billion impressions.
- CSE promoted the California Climate Credit campaign (318 million impressions) and the Stay Golden campaign (266 million impressions) most through this channel.

[34] In general, the evaluation team looked at program activity through September 2015 as final data for the months following was not available in time for inclusion in this report.

Earned and Social Media

The earned marketing channel provided free media for Energy Upgrade California due to non-advertising promotional efforts by CSE. In the 2014–2015 period, earned media included efforts by CSE to promote campaign coverage via print, web, television, and radio news outlets, as well as through social media. Tactics used by CSE to gain earned media included press releases, YouTube videos, and Facebook, Twitter, and Instagram posts. CSE developed earned media content in English, Spanish, and Asian languages to inform a wide range of consumers about the importance of campaign topics and to provide energy-saving tips. The following are key findings related to the earned and social media channel:

- Between April 2014 and September 2015, the program secured 2,386 earned media placements across various media channels—print, web, television and radio news outlets, and social media.
- These 2,386 earned media placements resulted in an estimated 930 million impressions.
- The vast majority of placements and resulting impressions focused on four topics: Home Upgrade, Climate Credit, Play Your Part, and Stay Golden.
- Among social media platforms, YouTube (177,680 views) and Facebook (48,752 fans/likes) have the highest number of engaged followers.

Website

CSE created the Energy Upgrade California website (energyupgradeCA.org) to serve as a resource for consumers looking for information and tips on how to save energy. As the website content has expanded over the 2014–2015 period, CSE was able to add content to educate consumers about different energy-related topics, as well as to provide them with an online energy audit and action plan tool. The information on the site is targeted to the areas in which users live so that they get the most accurate information on the programs and resources available to them. Furthermore, visitors can register to save information, including their personalized action plan, relevant to them.

In addition to serving as a stand-alone channel for reaching Californians, CSE promotes the website through all of the other SW ME&O channels. For example, CSE representatives engaging with consumers through the retail, CBO and mobile channels described below direct consumers to the website for additional information. Follow-up information provided to consumers who request it through the retail and community channels also links people directly to the relevant portions of the program website. Providing multiple avenues to the website help reinforce the website as a central resource for information about energy management.

The following are key findings related to the website:

- About 900,000 unique visitors (i.e., the number of individuals that make one or more visits to a website within a given timeframe) visited the Energy Upgrade California website between January 2014 and September 2015.
- On average, 86% of monthly visitors are from California.
- Of the users accessing the website, an average of 58% of monthly visitors leave after viewing one page (i.e., bounce rate).

Retail

The retail outreach channel was used by CSE to educate consumers about energy management and the tools—technologies, behaviors, and programs—available to them, as well as to encourage them to take action in their homes. In implementing outreach through this channel, CSE worked with both small retailers, such as Cole and Ace Hardware, and large retailers, such as Home Depot, Sears, and Walmart.

Metric 4: Participation in and engagement with Energy Upgrade California by CBOs, local governments, retailers and realtors.

Within the stores, CSE representatives or ambassadors conducted outreach to consumers through tabling events, where an Energy Upgrade California booth or table would be set up in a high-traffic area of the store, and representatives would intercept consumers during their visit to talk about various energy-related topics. While representatives might cover a wide range of topics with those consumers with whom they engaged, CSE designated specific topics for discussion each month.

The following are key findings related to the retail channel:

- Over the course of the 2014-2015 period, the mix of retailer involvement shifted toward large chain stores, such as Home Depot, Wal-Mart, Sears, and Lowes.
- From inception, the effort successfully converted about 24% of roughly 111,000 impressions to customer engagements (i.e., direct customer interactions with program representatives in stores).
- The majority of the resulting 25,364 customer engagements took place in 2015—likely due to the shift in emphasis to larger chain stores.

Community-Based Organizations

CSE created the CBO Community Ambassador Program to develop and deploy representatives of the Energy Upgrade California brand within target communities. The goal of CBO outreach was to educate consumers about the Energy Upgrade California brand and energy management topics, which the CBOs did through both presentations and booths at community events, such as fairs. CSE partnered with Runyon Saltzman Einhorn, Inc. (RSE) to administer the Community Ambassador Program.

CSE established and implemented outreach through this channel in two phases. During phase 1, CSE worked with 15 large-scale Tier 1 organizations and 20 small-scale Tier 2 organizations. This phase served as a pilot to determine what worked best and which program design features needed adjustments. During phase 2, the program included an additional 20 Tier 1 organizations and 20 Tier 2 organizations. Tier 1 partners were recruited through a statewide recruitment process in which potential CBOs were identified and invited to submit a proposed scope of work, outlining their experience with presentations, exhibitions and outreach to diverse populations, social media strengths and reporting capabilities. Each Tier 1 organization was responsible for the recruitment, management and training of their Tier 2 partner.

The following are key findings related to the CBO channel:

- Overall, 75 organizations served as Community Ambassadors in 2014-2015.

- Consistent with the planned recruitment and training of Community Ambassadors, the number of CBO events, presentations, and engagements (i.e., direct interactions with consumers at events and presentations) increased sharply in 2015.
- By September 2015, approximately 70,000 people had attended CBO presentations and events.

Mobile

The mobile outreach channel consists of educational, interactive displays located in malls, museums, and fairs throughout the state. The mobile displays are generally located at each venue for three to four weeks, and the goal is to engage consumers in locations where they can spend between 5 and 10 minutes working their way through the display footprint. The overarching goal of the mobile outreach channel is to educate Californian's about how and why energy matters to their lives and to encourage them to learn and do more in the future. To accomplish this, CSE designed mobile displays that lead consumers through multiple activities, from watching an introductory video to engaging with digital content in the form of unforgettable facts intended to stick with the visitor, and sharing a photo and a pledge to do more to save energy in their daily lives on the display's digital photo wall.

The mobile channel launched midway through 2015 and, as a result, was not as active as other channels. The following are key findings related to the mobile channel.

Table 20. Key Findings Related to the Mobile Channel

Description	Key Finding
Dates	April – September 2015
Number of Events	269
Number of Cities	11
Impressions	179,465
Engagements	33,364
Conversion Rate (Engagements/Impressions)	19%

Strategic Partnerships

CSE has used strategic partnerships to promote campaigns like the CoolCalifornia Challenge, and to create sponsorship opportunities for Energy Upgrade California at college and university sporting events, other college campus events, and broader community events. The goal of these strategic partnerships is to increase awareness of Energy Upgrade California and educate consumers on energy-saving actions that they can take in their homes.

Sponsorships

As a result of consumer engagements at sponsored events, CSE anticipates that consumers will go onto the Energy Upgrade California website, share information via social media, and provide their email address so that they can receive follow-up information. To date, CSE has sponsored sporting events at UCLA, San Jose State, California State University Bakersfield, and Fresno State among others. CSE launched the strategic partnerships channel in August 2015, and achieved the following.

Table 21. CSE Reported Strategic Partnership Performance

All Sponsorships	Actual Performance
Event Attendance	1,503,891
Event Impressions	74,772
Direct Interactions	18,044
Email Collection Only	4,296
Social Photo Capture/Email Collection	1,789

Source: December 10, 2015, Quarterly Stakeholder Meeting: 2015 Recap.

CoolCalifornia Challenge

Building off earlier pilot efforts in which CSE was a key partner, but not lead implementer, the organization launched the 2015 CoolCalifornia Challenge to serve as a key channel through which to engage households and communities through the state. Designed as an opt-in competition, the CoolCalifornia Challenge encourages individuals and communities to reduce their energy use in an effort to help California meet its energy reduction, climate change and greenhouse gas emissions goals.

Implementation of the Challenge is based on the recruitment of interested cities, who sign-up to participate and then engage their residents in a competition against other cities to see which can reduce energy the most by encouraging change at the household level. In terms of the implementation timeline, cities could begin registering to participate in the Challenge in July 2015, and could start signing-up household participants and earning points in October 2015. The Challenge runs through early 2016 and CSE will announce the winning communities on April 21, 2016.

Youth Education and Outreach

While implemented in a limited fashion during the 2014–2015 period, CSE developed a plan for a youth education and outreach pilot, and established some relationships with potential partners. When fully deployed CSE intends to use the youth education and outreach channel to establish partnerships with youth organizations throughout the state and to train them on various climate change policies and programs, such as the Climate Credit. These youth organizations will also receive materials and tools that they can use to educate their members.

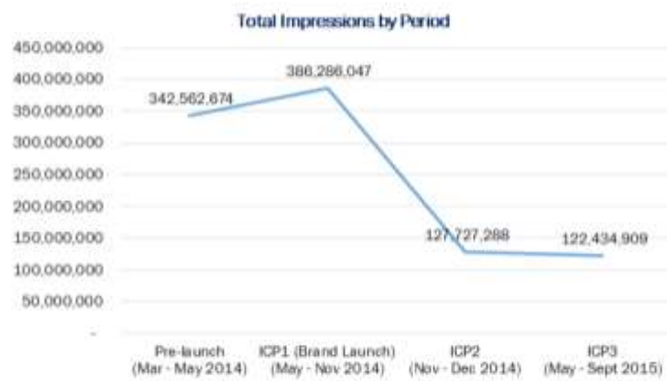
During the second half of 2015, CSE partnered with San Diego County Office of Education and conducted outreach activities with students in the 4th and 5th grades. Their relationships with these organizations are likely to grow in 2016 when the channel is fully launched.

Figure 11. Energy Upgrade California Paid Media Snapshot

Energy Upgrade California Paid Media Snapshot (March 2014 - December 2015)

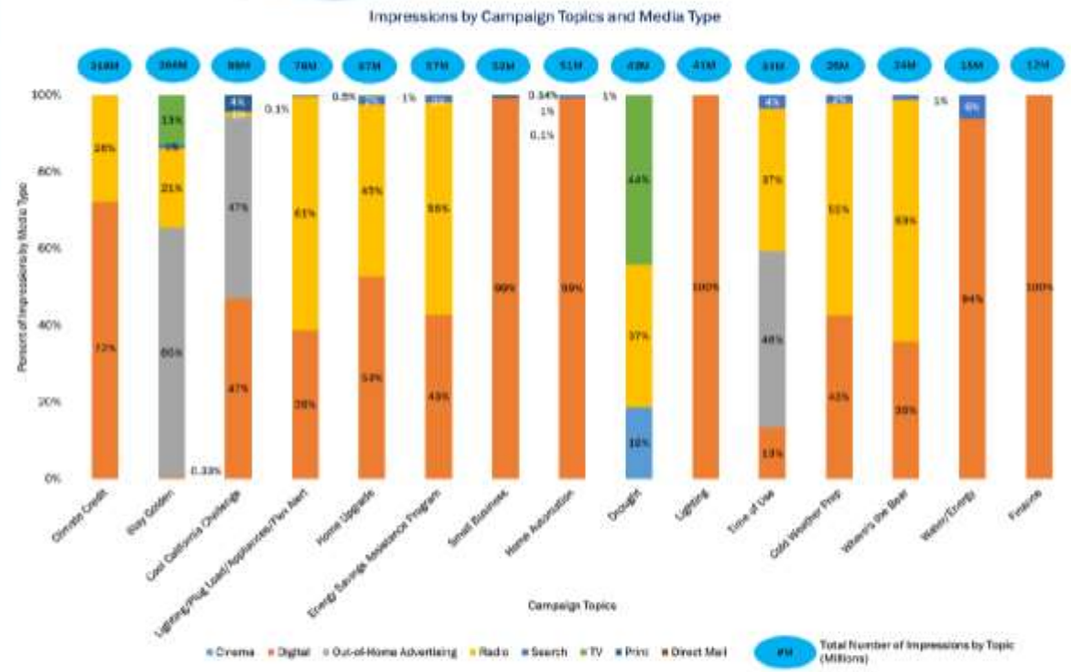
Energy Upgrade California paid media efforts included mixed media types including television, cinema, digital media, radio, search, and out-of-home advertising to reach various target segments across the state. CSE used paid media to reach the general population and specifically Hispanic and Asian households. Overall, paid media was used much more heavily during **2014** compared to 2015.

The number of paid media impressions between March 2014 and December 2015 totaled **1,183,480,278**. Majority of the impressions occurred in 2014, which makes up **72%** of the total. Digital, **44%**, and radio ads, **26%**, captured most of the paid media impressions over time.



Media Type	Number of Impressions	Percent of Impressions
Digital	561,452,943	47%
Radio	310,567,765	26%
Out-of-Home	235,767,294	20%
TV	54,127,272	5%
Search	8,861,462	1%
Cinema	7,965,498	1%
Print	4,663,044	<1%
Direct Mail	75,000	<1%

The **California Climate Credit** and **Stay Golden** campaigns were promoted most through paid media and reached a potential 318M to 266M consumers respectively. Water/Energy had the least number of impressions.



Click-Through-Rates through Sept. 2015

	Paid Display	Paid Search*
Click-Through Rate	0.10%	0.59%
Maximum	16%	5.75%
Minimum	0.05%	0.21%

*Excludes August and September 2014 and January and April 2015 due to missing values in metrics reports.

Figure 12. Energy Upgrade California Earned and Social Media Snapshot

Energy Upgrade California Earned and Social Media Snapshot (April 2014 - September 2015)

The earned media channel provides free media coverage for Energy Upgrade California through print, web, television and radio news outlets, and social media. Earned media coverage is acquired through press releases, YouTube, Facebook, Twitter, and Instagram posts, and the SW ME&O program has released content in English, Spanish, and Asian languages. Collectively, these efforts are designed to inform a diverse group of consumers about the importance of Energy Upgrade California topics and to provide energy-saving tips.

Between April 2014 and September 2015, the program secured 2,386 media placements across various media channels. The total impressions – the number of consumers who had the potential to see that media – was relatively consistent through April 2014, but spiked in June 2015 to over 165 million despite the low number of placements. This may be attributed to the Global Green Millennium Awards held on June 6, 2015, which featured celebrities and the campaign's own Bear.

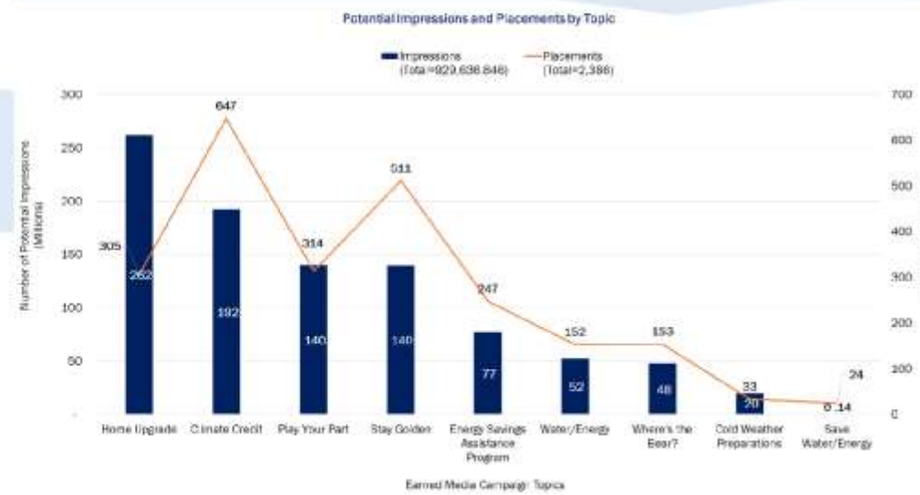
Social Media Key Performance Indicators
(April 2014 – September 2015)

- Number of Facebook fans: **48,752**
- Number of Twitter followers: **9,441**
- Number of Instagram followers: **660**
- Number of Youtube Views: **177,680**
- Number of Social Shares: **46,779***

* Number based on January – September 2015 only.

Among social media platforms, YouTube and Facebook have the highest number of engaged followers with 177,680 views and 48,752 Energy Upgrade California Facebook page Likes.

Overall, communications about the **Home Upgrade** program had the potential to reach the greatest number of consumers with 262 million impressions followed by the California Climate Credit with 192 million impressions.



Top 10 Media Outlets by Frequency of Press Release Coverage

Media Outlet	Coverage Events
Bizjournals.com	19
CityRoom	9
KUSI-TV	9
Reuters	8
Viet Bao (Vietnamese)	7
Action News Now	6
Digital Journal	6
Yahoo! Finance	6
Bloomberg Businessweek	5
California Business Journal	5

The campaign earned media coverage through press releases in various online media sites including Reuters, Bloomberg Businessweek, and Yahoo! Finance. Saving Water and Energy, the California Climate Credit, and the Stay Golden Sweepstakes had the most coverage via press releases.

Top 5 Campaign Topics by Frequency of Press Release Coverage

Press Release Topics	Coverage Events
Save Water and Energy	44
California Climate Credit	40
Stay Golden Sweepstakes	40
Campaign Launch	39
"Where's the Bear?"	32

Figure 13. Energy Upgrade California Website Activities Snapshot

Energy Upgrade California Website Activities (January 2014 to September 2015)

More than **907,144** unique users visited The Energy Upgrade CA website between January 2014 and September 2015. On average, **86%** of monthly visitors are from CA.

95% of visitors view the website in English.

Of those users accessing the website every month, an average of **58%** leave after viewing one page (i.e. bounce rate).

Percent of Monthly Unique Visitors

Criteria	Min.	Average	Max.
Bounce Rate	38%	58%	74%
2+ Page Visits	18%	34%	60%

21% of sessions in 2015 visited 3 or more pages (January 5 through October 4).

Bounce rates rose in the month following large spikes in overall visitors.

Visitors to the Energy Upgrade CA website came from a variety of sources each month. Ads may have a delayed effect on page views, as spikes in visitors from marketed sources (paid display) generally came the month before spikes in overall visitors. Large spikes in the number of visitors who type out the web address occur at the same time as spikes in overall visitors.

5,307 user registrations and **4,569** email signups were made through the website during the period of analysis. No more than **3%** of unique monthly visitors have signed up for emails or registered as users on the website.

Figure 14. Energy Upgrade California Retail Activities Snapshot

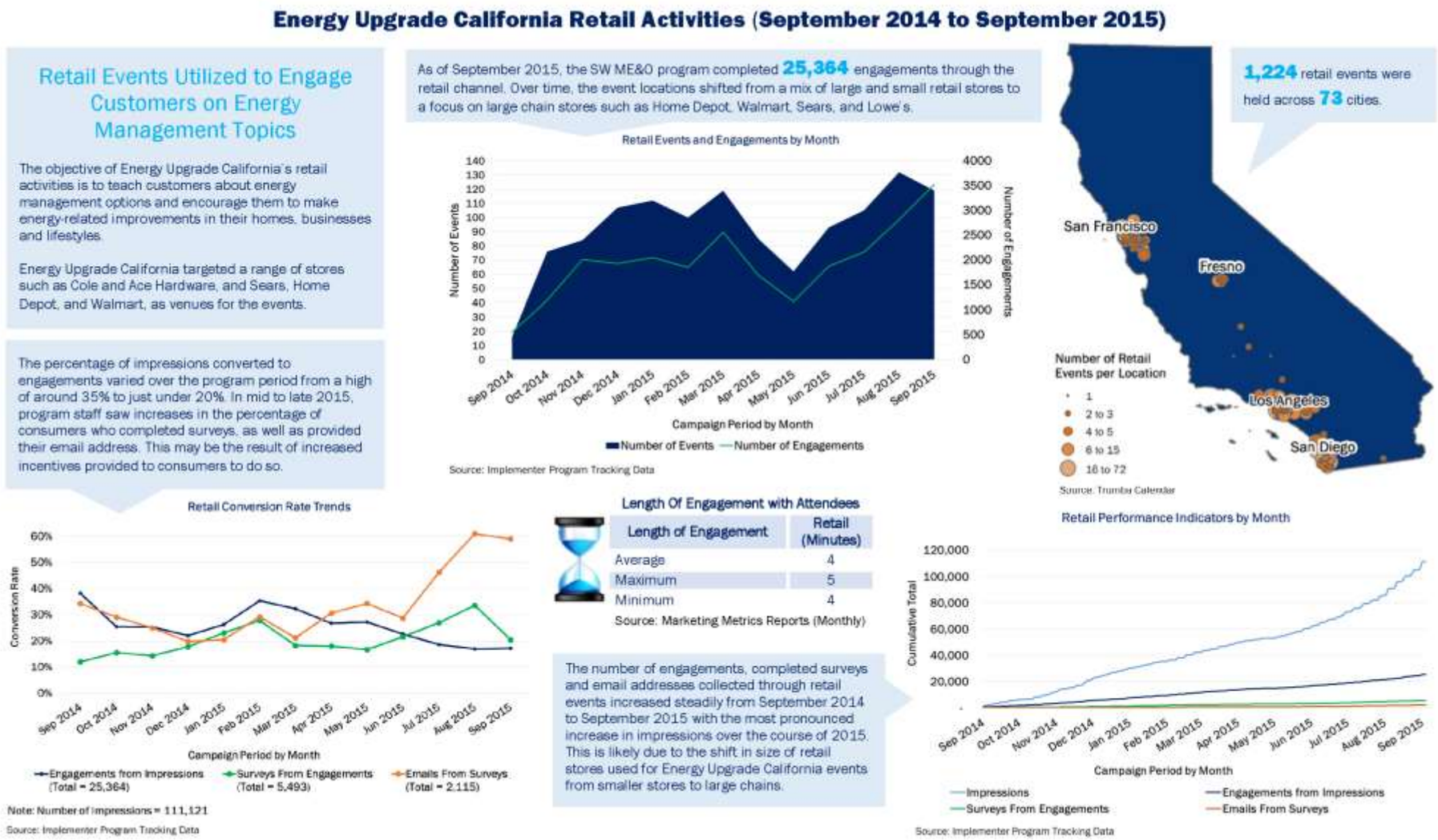


Figure 15. Energy Upgrade California Community Based Organization Activities Snapshot

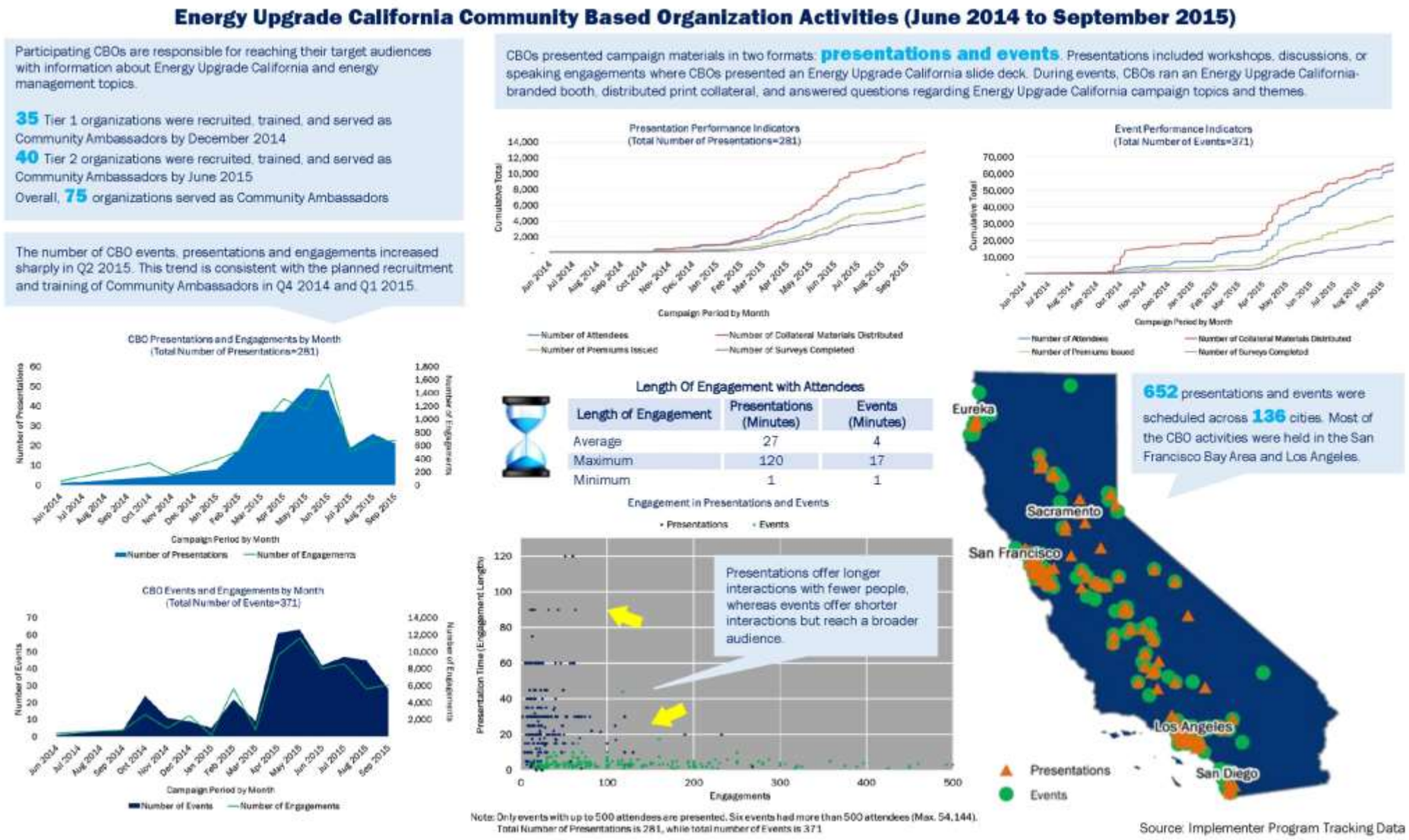


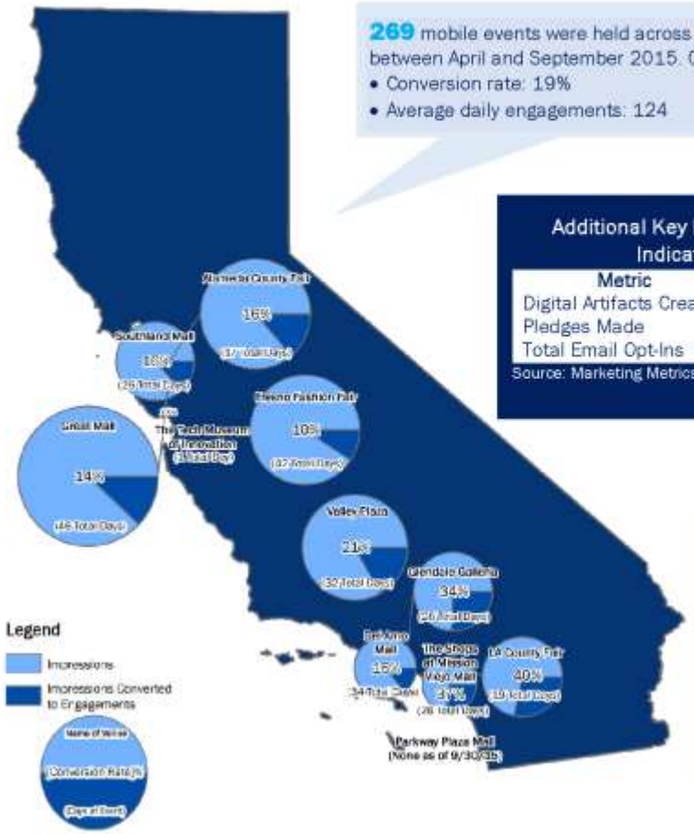
Figure 16. Energy Upgrade California Mobile Event Activities Snapshot

Energy Upgrade California Mobile Event Activities (April to September 2015)

Mobile events are **Educational Experiences** that take consumers through displays where they can watch videos, interact with content and event staff, make pledges, take photo artifacts to share via social media, and sign up to receive additional information. The events are located in venues where people are not in a rush and would be willing to spend 5 to 10 minutes at the display.

269 mobile events were held across **10** cities between April and September 2015. CSE achieved:

- Conversion rate: 19%
- Average daily engagements: 124



Source: Implementer Program Tracking Data

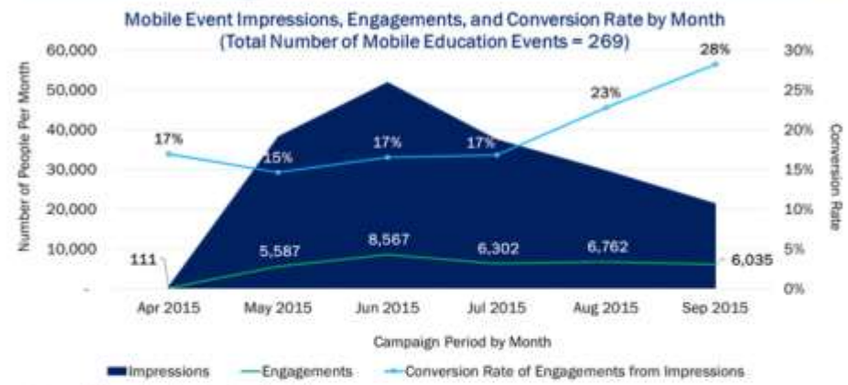
Additional Key Performance Indicators

Metric	Total
Digital Artifacts Created	8,573
Pledges Made	4,215
Total Email Opt-Ins	5,110

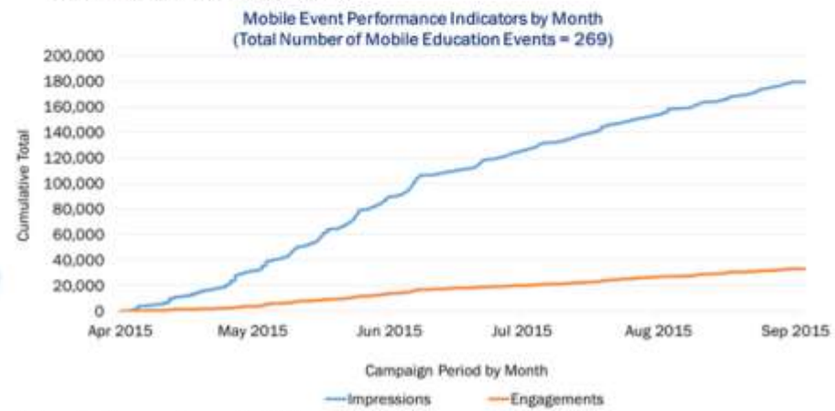
Source: Marketing Metrics Reports (Monthly)

The mobile channel achieved 179,465 impressions and 33,364 engagements. The number of engagements increased slowly, but steadily over time, whereas the number of impressions grew more rapidly.

Mobile event impressions and engagements were highest in June 2015 following the mobile channel's launch in April 2015 (51,910 impressions and 8,567 engagements). The conversion rate of impressions to engagements steadily increased and reached its peak in September 2015 at **28%** despite a decrease in engagements and impressions starting in July 2015.



Source: Implementer Program Tracking Data



Source: Implementer Program Tracking Data

4.2.3 Coordination with Partners

Coordination with local and regional entities involved in ME&O was a key component of implementing the SW ME&O program. CSE sought to understand the activities of other actors in the market such as the IOUs and RENs through data requests, and ongoing communications and meetings. In addition, CSE and the CPUC put a number of processes in place to ensure coordination on messaging and marketing tactics.

As part of these efforts, CSE developed a process in conjunction with the CPUC to allow for the internal development and external sharing of program messaging. As part of this process, CSE developed ICPs in phased approaches to provide an opportunity for stakeholders to provide input, as well as to allow for ongoing CPUC staff oversight. The ICPs covered six-month periods and described the planned target audience, messaging, and outreach activities for each period. In general, the ICPs focused on primary and secondary topics as designated by CPUC staff. Overall, CSE created four ICPs as summarized in Table 22.

Table 22. Integrated Communications Plan (ICP) Periods

ICP	Time Period Covered
ICP1	April – September 2014
ICP2	October 2014 – March 2015
ICP3	April – September 2015
ICP4	October – December 2015

In addition to the ICPs, CSE provided creative briefs and materials for each Energy Upgrade California campaign for IOU and REN marketing stakeholder feedback and approval by CPUC staff. In the latter half of 2015, CSE also held brainstorming meetings with stakeholders and its creative agency, Campbell Ewald, to ensure that the two groups were on the same page as to how best to communicate with consumers on certain topics, as well as what type of messaging would be best coming from the SW ME&O program.

Metric 6: RENs and IOUs provide information to CSE and the marketing firm in a timely manner.

As a way to facilitate the sharing of information between CSE, the IOUs and RENs, the SW ME&O program also used Trumba, an online calendar, where the IOUs and RENs could provide information on their upcoming marketing activities and see what CSE had planned. The time and effort expended by all three parties in keeping Trumba up to date and accurate illustrates a commitment to coordination.

4.3 Program Budget and Expenditures

Across the 2014-2015 period, CSE spent almost all of its' SW ME&O budget implementing the activities described in the previous section. As shown in Table 23, CSE spent all of the funds budgeted for marketing, administration and low income activities while coming in just below the budget for education (88%) and overall outreach (85%). Within each category, CSE also generally spent at least 80% of each specific line item budget (e.g., website, mobile education and outreach, etc.). As documented in Section 4.2.2, small business, strategic partnerships, and youth education and outreach, were all implemented in a more limited fashion than initially planned. As a result, the percentage of budgeted funds spent in these areas is below the 80% threshold.

Table 23. SW ME&O Program Budget and Expenditures

2014-15 SWMEO Budget $42,785,231	*2014/15 Budget Reallocation (July 2015)*	*Total Spent 2014/15*	*Percent Spent*	*2015 Rollover*
Advertising - Paid Media	$17,741,154.00	$17,630,404.05	99%	$96,882.13
Earned & Social Media (Public Relations)	$1,895,000.00	$1,908,867.82	101%	$0.00
Marketing Overall Budget	***$19,636,154.00***	**$19,539,271.87**	**100%**	***$96,882.13***
Website	$3,536,000.00	$3,186,140.42	90%	$649,859.58
Digital Marketing	$1,933,000.00	$1,905,471.81	99%	($272,471.81)
Mobile Outreach & Education	$2,247,535.00	$2,108,945.81	94%	$138,589.19
Small Business Advisor Pilot	$867,771.00	$321,930.42	37%	$545,840.58
Education Overall Budget	***$8,584,306.00***	**$7,522,488.46**	**88%**	***$1,061,817.54***
Retail Intercept Outreach and Education	$2,189,839.00	$1,977,273.75	90%	$112,565.25
Strategic Partnerships and Sponsorships	$885,000.00	$689,320.78	78%	$445,679.22
Building Industry	$0.00	$0.00	N/A	$99,578.43
Cool California City Challenge Partnership	$550,000.00	$336,011.75	61%	$213,988.25
Youth Education & Outreach	$500,000.00	$192,169.32	38%	$57,830.68
Community Outreach - CBO	$3,350,000.00	$3,164,717.48	94%	$185,282.52
Outreach Overall Budget	***$7,474,839.00***	**$6,330,105.72**	**85%**	***$1,114,924.35***
Research Budget	$1,100,000.00	$903,741.30	82%	$196,258.70
Admin less Regulatory Allowance	$2,695,470.00	$2,723,806.85	101%	$0.00
Regulatory Expense Allowance	$299,496.00	$263,859.92	88%	$7,299.23
CSE Administrative Overall Budget	***$2,994,966.00***	**$2,987,666.77**	**100%**	***$7,299.23***
Low Income SWMEO	*$702,000.00*	$702,000.35	100%	*$0.00*
TOTAL CSE SWMEO	**$40,492,265.00**	**$37,985,274.47**	**94%**	**$2,477,181.95**

5. Program Effectiveness Findings

In this section of the report, the evaluation team presents an assessment of the SW ME&O program's effectiveness. This analysis is rooted in the SW ME&O program theory and logic model, which outlines specific short-term outcomes envisioned for the program. These outcomes include customer awareness, knowledge and action of the concepts, programs, tools and resources, and actions communicated by the campaign. It is important to note that while the program's performance against specified metrics is a critical aspect of assessing effectiveness, it provides only part of the picture. As such, the evaluation team provides findings on a wide range of topics related to effectiveness throughout this section and highlights findings related to the metrics where applicable.

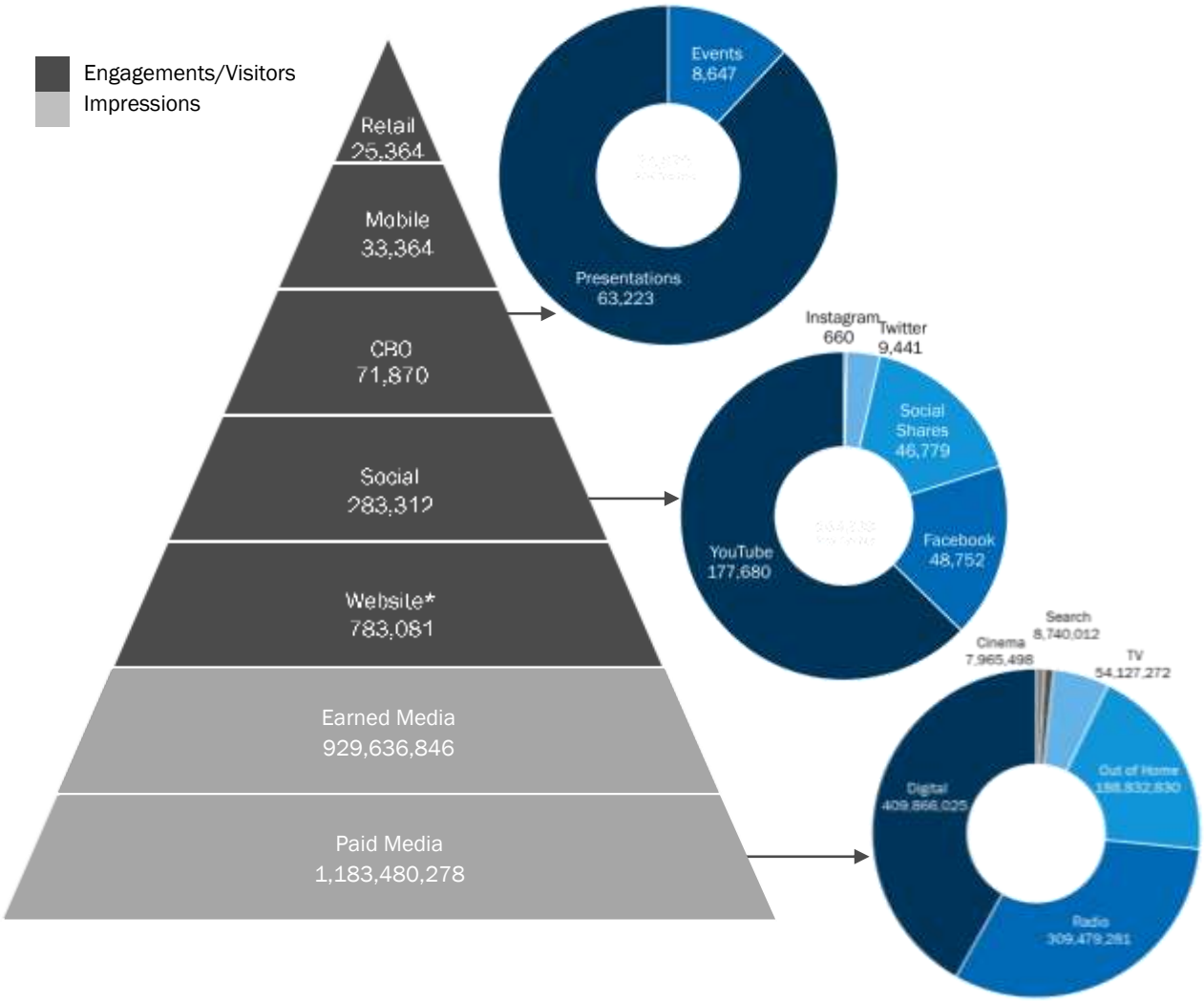
5.1 Consumer Engagement with SW ME&O

Within the context of the SW ME&O program, consumer engagement can take many forms from visiting energyupgradeca.org to talking with a campaign representative at a community event. The evaluation team assessed campaign activities across all marketing channels used by CSE to determine which channels reached the most consumers, what the nature of the engagements was, and specifically related to community outreach, how participating CBOs perceived their involvement in consumer engagement activities.

5.1.1 Energy Upgrade California Campaign Reach

In the previous sections of this report, the evaluation team documented the wide variety of marketing activities that CSE conducted as part of the Energy Upgrade California campaign. In Figure 17, we compare the reach of the campaign (i.e., the number of consumers exposed) across all of the marketing channels. As shown, the different campaign marketing channels reached vastly different numbers of California residents. The paid media channels, which include digital banner ads, billboards, television, and radio ads had over 1.1 billion impressions. This amounts to 40 impressions per adult California resident. These interactions with the campaign are potentially more fleeting than in-person interactions through retail, CBOs, and mobile events, which touched far fewer people (less than 1% of the population). In the next section, we examine the extent to which the in-person interactions were memorable and meaningful to those exposed.

Figure 17. SW ME&O Program Reach



* Website visitors presented are the number of unique California website visitors.

In terms of the campaign's performance against Metric 3, the campaign exceeded the target values for all components of the metric except for Metric 3a, the number of unique website page views, and Metric 3b, the percentage of web visitors viewing 3 or more pages. While our evaluation only contains data for web visitors through September 2015, it is unlikely the campaign achieved 1.3 million visitors by the end of 2015. Further, from January through September 2015, an average of

Metric 3: *Engagement with Energy Upgrade California website, digital media, social media, and community outreach.*

21% of web visitors viewed 3 or more pages, slightly under the target value of 25%.

Table 24. Program Performance against Metric 3

Website Metrics	Value Achieved
3a. Unique visitors	907,144
3b. Visitors view ≥3 pages	21%
3c. Visitors spend >10 seconds on a page	35%
Social Media	
3d. Facebook fans	48,752
Digital Media	
3e. Click through rate	.11%

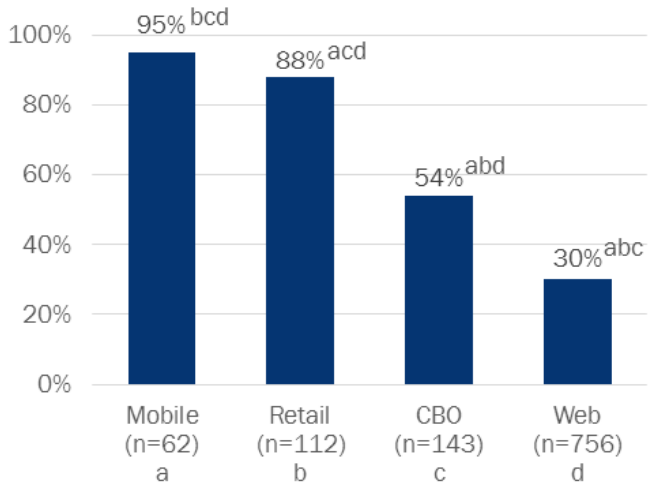
Source: CSE Monthly Metrics Reports

5.1.2 Consumer Interactions with the Campaign

To assess the impact of key marketing channels, we conducted surveys with consumers that we know interacted with the campaign based on program-tracking data. In particular, we interviewed consumers who interacted with CBO, retail, and mobile displays, as well as the website.

First, recall of the campaign interaction varied across marketing channels (see Figure 18). Consumers who were exposed to Energy Upgrade California mobile and retail displays were much more likely to recall the interaction than consumers who were exposed to the campaign through a CBO or the website.

Figure 18. Recall of Campaign Interaction by Marketing Channel



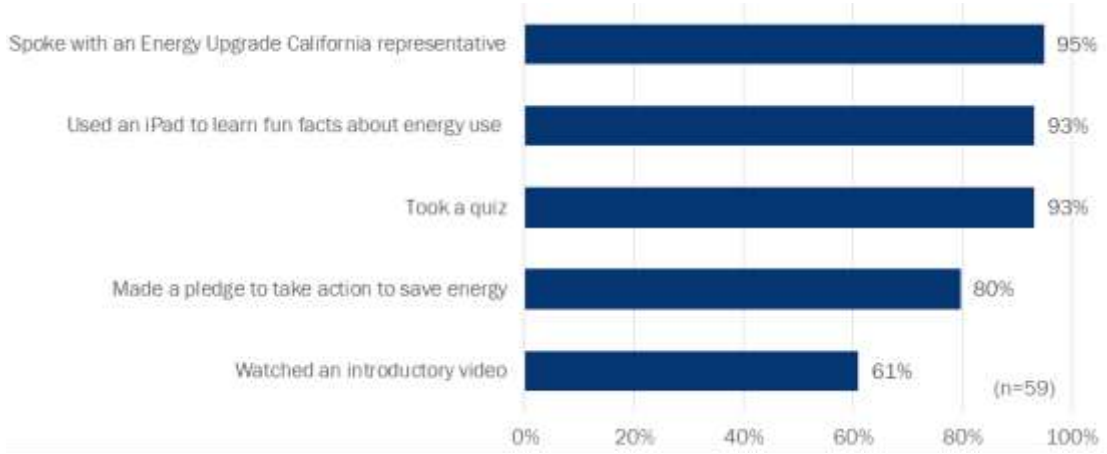
Note: Letters are assigned to each marketing channel. Letters next to percentage indicate the percentage is significantly different from the indicated marketing channel at the 90% level.

Source: Attribution (V1b, V2, V3), Event Follow-Up (R1, R1a, R2), and Mobile Surveys (R1, R1a), Fall 2015.

The mobile display has a number of interactive activities for the consumer specifically designed to teach people about energy in their lives, which might make it more memorable and explain the high recall rate. As

documented in the literature on experiential marketing, the consumer experience needs to be extraordinary to have an effect in event marketing.[35] Along these lines, our mobile survey results show that consumers had a high level of engagement with all the mobile display activities (see Figure 19). In addition, over three-quarters (80%) took a pledge to save energy.

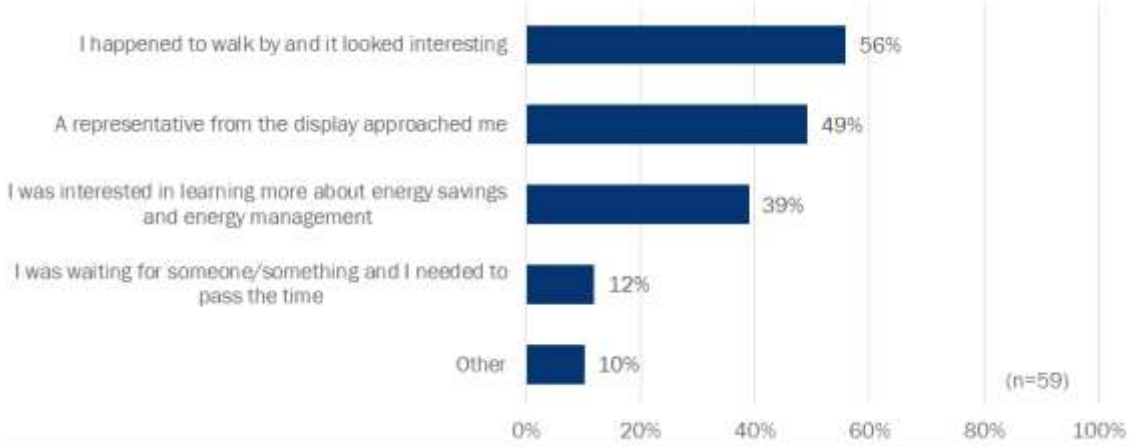
Figure 19. Engagement with Mobile Display Activities: Aided



Source: Mobile Survey (I2a-f), Fall 2015.

We also asked consumers who interacted with the mobile display why they chose to stop. The responses suggest that consumers had a high level of interest in the topics (see Figure 20). For example, slightly more than half of respondents (56%) reported that the display looked interesting and more than a third (39%) were interested in learning more about saving energy and energy management. It is also clear that program representatives played an important role in bringing consumers into the display as about half of respondents (49%) said that a representative approached them when they passed by the display.

Figure 20. Reasons for Visiting the Mobile Display: Aided



Source: Mobile Survey (I1), Fall 2015.

[35] Wood, Emma H. Evaluating Event Marketing: Experience or Outcome? Journal of Promotion Management, 15:247-268, 2009.

Differences in Engagement across Channels

The evaluation team conducted observations of retail and CBO events that provide insight into potential reasons for the different recall rates among these channels. Overall, the retail setting appeared to provide an environment that was conducive to the discussion of Energy Upgrade California energy management topics, and therefore to the engagement of consumers. As observed at various retail events, the Energy Upgrade California representatives could use energy saving products to attract consumers to their table, and help inform them about other product options, as well as programs that might help them go further to save energy. Representatives also walked to different sections of the store with consumers as appropriate to educate them about particular products. The locations of the CBO events did not provide the same natural props or discussion points.

When observing the outreach activities of CBOs, we also found there was significant variation in the quality of engagements at Energy Upgrade California booth's due to staff knowledge. For example, while some CBO representatives were highly knowledgeable about the SW ME&O program's featured energy management topics, and could respond to various consumer questions, others had difficulty responding to visiting consumers and could only refer them to the Energy Upgrade California website. While we found some variation in staff knowledge at retail events, there was less overall.

Although engagement length varied across the events that the evaluation team observed, retail engagements also tended to last longer than those at community events. In particular, the evaluation team documented Energy Upgrade California retail representatives talking with consumers for up to 15 minutes in some cases, which is greater than the maximum length of engagement reported in CSE's tracking data for this channel.[36]

Finally, while we do not have any data that explain why recall of website interaction is low, the lower recall rate is not surprising given the indirect nature of this interaction relative to that of mobile, retail, or CBO events. We are unable to link our web survey respondents to when and why they provided their email address on the website, but they likely had varied motivations and interest levels. For example, CSE ran some contests where people may have provided their email address simply to win a prize, which is common practice for many people on-line.

5.1.3 Community Ambassador Perspectives on Consumer Engagement

Given the focus on event marketing and the emphasis placed on CBO involvement in particular, the evaluation team conducted interviews with participating CBOs, also referred to as Community Ambassadors. We provide a summary of findings and recommendations from the 10 in-depth interviews completed between November 12 and December 7, 2015 below. These findings, while not representative of the full population of CBOs, are intended to provide additional context around the participation in and engagement of CBOs with Energy Upgrade California, and provide insight into strengths and weaknesses of this channel.

[36] Differences in observed and reported engagement length may be the result of approximations by program representatives, who track the time they spend with consumers. More specifically, it is possible that an observer can more accurately document the start and end of an interaction than the person actively speaking with a consumer.

Community Ambassador Program Involvement

Each CBO received a grant and was required to include outreach through special events, presentations, and social media. Table 25 summarizes the requirements for Tier 1 and Tier 2 CBOs.

Table 25. Community Ambassador Program Requirements

Description	Tier 1	Tier 2
Grant Amount	$64,250	$10,000
Large-Scale Special Events (Audience of 1,000+)	6	3
Presentations (To a variety of audiences)	6	3
Facebook Posts	2/Month	2/Month
Twitter Posts	3/Week	3/Week
Recruit, train and manage Tier 2 partner(s)	Yes	N/A

All 10 Community Ambassadors with whom we spoke participated in large-scale events and speaking engagements as part of their role in implementing the SW ME&O program, as required by CSE. To implement these events, the ambassadors generally employed outreach staff or program managers. However, all of the Community Ambassadors with whom the evaluation team spoke reported that their level of activity related to the Energy Upgrade California Community Ambassador Program was relatively small compared to the amount of time they spent promoting other topics or services related to their organization. Because of competing, higher priorities, the amount of time Community Ambassadors spent promoting the SW ME&O program may have been constrained. Additionally, while outreach activities conducted by the Community Ambassadors were largely intended to reach the general public, in order to reach hard to reach communities, some were directed to their constituents, who in some cases represent narrower markets.

The Community Ambassadors provided the following feedback on the two types of events that they participated in as part of the SW ME&O program.

- **Large-scale events.** All 10 Community Ambassadors participated in the required number of large-scale community events (six for Tier 1 organizations and three for Tier 2 organizations). These events generally catered to the general public and included community fairs, street festivals, and farmers markets. Among the few events that did not cater to the general public, Community Ambassadors served company employees or business communities instead.

  Overall, Community Ambassadors reported having mixed experiences with outreach events. Some found it relatively easy to interact with consumers at the events, while others found it difficult to attract event attendees to their information table. Those who found attracting consumers difficult suggested that people thought that they were trying to sell something or that event attendees had other priorities and were not interested in information related to energy efficiency.

- **Speaking engagements.** CSE required Community Ambassadors to complete three to six speaking engagements. For these speaking engagements, Community Ambassadors typically leveraged existing stakeholder events and seminars held for their beneficiaries, members, or supporters. The audiences therefore varied widely and included neighborhood groups, disadvantaged community members, non-English speakers, and students, but also businesses, realtors, councils and committees, and staff from local community action groups.

  The Community Ambassadors with whom the evaluation team spoke had different opinions about whether interacting with attendees was easier at one event type or another. Some found speaking

engagements to be an easier approach to engaging with consumers because they were able to draw an audience already interested in energy efficiency. In contrast, others felt there was little time for one-on-one interactions after presentations and therefore felt that they interacted more with consumers during table events. Finally, a third group of Community Ambassadors did not think one event type resulted in better interactions than another event type.

Program-Provided Training

CSE offered a number of trainings and other forms of support to Community Ambassadors, and, based on interviews with participating ambassadors, it appears that the organizations responded well to the training structure established by CSE. In particular, most of the organizations with whom we spoke understood the purpose of the trainings and felt that they were useful.

- **Understanding of the training's purpose.** According to Community Ambassadors, the main purposes of the trainings were to ensure consistency related to campaign topics and messaging and to share experiences and implementation challenges. These perceptions are in line with the intended purpose of these trainings as documented by CSE.
- **Participation in trainings.** Most Tier 1 organizations participated in all the trainings offered by CSE, whereas Tier 2 organizations participated more selectively. Four of the five Tier 1 organizations participated in a webinar prior to submitting their proposal for participation, and all participated in the day-long training after CSE awarded them a grant. While three of the five interviewed Tier 2 organizations did not participate in these activities, all five Tier 2 organizations received in-person training from their Tier 1 program partner.
  - **Use of monthly webinars.** Seven of the ten Community Ambassadors we spoke with regularly participated in monthly webinars that featured upcoming campaign topics. The other three organizations attended occasionally, based on their availability.
  - **Use of online training modules.** All Community Ambassadors used the online training modules provided by CSE to review Energy Upgrade California brand guidelines and monthly campaign topics at least once. Seven provided detail on how they used the modules. Five accessed the modules that aligned with either the monthly campaign or the interests of their target audience while two others used the modules more regularly, completing most or all of the modules.
  - **Use of weekly social media tip.** Community Ambassadors were required to utilize social media, including posting to Facebook at least twice per month and Twitter at least three times per week, to promote Energy Upgrade California. All Community Ambassadors described the weekly social media "Tip of the Week" as useful and a great support tool to reduce their time commitment to fulfill the program's social media requirements. However, two Community Ambassadors who worked with business communities and teenagers found the content of the tips to be of limited use for their target audience.

Quality of Training

All ten of the Community Ambassadors with whom we spoke described the quality of the trainings that they received as good or very good and felt that the quality of the different trainings that they attended was consistent. Eight of the ten Community Ambassadors also found the trainings useful in preparing them for community engagement activities and generally agreed that the trainings helped them with how to communicate energy-related topics in an effective manner.

- **Social media training provides high value.** CSE provided CBOs with an initial social media training, as well as ongoing social media tips of the week, which provided tips to leverage social media to promote Energy Upgrade California including content ideas, as part of its training effort. Almost all Community Ambassadors described the social media training as one of the most valuable trainings. They explained that the social media "Tip of the Week" allowed for easy sharing and highlighted the program's support to perform social media analytics.

Recommendation	The program should continue to offer and expand on its current social media training.

- **Topic-related trainings provide high value to ambassadors with limited background in energy efficiency.** Some of the organizations that had already worked on energy-related topics noted that they already knew the majority of the training content and the trainings were probably more useful for organizations without such background. Supporting this view, Community Ambassadors without an extensive background in energy efficiency benefitted from trainings related to the Home Upgrade Program, energy-saving products, and energy savings from water conservation. One Tier 2 organization further noted that some of the topic content was not relevant to its target audience, which primarily consisted of low-income residents. When it reached out to its partner to collaborate on ways to tailor the messages for this population, it did not receive the support it would have liked because the partner did not have the authority to change campaign messaging

Recommendation	CSE should examine how much Community Ambassadors already know about energy efficiency and design training accordingly.

- **In-person training and networking desired by some.** Two Tier 1 and one Tier 2 organizations felt that more in-person training focused on planned campaign topics would be useful, while another considered in-person training a large time commitment. One of the two Tier 1 organizations also suggested that the program use an online tool for Community Ambassadors to share best practices.

Recommendation	If not already planned, CSE should consider additional, perhaps optional, in-person-training.

Program Communications and Administration

Communications between Community Ambassadors and CSE

In addition to required reporting, Tier 1 organizations generally communicated with CSE or RSE, the implementation contractor, as issues arose. All the Community Ambassadors with whom we spoke reported that program staff was responsive and helpful in answering any questions that came up related to program implementation. In contrast, Tier 2 organizations did not communicate with CSE program staff directly. Instead, their Tier 1 partners functioned as primary contacts for issues related to program implementation. In general, Tier 1 and Tier 2 partners communicated with one another regularly before and after events, but less frequently otherwise.

Management of Tier 2 Partners

Three of the five Tier 1 organizations that the evaluation spoke to experienced issues with their Tier 2 partner. In particular, they explained that managing the relationship with partner organizations was time intensive because they had to train the partners, help in event planning and execution, and constantly follow up to ensure that their partners met the program requirements. Tier 1 organizations noted that they received some guidance from CSE about managing their Tier 2 partner, but it did not help them overcome these challenges.

Among the two Community Ambassadors that reported positive experiences managing their Tier 2 partner, the central reason for success was that they had pre-existing relationships with their partners, which enabled them to hit the ground running. Moving forward the tier structure has been eliminated.

Administration of Attendee Surveys

All Community Ambassadors administered a required attendee survey on paper and most incentivized the completion of the survey with give-away items. Four out of five Tier 1 organizations with whom we spoke experienced at least some challenges with getting event attendees to complete the survey. (They scored the process between 3 and 4 on a scale from 1 to 7, where 1 was "Very Difficult" and 7 was "Very Easy"). In comparison, four of five Tier 2 organizations with whom we spoke gave a score of 5 or higher. Two Community Ambassadors said that they struggled with incomplete surveys due to attendees either skipping open-ended questions or omitting the second page of the survey. In terms of data processing, most Community Ambassadors rated the data entry and submission process as fairly easy. Of the five Tier 2 organizations we spoke with, three received support from their Tier 1 partner in data entry.

Overall, most Community Ambassadors did not have any suggestions for improving the data collection and submission process. However, a few highlighted challenges that the program could help overcome. For example, two noted that data submission through Google Forms was time intensive and would prefer if CSE accepted Excel spreadsheets. One further mentioned that it was difficult to submit the attendee data shortly after the event and would appreciate a longer turnaround time. Some also suggested that digital data collection would help improve the process.

Recommendation	Consider ways to streamline the data submission process.

Feedback on Program Marketing Materials

Community Ambassadors received a range of brochures and flyers in combination with give-away items for their tabling events and speaking engagements.

- **Quantity and timing of basic materials.** All Community Ambassadors were generally satisfied with the quantity of print materials. However, several Community Ambassadors commented on the timing of receiving program materials explaining that material uploads came relatively late, in particular the language brochures. They also reported that they faced additional costs related to printing because the program revised the materials after they printed them. In addition, some Community Ambassadors noted that they did not receive enough foreign language materials (Spanish, Chinese, and Vietnamese) and that these were not available early in the program.

Recommendation	Provide marketing materials to Community Ambassadors earlier and minimize revisions.

- **Breadth of topics covered.** Most Community Ambassadors were satisfied with the breadth of topics covered. About half of them described the materials as "simple and informative." However, others felt that the materials were too content-heavy for their target audiences (i.e., business owners and disadvantaged citizens) who would have preferred shorter messages or more pictures.

Recommendation	Consider developing a few light-content materials with more pictures for targeted audiences.

- **Premium materials.** Most Community Ambassadors suggested that CSE provided enough premium items to cover their outreach activities. They also felt that most items, included keychains, flashlights, sunscreen, thumb drives, and business card holders, were appropriate for the events covered. Almost all Community Ambassadors further explained that they used these items to entice attendees to complete a survey (described below).

  Six of the ten interviewed Community Ambassadors described the additional premium items that they purchased with program funds as most effective in communicating with event attendees. These commonly included energy-saving products, such as light bulbs, low-flow showerheads, thermometers, and smart power strips. One Community Ambassador also found give-away items for children effective in drawing adult attendees to the table.

Recommendation	Continue to provide premium items and help Community Ambassadors share experiences as to which giveaways worked best.

Additional Suggestions for Improvement

Although Community Ambassadors were generally satisfied with their involvement in the SW ME&O program, they offered a number of suggestions regarding additional support CSE could provide.

- **Additional guidance on how to run table events.** Some Community Ambassadors felt that it would have helped to hear about the experiences of other Community Ambassadors regarding which tactics work best in attracting event attendees to their booths.

- **More flexibility related to messaging and communication channels.** While not feasible given the consistency in messaging that CSE must maintain across the state, some Community Ambassadors believe that having more freedom in choosing communications channels and messaging will allow them to communicate with their target audiences more effectively. For example, one explained he could have displayed program information on screens in his office lobby, which has a high volume of walk-through traffic, but the program limited his communication to events and presentations. A couple of others would also have preferred to revise the messaging to better address young or low-income residents.

- **Increased budget.** A few Community Ambassadors commented generally on the available grant funds and highlighted that the existing budget provided to participating organizations was fairly small in comparison to other grants they received, which limits the human resources for the program.

5.2 Campaign Influence on Consumer Awareness of Energy Upgrade California Brand

Awareness of the Energy Upgrade California brand is a key short-term outcome for the SW ME&O program. As such, it is codified in one of the program's performance metrics - aided awareness of the brand. In particular, Metric 1 establishes a target value of 20% for aided awareness of Energy Upgrade California. Beyond this metric, the evaluation team explored unaided awareness, knowledge and associations with the brand to understand what consumers truly know about it, as well as what it means to them.

5.2.1 Brand Awareness, Knowledge and Associations among the General Population

The evaluation team conducted three surveys with California residents during 2014 and 2015 to gauge the impact of the SW ME&O program among the general public. A primary objective of the surveys was to measure consumer awareness and understanding of the Energy Upgrade California brand to assess Metric 1. We also utilize results from a brand assessment study we conducted for CSE in January 2013 to provide a more complete understanding of the history of the brand.

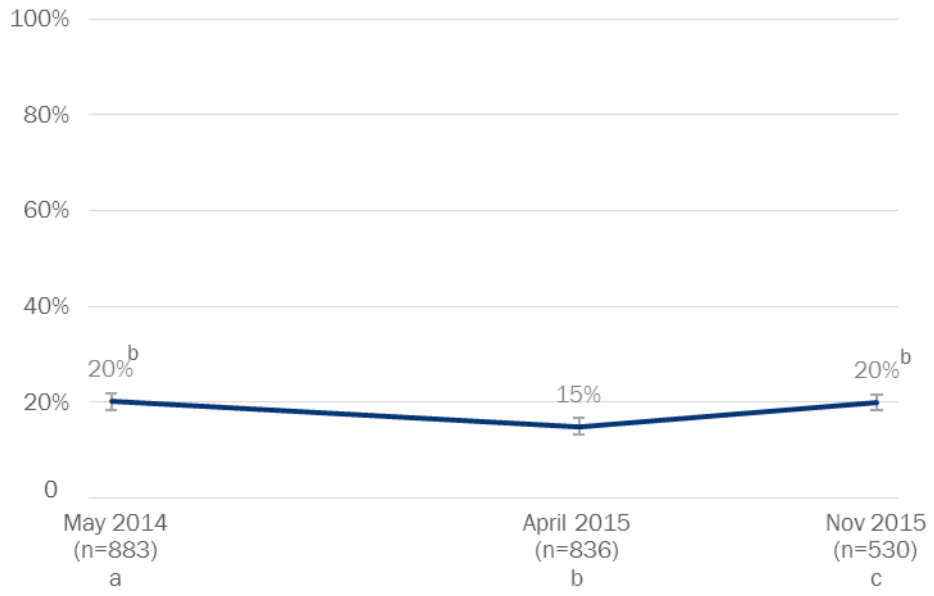
***Metric 1**: Awareness of Energy Upgrade California.*

Aided Awareness

The campaign achieved the Metric 1 target value for aided awareness of Energy Upgrade California; awareness of the brand was 20% in November 2015 based on a survey with California residents. Specifically, between May 2014 and November 2015, the evaluation team conducted three surveys, which show awareness of the brand dropping from 20% to 15% and then increasing back to 20% (see Figure 21).[37] While 20% aided awareness is the baseline value for the brand, which may have been established by promotional efforts around the whole house program, it is not surprising to see no detectable change in awareness over a two year period. Other statewide brands such as Mass Save have not seen increases in aided awareness for several years.

[37] The results do not change if we include the non-English interviews we conducted for the May 2014 and April 2015 surveys. Awareness is 19% in May 2014 and 16% in April 2015 with the non-English interviews included.

Figure 21. Awareness of Energy Upgrade California: Aided



Note: Letters are assigned to represent each survey wave. A letter next to a percentage indicates a statistically significant difference from the indicated survey wave at the 90% level.

Source: Climate Credit (A2c) and Wave 1 and Wave 2 Tracking Surveys (A2c).

When we compare the awareness levels of the panel respondents who completed both the April and November surveys, we see greater change at both the aggregate and individual levels (see Table 26). In the April survey, 15% of panel respondents were aware of Energy Upgrade California, which is similar to non-panel respondents. In the November survey, 24% of panel respondents were aware of the brand compared to 20% of the fresh respondents. While the difference in November awareness is not statistically significant, we are still concerned that some panel respondents may be aware of the brand in November because they learned about it in the April survey.[38] As a result, to ensure that our results are unbiased, we assess the program's performance using only the responses of the fresh non-panel respondents for the November survey (20% aware as reported in Figure 21).

[38] We ran a logistic regression to assess whether the higher Wave 2 awareness levels of the panel respondents might be because people with more interest in the topic are more likely to complete repeated surveys (i.e., response bias) instead of learning from completing the Wave 1 survey (i.e., a panel effect). If the difference is due to response bias, our survey weights should minimize that bias and we could report the results from the full Wave 2 sample. In the model, we predicted brand awareness based on a number of demographic characteristics as well as a dummy variable indicating whether the respondent was a panel member. The panel variable was a significant predictor of awareness even after controlling for demographics, suggesting there may be a slight panel effect. To be sure that any changes between the Wave 1 and Wave 2 surveys are not a result of the panel, we report just the results from the non-panel respondents for Wave 2 in the body of the report. We provide full Wave 2 results in the Appendix.

Table 26. Awareness of Energy Upgrade California by Type of Respondent: Aided

Respondent Type	April 2015	November 2015
Panel (n=530 both surveys)	15%	24%
Non-Panel (n=828 April, n=522 November)	16%	20%

Source: Wave 1 and Wave 2 Tracking Surveys (A2c).

When we examine the responses of individual panel respondents, we find that the 9 percentage point increase in awareness between April and November is comprised of both learning and forgetting. Awareness did not change for 78% of respondents; 69% were unaware of the brand in both waves and awareness persisted for 9% (see Table 27). Slightly fewer respondents (6%) who were aware of the brand in April were no longer aware in November. However, 16% learned about the brand for an overall increase in brand awareness of 9% among panel respondents. As we already noted, some respondents may have learned of the brand during the May survey, but that is unlikely to be true of all. In the Appendix, we compare the responses of the full Wave 2 sample (both panel and non-panel) with just the non-panel responses across all survey questions reported in this evaluation.

Table 27. Persistence, Learning, and Forgetting of Energy Upgrade California: Aided

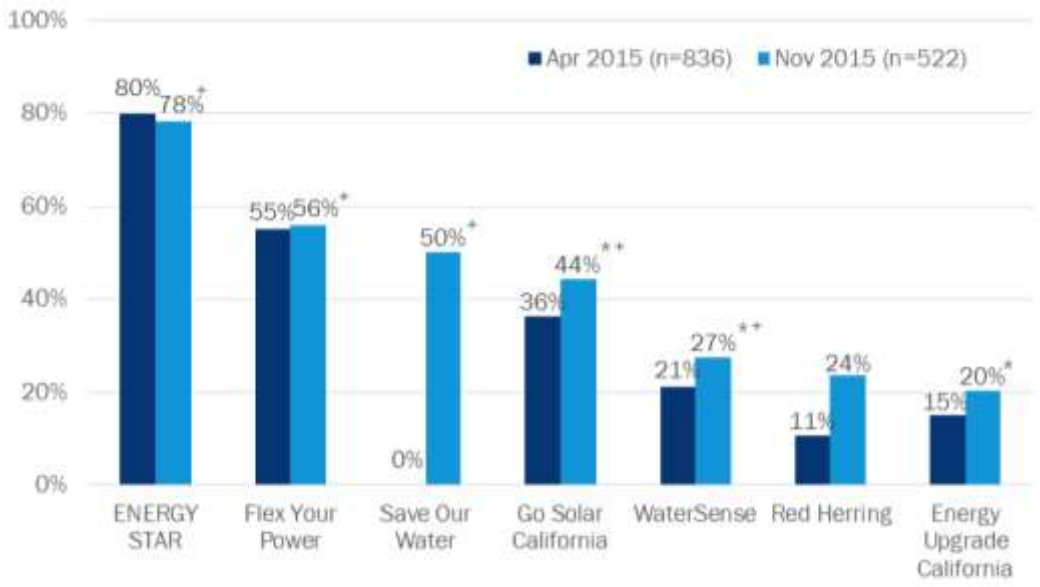
	Respondents (n=530)
No Change Between Waves	
Unaware Both May and November	69%
Aware Both May and November (Persistence)	9%
Change Between Waves	
Unaware May and Aware November (Learning)	16%
Aware May and Unaware November (Forgetting)	6%
Total	100%

Source: Wave 1 and Wave 2 Tracking Surveys (A2c).

Comparisons to Other Brands

The evaluation team asked about awareness of other energy brands on the tracking surveys to provide some context for the level of awareness of Energy Upgrade California. In Figure 22, we compare awareness of Energy Upgrade California to six other brands as measured in the April and November 2015 surveys. Aided awareness of Energy Upgrade California is significantly lower than all other brands except for the red herring, which does not actually exist and we use to test false reporting of awareness. Most of the comparison brands have longer histories. For example, ENERGY STAR has been in existence since 1992. Further, the Flex Your Power campaign began in 2001, and, though it no longer exists, consumers may remember it or associate it with Flex Alerts, which are still used.

Figure 22. Awareness of Energy Upgrade California Compared to Other Energy Brands: Aided



Note: A single plus sign (+) indicates that awareness of the brand is significantly different from awareness of Energy Upgrade California. A single asterisk (*) indicates that the percentage awareness of the brand is significantly different from awareness of the brand in the previous survey wave at the 90% level. We did not ask about Save our Water in the April 2015 survey. The red herring brand was "Step Up and Save Energy" in April and "Green Power California" in November.

Source: Wave 1 and Wave 2 Tracking Surveys (A2a-g).

When looking at awareness, it is also useful to compare Energy Upgrade California to other statewide energy brands. For example, Mass Save® is another statewide energy brand operated by the Massachusetts energy efficiency program administrators. Like Energy Upgrade California, Mass Save grew out of the state's whole house audit and weatherization program before transitioning to an overarching energy efficiency umbrella brand. Here it is instructive to note that while Mass Save had higher awareness at the time of its transition to a statewide brand than Energy Upgrade California (39% compared to 20%), it took three years before awareness of Mass Save increased, hitting 54% in 2012.[39]

Awareness of Brand Components

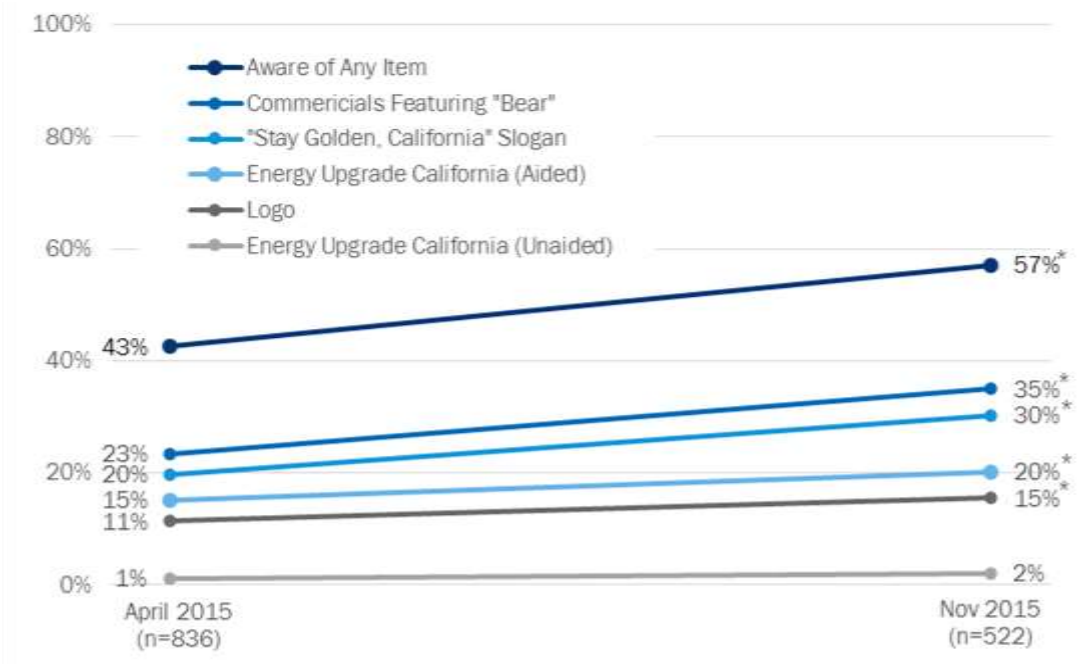
The Energy Upgrade California campaign makes use of a variety of marketing tools, including a logo, a slogan, and a mascot. Consumers may recall these marketing items and the messages communicated without recalling the brand name. In both waves of the tracking survey, the evaluation team measured awareness of these items.

The survey results show that consumers were more aware of the "Bear" mascot and the "Stay Golden, California" slogan than the brand name itself (35% and 30%, respectively, compared to 20% in November 2015). Moreover, both the mascot and slogan have seen greater increases in awareness since April 2015 than the brand name has (see Figure 23). Consumer awareness of the logo was also higher: 15% in November compared to 11% in April. We find that 57% of California residents were aware of at least one item (i.e., mascot,

[39] Opinion Dynamics. *2014 Massachusetts Statewide Marketing Campaign Post Campaign Report* (April 2015). http://ma-eeac.org/wordpress/wp-content/uploads/2014-Massachusetts-Statewide-Marketing-Campaign-Post-Campaign-Report.pdf

slogan, logo, or brand name) in November 2015, which is significantly higher than the 43% who were aware of one item in April 2015.[40]

Figure 23. Awareness of Energy Upgrade California Marketing Tools



Note: An asterisk indicates the percentage is significantly different from the previous survey wave at the 90% level.

Source: Wave 1 and Wave 2 Tracking Surveys (A1, A2c, A3, A8, M1).

Unaided Awareness

Consumers struggle to name energy-related brands unaided, and unaided awareness of Energy Upgrade California remained low. When we asked respondents to name the brands, campaigns, or initiatives that they had heard of that encourage Californians to save energy, only a handful named Energy Upgrade California in either the April or the November survey (1% and 2%, respectively). However, most consumers cannot name a single energy brand (see Figure 24). Between two-thirds and three-quarters could not name a brand or campaign (73% in April 2015 and 68% in November).

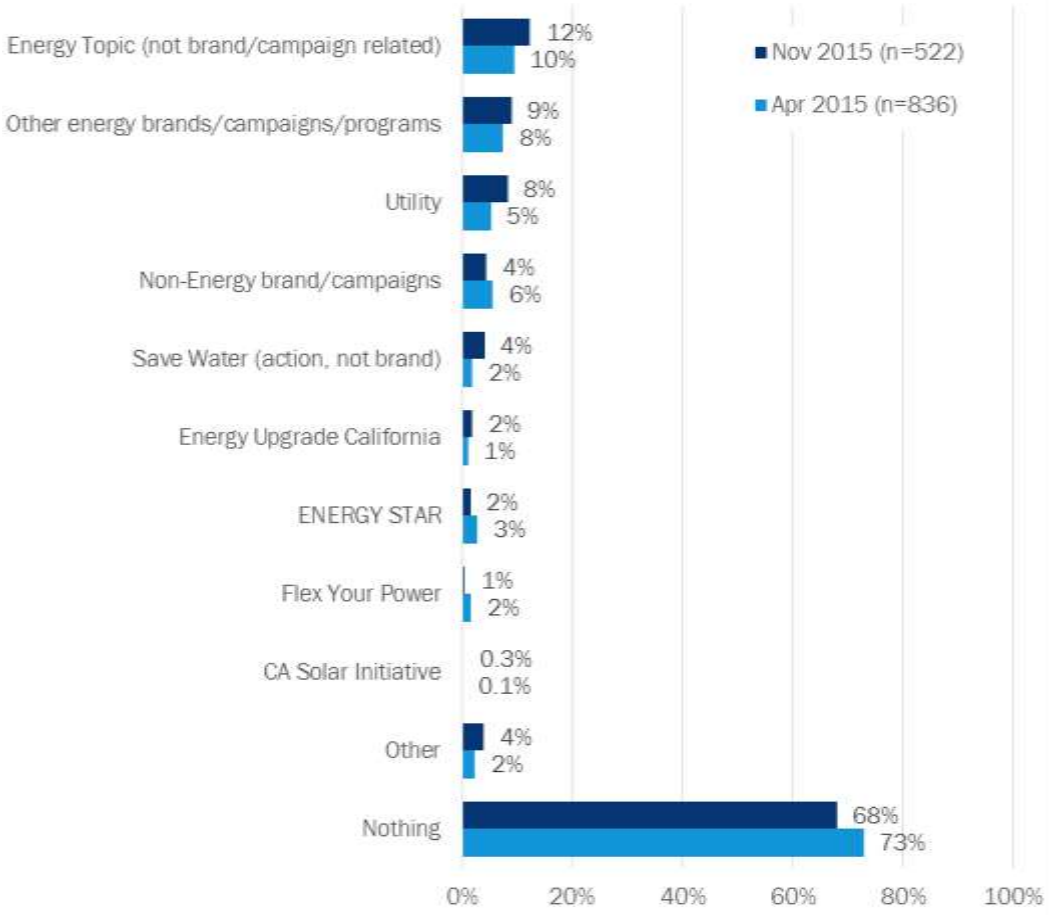
The most frequent response was an energy-related topic, but not a specific brand,[41] and the most frequently mentioned brand was the respondent's utility. Examples of responses that fell within the energy topic category (10% in April and 12% in November) include "solar energy", "energy efficient appliances", "CFL light bulbs", and "control your thermostat". Of non-utility brands, the most frequently mentioned brand in April was ENERGY

[40] To verify respondents were not confusing some other slogan that sounded similar to "Stay Golden, California" or some other bear (e.g., Smokey Bear) with Energy Upgrade California's use of these items, we asked follow-up questions. The results suggest that respondents were likely over-reporting their awareness. We are concerned, though, that the verification may have been too stringent, particularly for the slogan. Respondents needed to select Energy Upgrade California as the owner of the slogan out of a list of other brand names. Half of respondents did not know the brand associated with the slogan even though Energy Upgrade California was the top response among those identifying a brand. If we correct awareness using these questions, 27% and 36% of respondents were aware of any marketing item in April and November 2015, respectively.

[41] Respondents most frequently mentioned saving water (2% and 4% of respondents in April and November 2015, respectively).

STAR, at 3%. In the November survey, respondents were as likely to mention Energy Upgrade California as ENERGY STAR (2%).

Figure 24. Awareness of Brands or Campaigns That Encourage Energy Saving: Unaided



Source: Wave 1 and Wave 2 Tracking Surveys (A1).

Depth of Knowledge and Brand Associations

Although the campaign met the target value for Metric 1, aided brand awareness has not changed since the beginning of the campaign. The May 2014 survey found an awareness level of 20%, which could indicate false awareness of the brand. We asked about a "red herring" brand to test this possibility and found a similar level of awareness for a brand that does not exist. The 20% awareness level in May could also be awareness of the brand name's previous association with the Home Upgrade program. For instance, we found that 17% of California residents were aware of Energy Upgrade California in the January 2013 brand assessment study, which should represent awareness of the Whole House program. A portion may also be reporting false awareness of the brand in 2013 as well.

It is possible that while brand awareness levels have not changed, the campaign may have increased people's depth of knowledge or what people associate with the brand. As part of the brand assessment survey conducted in January 2013, we asked additional questions to measure depth of knowledge of the brand. We found that most respondents did not know that much about the brand. On a 7-point scale, where 1 indicates

having "only heard the name" and 7 indicates "knows a lot about it," 48% gave a rating of 1 or 2, and 13% gave a rating of 6 or 7 (see Table 28). While awareness of Energy Upgrade California increased by only 3 percentage points since the brand assessment study in January 2013 (17% compared to 20%), those who are aware of the brand are somewhat more familiar with it. In the most recent tracking survey in November 2015, we found that 20% gave a rating of 1 or 2 while 23% gave a rating of 6 or 7. The average familiarity rating increased significantly from 3.09 in January 2013 to 4.11 in November 2015.

Table 28. Familiarity with Energy Upgrade California (Among Those Aware of Energy Upgrade California)

How familiar are you with Energy Upgrade California?	Jan 2013 (A) (n=346)	May 2014 (B) (n=179)	April 2015 (C) (n=111)	Nov 2015 (D) (n=79)
1 – I have only heard the name	32%	16%	31%	17%
2	16%	13%	10%	3%
3	13%	15%	9%	5%
4	10%	24%	15%	30%
5	15%	9%	17%	22%
6	6%	9%	12%	16%
7 – I know a lot about it	7%	15%	6%	7%
MEAN	3.09[BD]	3.84[AC]	3.38[BD]	4.11[AC]

Note: Letters indicate that the mean is significantly different from the designated survey wave at the 90% level.

Source: Brand Assessment (A4), Climate Credit (A3), and Wave 1 and Wave 2 Tracking Surveys (A4).

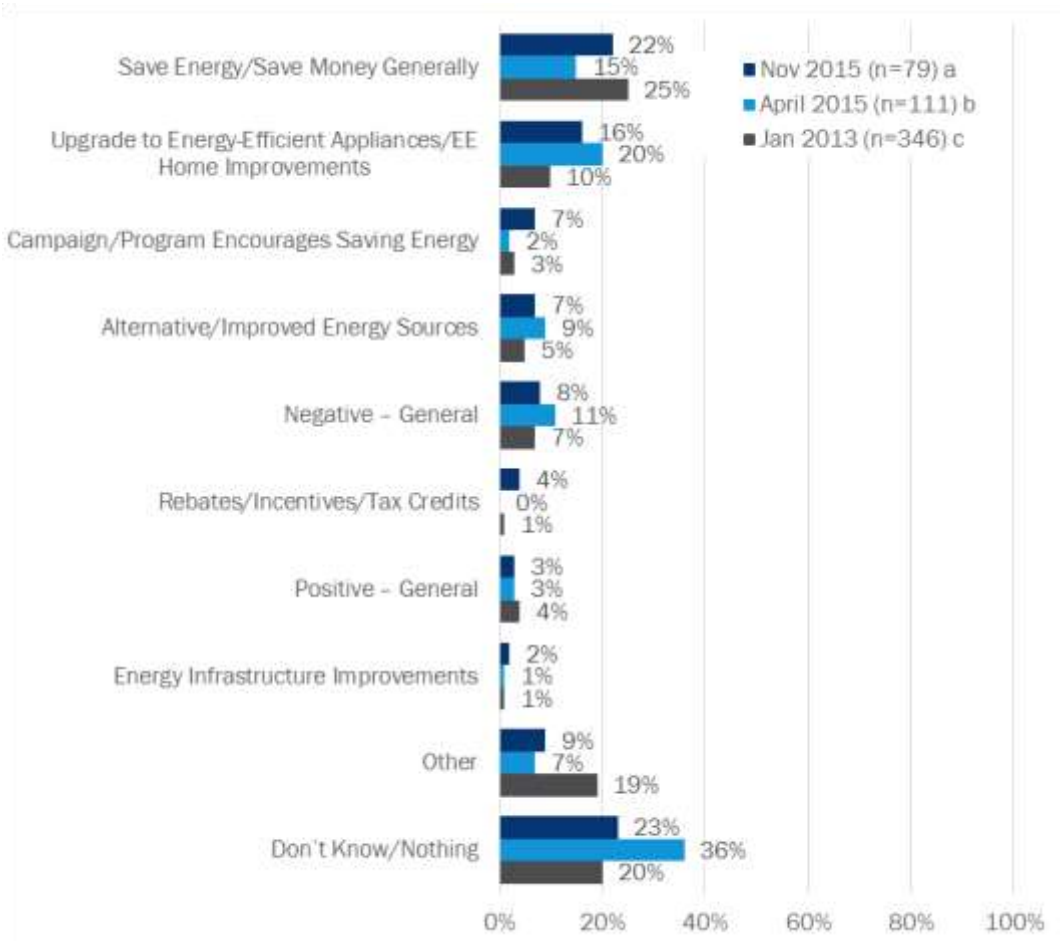
However, familiarity has not increased steadily. Familiarity increased between the brand assessment survey in January 2013 and the Climate Credit survey in May 2014 before declining in the April 2015 survey. Aided awareness was also lower in the April 2015 survey. It is possible that the April survey was off the mark a bit and underrepresented people who were aware of the brand. Another possibility is that as the brand transitions to a statewide source for energy management information, how people think of the brand is shifting from its prior association with the Home Upgrade program to its current use. This could lead to some brand confusion.

We explored this possibility with a question on both the brand assessment survey and the evaluation tracking surveys. In particular, we asked respondents who were aware of the brand an open-ended question about what they thought of when they heard the phrase "Energy Upgrade California." Given the history of the brand name and its remaining association with the Home Upgrade program, respondents may have been confused about what the brand represents. This question helps us understand whether respondents think of the brand as being an IOU program or a source of information about energy management.

The responses show that respondents were increasingly able to provide a brand association, but most were relatively weak and reflected neither the Home Upgrade program nor the Energy Upgrade California campaign (see Figure 25). In the 2013 brand assessment survey, the top associations were saving energy and money generally or making appliance upgrades or home improvements to save energy. Few respondents gave a response that was a clear reference to the Whole House program. At the time of the brand assessment study, the low level of brand awareness and weak associations with the brand name indicated that it would be possible to use the brand name for another purpose.

The tracking surveys show that while the most frequent associations continued to be either general references to saving energy or a specific reference to energy-efficient appliances or home improvements, an increasing number of respondents associated the brand with a specific campaign that encourages saving energy, which is consistent with the current Energy Upgrade California campaign.

Figure 25. Associations with Energy Upgrade California: Unaided (Among Those Aware of Energy Upgrade California)



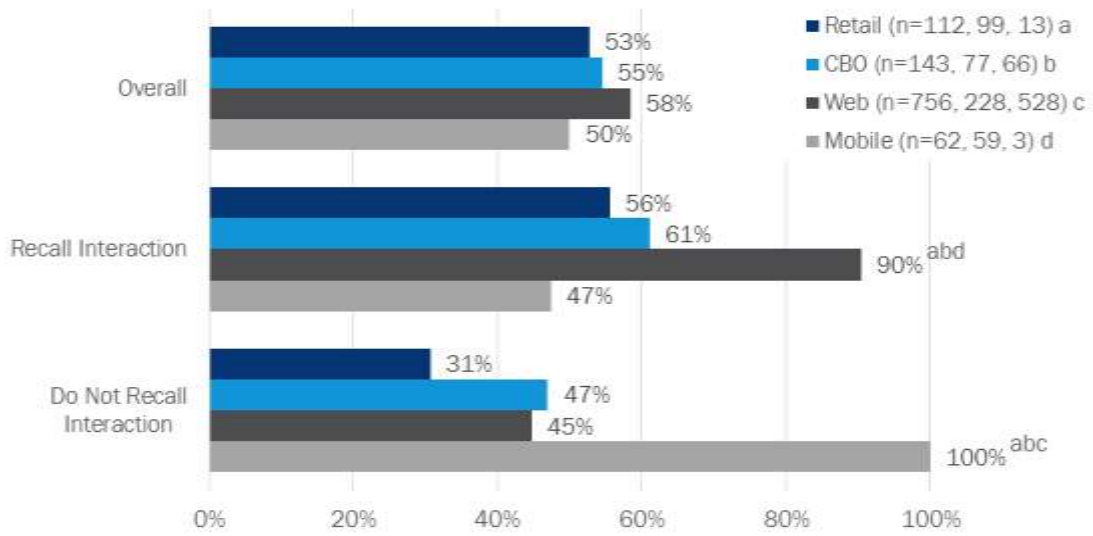
Note: Letters are assigned to represent each survey wave. A letter next to a percentage indicates a statistically significant difference from the indicated survey wave at the 90% level.

Source: Brand Assessment (K1) and Wave 1 and Wave 2 Tracking Surveys (A6).

5.2.2 Brand Awareness among Consumers Reached by the Campaign

Results from surveys with consumers known to have interacted with the campaign through the website or at retail, CBO, or mobile events have already shown that consumers who interacted with the campaign do not necessarily recall that interaction. Given this finding, aided recall of the Energy Upgrade California brand may not be universal among consumers who were exposed to the brand. Approximately half of consumers who had a known interaction with the campaign are aware of the Energy Upgrade California brand name (see Figure 26) when asked directly whether or not they had heard of 'Energy Upgrade California'. This is true across consumers who interacted with the campaign through retail, CBO, or mobile events as well as the website. While consumers that recall their campaign interaction are more likely to recall the brand, between 31% and 47% of consumers who do not recall their campaign interaction are still aware of the brand (the 100% of mobile respondents is based on only 3 respondents). In the opposite direction, the results show a sizable percentage of respondents who recall their interaction with the campaign are unaware of the brand. This is more true of those who interacted with the campaign at retail, CBO, or mobile events than the website (44%, 39%, 53%, and 10% respectively are not aware of the brand).

Figure 26. Awareness of Energy Upgrade California by Marketing Channel: Aided



Note: Letters are assigned to represent each survey wave. A letter next to a percentage indicates a statistically significant difference from the indicated survey wave at the 90% level.

Source: Attribution (A2c), Event Follow-Up (A2c), and Mobile Surveys (A2c), Fall 2015.

5.3 Knowledge of Communicated Actions and Opportunities

One determinant of whether consumers will take desired energy-saving actions is their knowledge and understanding of the specific action or actions that the program is promoting. As such, the evaluation team used both general population surveys and surveys with those exposed to the campaign to assess knowledge

of campaign topics and resources. As part of this analysis, the team looked at Metric 2 and its three subcomponents for those aware of the brand: [42]

- 2a: 25% were aware of programs the brand communicated about (aided)
- 2b: 25% could identify actions they could take to save energy (unaided)
- 2c: 25% could identify that they can go to energyupgradeCA.org to learn more (unaided)

A variety of sources provide information about energy management making it challenging to attribute customer awareness of campaign topics to the campaign itself. It is difficult for people to recall where they first learned energy information. As such, our approach to assessing campaign effects on consumer knowledge makes use of results from both our general population surveys, which rely on respondent self-report of campaign exposure, as well as the surveys we conducted with consumers we know were exposed to the campaign through the website or at CBO, retail, and mobile events.

Metric 2: Knowledge among IOU ratepayers who are aware of Energy Upgrade California of the specific actions and opportunities communicated by the SW ME&O program that they can take to better manage their energy use.

As documented in the program theory and logic model, SW ME&O efforts are designed to ensure consumers understand the specific actions they can take to save energy. We present findings within this section of the report on the current level of consumer knowledge and understanding of communicated information.

5.3.1 Awareness of Campaign Topics among the General Population

Awareness of Campaign Programs/Topics

The Energy Upgrade California campaign covered a wide variety of topics. The campaign focused more on actions and less on specific "programs," as specified in Metric 2a. To assess aided consumer awareness of campaign topics in the tracking surveys, we selected four prominent topics: the Climate Credit, home automation, time varied rates, and the Home Upgrade program. We described each topic to respondents and asked them if they had heard of the topic prior to taking the survey. We asked respondents who had heard of the topic where they had first learned of it.

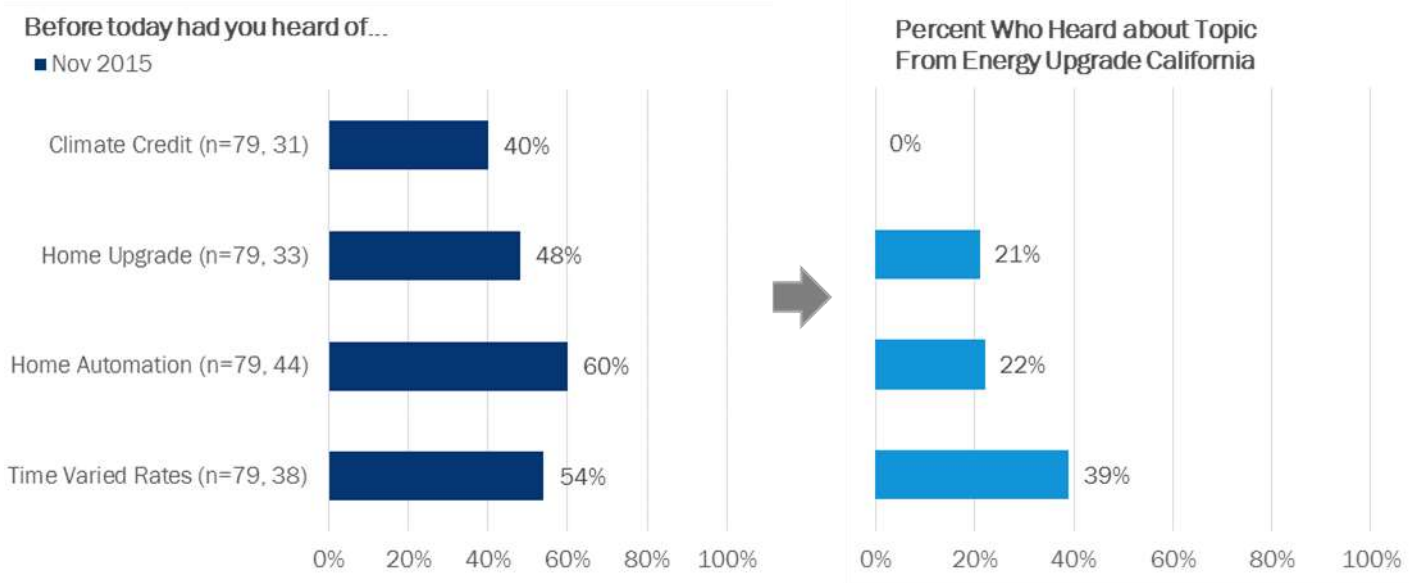
The campaign achieved the target value for Metric 2a of 25% awareness of communicated campaign programs and topics among consumers aware of Energy Upgrade California. In November 2015, between 40% and 60% of respondents who were aware of the brand said that they were aware of the surveyed campaign topics (see Figure 27), each of which exceed the metric target value.[43] Given the number of sources that are

[42] Between 15% to 20% are aware of Energy Upgrade California. As a result, the sample sizes used to assess Metric 2 are much smaller than those used to assess Metric 1.

[43] We asked about two of the four topics in more than one survey. We found no change in awareness levels over time. We asked about awareness of time of use rates in the May 2015 survey and found that 58% were aware of the rates. We asked about awareness of the Climate Credit in the May 2014 survey that was conducted after the first Climate Credit appeared on customer bills. We found that 42% of those aware of the brand were aware of the Climate Credit. Respondents who were aware of Energy Upgrade California were more likely to be aware of the campaign topics than respondents who were unaware of the brand. However, the differences were not statistically significant due to the smaller sample sizes of the subgroups.

likely to have provided information on the same topics, we asked respondents where they first learned of the topic if they were aware. Of those who were aware of a topic, between 0% and 39% reported hearing about the topic from Energy Upgrade California. No one reported hearing about the Climate Credit from Energy Upgrade California. The most frequently mentioned sources of information about the Climate Credit were the respondent's utility (50%), newspaper articles (43%), and friends and family (23%). These results are consistent our evaluation of the Climate Credit campaign which showed that most people reported hearing about the credit through mass media or seeing it on their electric bill. It is difficult to determine whether the newspaper articles or other mass media mentions were a result of CSE's Climate Credit campaign or some other information source. The metric does not require demonstrating that the campaign was the primary source of information for customers who are aware of campaign topics. Future versions of this metric should consider adding this linkage between awareness and the campaign.

Figure 27. Awareness of Campaign Topics: Aided
(Among Those Aware of Energy Upgrade California)



Note: First number in legend refers to the number of cases in the chart on the left. The second number refers to the number of cases in the chart on the right.

Source: Wave 2 Tracking Survey (A11, A13, A14, A15).

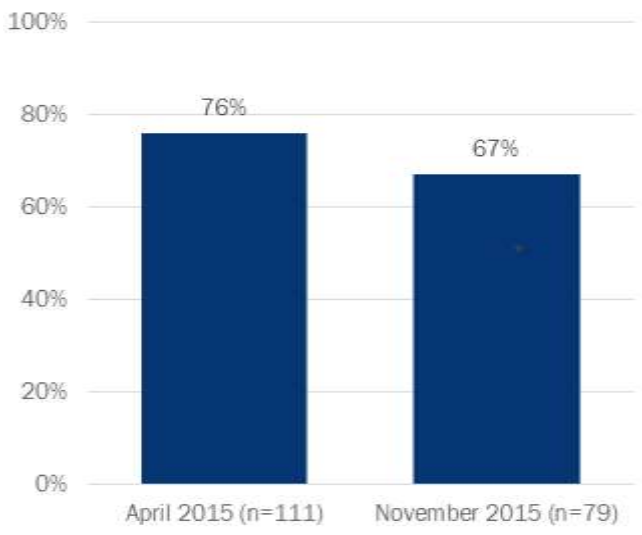
Another prominent campaign topic was the interrelationship between water and energy use. We took a slightly different approach with this topic and asked respondents if the amount of water they used in their homes affected the amount of energy they used. We found that 59% of respondents who were aware of Energy Upgrade California knew that their water use affected their energy use. This compares to 48% of those who were unaware of the brand. Despite this difference, we cannot attribute it to the Energy Upgrade California campaign as it might be due to other factors that underlie awareness of both the brand and the water/energy nexus.[44]

[44] This difference highlights the challenges of attributing knowledge of a campaign topic to the campaign. The drought received a lot of attention in California from a variety of sources. It is possible that customers who are aware of Energy Upgrade California are more likely to be aware because of their interest in energy, which also makes them aware of other topics like the relationship between water and energy use. As a quick test, we ran a logistic regression model predicting awareness of the water/energy connection by awareness

Awareness of Energy-Saving Actions

To assess the ability of consumers who were aware of Energy Upgrade California to identify energy-saving actions (Metric 2b), we asked respondents an open-ended question in the tracking surveys to provide three different energy-efficient home improvements that people could make if they wanted to save energy in their homes. Based on the responses to this question, **the campaign achieved the Metric 2b goal of 25% of respondents who were aware of the brand being able to identify an energy-saving action communicated by the campaign.** Of respondents aware of the brand, two-thirds (67%) could provide at least one specific action in the November 2015 survey. We considered "Don't Know", "Conserve Energy (General)", and "Other" responses, which were not campaign topics, as not meeting Metric 2b. Though the metric was easily met in November, more respondents were able name an action in the April 2015 survey (76%).It is also important to note that Metric 2b does not require attribution of awareness and knowledge to the SW ME&O program. As a result, it is possible that consumers learned about energy-efficiency home improvements from other sources.

Figure 28. Ability to Identify Energy-Saving Actions Communicated by the Campaign: Unaided (Among Those Aware of Energy Upgrade California)

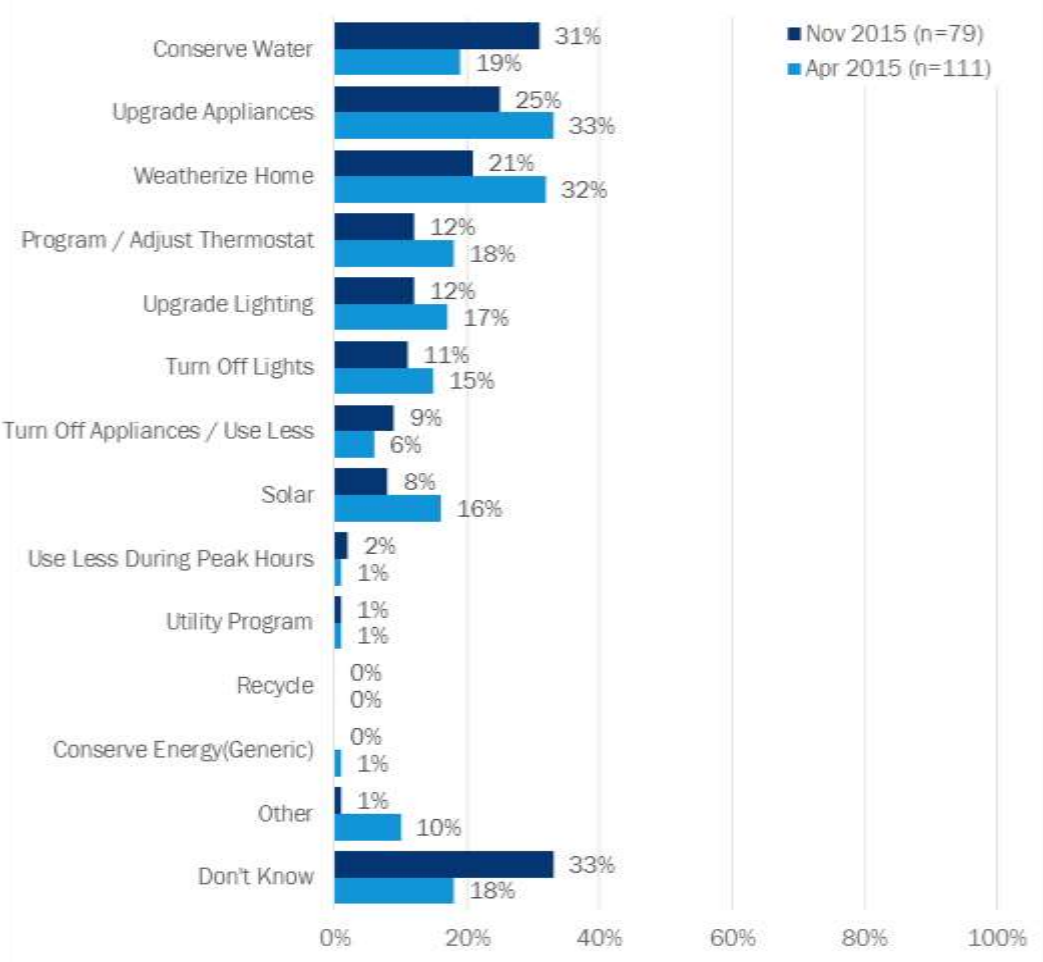


Source: Wave 1 and Wave 2 Tracking Surveys (MA1).

Respondents identified a variety of actions (see Figure 29). In the April 2015 survey, upgrading appliances (33%) and weatherizing one's home (32%) were the most frequently mentioned actions. In the November 2015 survey, more respondents mentioned saving water than any other action (31%). It is not clear from the open-ended question whether respondents understood the connection between lower water use and lower energy use or whether it was a "top of mind" response given the increasing severity of the drought. Upgrading appliances and weatherization continued as frequent mentions as well.

of Energy Upgrade California controlling for a variety of demographic characteristics and found that brand awareness was a not a significant predictor of knowledge.

Figure 29. Awareness of Energy Saving Actions: Unaided
(Among Those Aware of Energy Upgrade California)



Source: Wave 1 and Wave 2 Tracking Surveys (MA1).

Awareness of Energy Upgrade California Website

Metric 2c establishes a target of 25% for unaided awareness of the Energy Upgrade California website among those who were aware of the brand. To assess this metric, we asked respondents to name the websites that they would visit to find information on energy-saving tips and practices. We found that fewer than 1% of respondents who were aware of the brand volunteered the Energy Upgrade California website. On this basis, **the program did not meet the target for Metric 2c**.

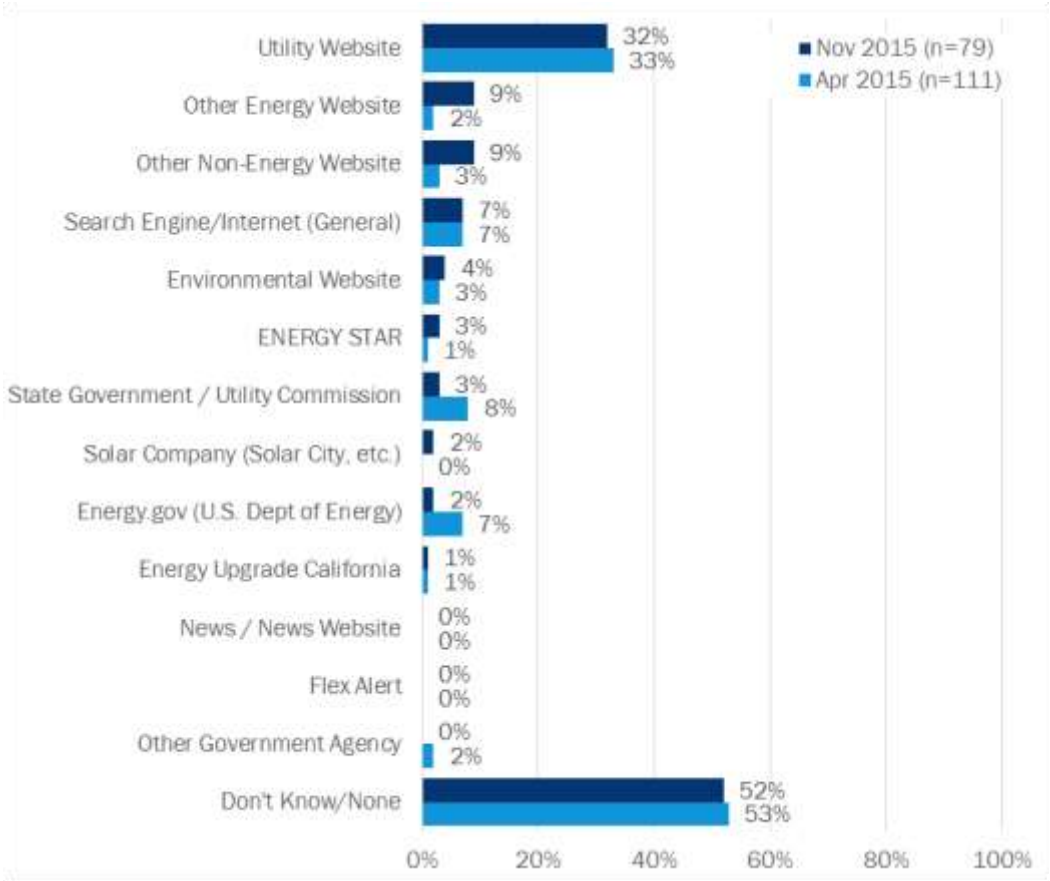
It is well known that prior survey questions can affect responses to subsequent questions.[45] To avoid priming respondents for this unaided metric, we asked respondents to name a website in an open-ended question prior to asking a single question in which we asked about the Energy Upgrade California brand . An objective of the brand is for it to become a trusted information source for Californians who are looking for energy

[45] See, for example, Chapter 2 of Howard Schuman and Stanley Presser, *Questions and Answers in Attitude Surveys: Experiments on Question Form, Wording, and Context*, 1981, New York: Academic Press.

management information. As a result, ideally, consumers who are aware of the brand will go to the website when they are seeking energy information. However, given the websites that respondents did mention, it appears to have been unrealistic to expect that 25% would mention the Energy Upgrade California website without some prompting at this point in the short history of the program's campaign. For this reason, the CPUC approved, via the advice letter process, an amendment to this metric to be "aided."

Only half of those aware of the brand could name a single website where they would go to get information on saving energy (47% in April and 48% in November). Respondents most frequently said that they would go to their utility's website (33% and 32% in the April and November surveys, respectively) (see Figure 30). Another 7% named an Internet search site such as Google instead of a specific website. Only a few respondents mentioned ENERGY STAR, which has high brand recognition.

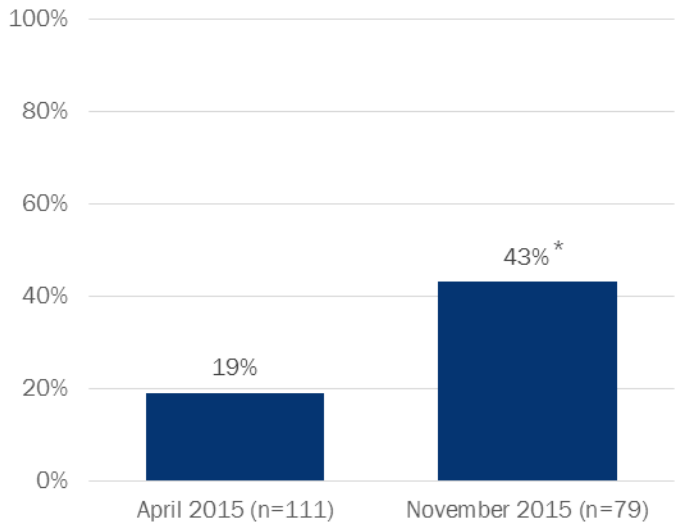
Figure 30. Awareness of Internet Resources for Energy Saving Information: Unaided (Among Those Aware of Energy Upgrade California)



Source: Wave 1 and Wave 2 Tracking Surveys (IN2).

Given these considerations, we asked an aided website awareness question following the aided brand awareness question that might provide a better measure of overall website awareness. We asked respondents who were aware of the brand whether they had ever heard of energyupgradeCA.org. We found that 43% were aware of the website in November 2015, which is a significant increase from 19% in April. More than half of those who were aware in both surveys had visited the website in the past 6 months (58% and 60% in April and November).

Figure 31. Awareness of Energy Upgrade California Website: Aided
(Among Those Aware of Energy Upgrade California)



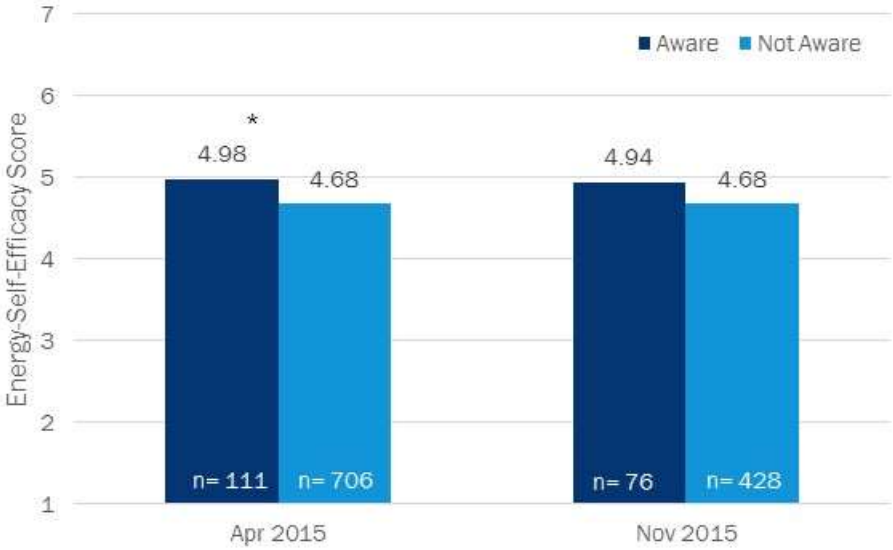
Note: An asterisk indicates a statistically significant difference from the previous survey at the 90% level.

Source: Wave 2 Tracking Survey (A9).

Energy Management Efficacy

An objective of the campaign, though not an official metric, is to empower Californians to better manage their energy use. The evaluation team included several questions in the tracking surveys to measure the extent to which respondents felt that they were capable of managing their energy use. We combined the questions into an overall energy self-efficacy scale. Energy efficacy did not change between the April and November 2015 surveys, which is not surprising. This indicator will likely take longer to change as it requires a more fundamental change in people's understanding of the need for change and energy management solutions. Respondents who were aware of Energy Upgrade California ranked slightly higher on the scale than than those unaware of the brand. If the Energy Upgrade California campaign is successful in increasing energy self-efficacy, the average scale rating should increase over time among those aware of the brand.

Figure 32. Energy Self-Efficacy



Note: An asterisk indicates a statistically significant difference between subgroups at the 90% level.

Source: Wave 1 and Wave 2 Tracking Surveys (EF1-EF9).

5.3.2 Awareness of Campaign Topics among Consumers Reached by the Campaign

The SW ME&O program communicated with residential consumers about a wide range of topics during the 2014–2015 period. As part of follow-up research with consumers who interacted with Energy Upgrade California, the evaluation team measured recall of the topics discussed at retail and CBO events and respondent knowledge of those topics. These results provide additional data related to knowledge gain, which we previously discussed in relation to Metric 2 (knowledge). Note that only the general population survey is used to assess performance against that metric.

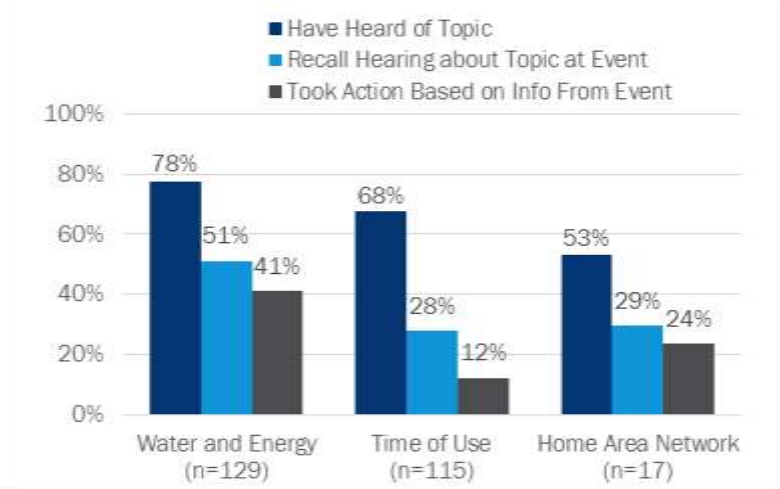
As noted in the methodology section (Section 3), the assessment of recall and knowledge around promoted topics is based on data from event follow-up surveys only. For the consumers included in this sample frame, the evaluation team had information on the specific date, location, and topics of their interaction. Within the time frame of these interactions, there were three main topics promoted through the CBO and retail channels: **water and energy**, **time of use**, and **home area networks**. Table 29 illustrates the time frame for promotion of each topic.

Table 29. Timeline for Promoted Topics

Topic	July 2015	August 2015	September 2015
Water and Energy	◊	◊	
Time of Use	◊	◊	
Home Area Networks			◊

We asked respondents who interacted with retail or CBO events whether they were aware of the specific topic that was the focus of their interaction. As shown in Figure 33, between approximately one-half and three-quarters of respondents had heard of each topic. However, a much smaller percentage reported learning about that topic specifically through their interaction with the SW ME&O program.[46] The largest percentage of respondents (51%) recalled hearing about ways to save water during their interaction with the event.

Figure 33. Recall of Topics Promoted through CBO and Retail Engagements: Aided



Source: Event Follow-Up Survey, Fall 2015. Hearing and recall data is based on questions K2a, TV1, K2c, HA2, K4 and WE3. Action data is based on questions WE5, TV5, HA4.

The following sections provide detailed information on each of the promoted topics.

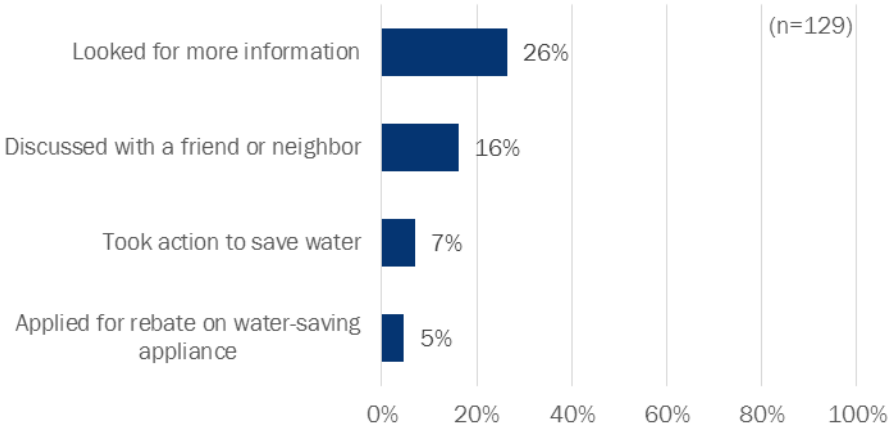
Water and Energy

Energy Upgrade California retail and CBO events focused on the connection between water and energy from July 2015 to early September 2015.[47] As mentioned above, about half of respondents would who have been exposed to this topic recalled hearing about the connection between energy and water during their interaction (51%) and fewer (41%) claim to have taken action based on what they heard at the event. In terms of actions taken, approximately one-quarter (26%) reported looking for more information, while fewer than 10% took a specific water-saving action or applied for a relevant rebate.

[46] We asked all respondents if they were aware of the topic, regardless of whether they could recall their interaction with the campaign. We asked respondents only whether they learned about the topic from the campaign or took action if they could recall their interaction. However, the bases for the percentages include all respondents surveyed, so they reflect the influence of the campaign on every respondent touched, regardless of whether the respondent recalled the interaction.

[47] During the survey period, 129 respondents would have been exposed to the water and energy topic during their campaign interaction.

Figure 34. Water and Energy-Related Actions Taken Due to the Event (Multiple Response)

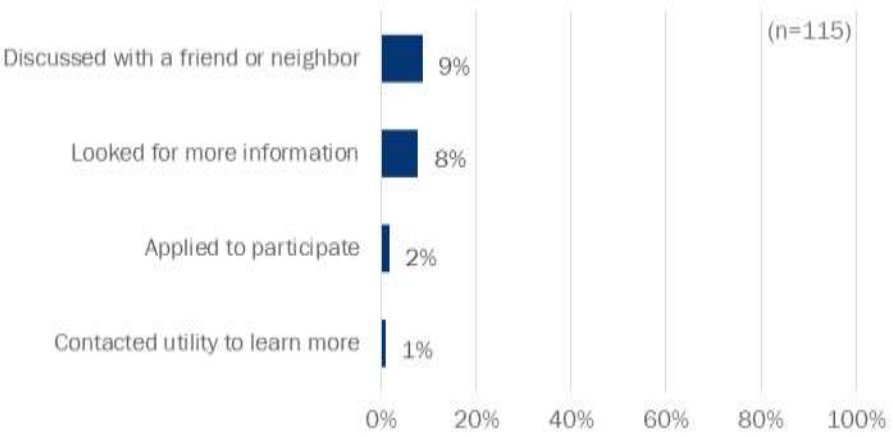


Source: Event Follow-Up Survey (WE5), Fall 2015.

Time of Use Rate Plans

Energy Upgrade California retail and CBO events focused on time varied rate plans from late July to mid-September.[48] While just over two-thirds (68%) had heard about time varied rate plans, only 28% recalled hearing about the topic during their campaign interaction and fewer (12%) claimed to have taken action based on what they heard at the event.

Figure 35. Time of Use Rate Plan Actions Taken Due to the Event (Multiple Response)



Source: Event Follow-Up Survey (TV5), Fall 2015.

[48] During the survey period, 115 respondents would have been exposed to the time varied rate plan topic during their campaign interaction.

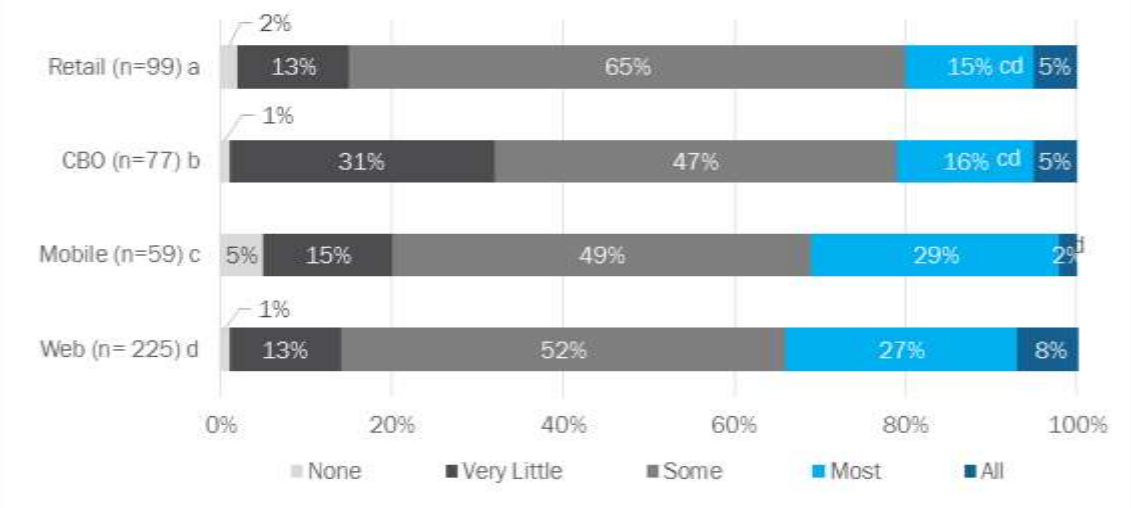
Home Area Networks

Energy Upgrade California retail and CBO events focused on home area networks from mid- to late September.[49] While just over a half (53%) of these respondents had heard of home area networks, only 29% recalled hearing about the topic during their interaction and a similar percent (24%) claimed to have taken action based on what they heard at the event (n=17).

General Knowledge Gains

In addition to learning about specific topics as part of their interactions with Energy Upgrade California, consumers who were exposed to the campaign felt that at least some of the information presented to them was new. Consumers who interacted with the website and mobile display were most likely to say that most or all of the information was new, compared to those who interacted with retail or CBO events (see Figure 36).

Figure 36. Amount of Information from Campaign Interaction That Was New to Respondent



Note: Letters are assigned to each marketing channel. Letters next to percentage indicate the percentage is significantly different from the indicated marketing channel at the 90% level.
Source: Attribution (W3), Event Follow-Up (I2), and Mobile Surveys (I3), Fall 2015.

We asked mobile respondents what information was new to them. Respondents mentioned a wide variety of items, but most often spoke generally about ways to save energy and about how much energy households use. While these types of general takeaways align with the objectives of the display, some respondents were also able to recall specific tips, as shown in Table 30.

[49] During the survey period, 17 respondents would have been exposed to the home area network topic during their campaign interaction. We do not present detailed results on specific actions taken due to the small sample sizes.

Table 30. Specific Information That Was New to Mobile Display Visitors

"What information was new to you?"	Percentage of Respondents (n=56) [a]
Ways to save energy in general	20%
How much water/energy households use	13%
Energy-related programs/brands/initiatives	9%
Ways to save water in general	9%
Energy-efficient equipment available	4%
Rebates available	4%
Renewable energy	2%
Specific Tips to Save Energy/Water	
Wash clothes with cold water	11%
Take shorter showers/turn off sink	5%
Unplug appliances	4%
Turn off lights	2%
Other/Don't Know	
Other	4%
Don't know	30%

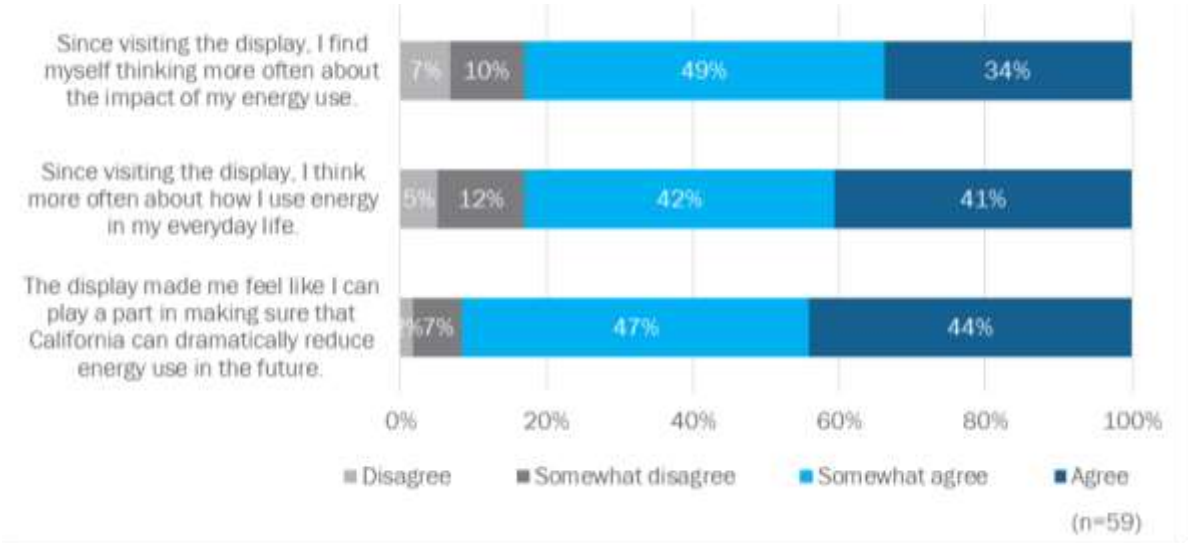
[a] Excludes three respondents who did not recall the event and three who said that "none" of the information presented was new to them.

Source: Mobile Survey (I4a), Fall 2015.

Survey results with mobile participants also indicate that the display achieved the program's objective of creating "aha" moments for visitors that would change the way they thought about energy use.[50] Most respondents agreed that visiting the display changed the way they think about energy. Almost all respondents (91%) reported that the display made them feel that they could make a difference in reducing California's energy use and more than three-quarters (83%) think more often about how they use energy.

[50] Center for Sustainable Energy. Energy Upgrade California Mobile Education and Outreach Channel Overview. May 2015.

Figure 37. Attitude Changes after Visiting the Mobile Display



Source: Mobile Survey (I4b), Fall 2015.

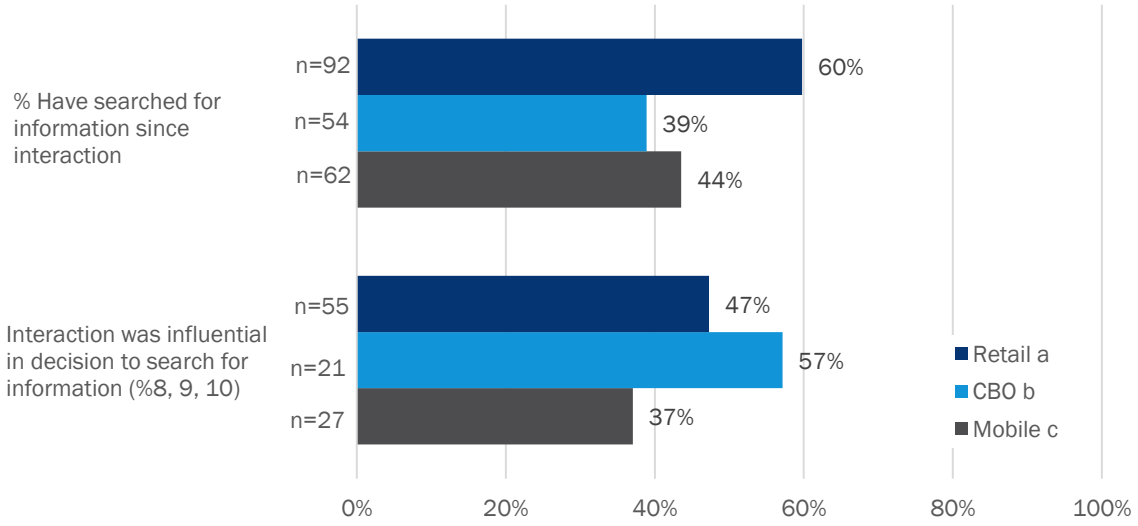
5.4 Energy-Saving Behaviors and Actions

While none of the performance metrics for the SW ME&O program relate to catalyzing energy-saving actions and generating energy savings in the long term, the CPUC felt that it was important to assess the degree to which the program was influencing these types of activities among consumers. To tie the actions as closely to the campaign as possible, we provide results from the surveys the evaluation team conducted with consumers known to have engaged with Energy Upgrade California outreach. As described in the methodology section (Section 3), we spoke with consumers who interacted with Energy Upgrade California representatives at CBO events and presentations, in retail settings, and at mobile displays to understand what they learned and whether the interaction influenced them to take energy-saving action. While respondents represent a small sub-sample of California consumers potentially influenced by the program, they provide an initial look at how consumers may respond to SW ME&O.

Information-Sharing Behaviors

As a precursor to taking actions that generate energy savings, such as purchasing and installing new energy-efficient equipment in the home, consumers may look for additional information. The evaluation team asked respondents who had been exposed to the campaign through CBO, retail or mobile events whether they had searched for energy information since interacting with the campaign. Retail events appear to have had the greatest impact on information seeking behavior (see Figure 38). Slightly under two-thirds (60%) of consumers who were exposed to the campaign through retail events searched for energy information and just under half (47%) said their interaction was highly influential in their decision to search for information. On the other hand, consumers who interacted with CBO events were less likely to search for information (39%) but among those that did, they were more likely (57%) than consumers exposed through retail events (47%) to say their campaign interaction influenced that search (note that this difference, while large, is not statistically significant due to the small sample sizes). Fewer than half (44%) of consumers who interacted with the campaign's mobile displays searched for information, but just over one-third said their campaign interaction influenced that search (37%).

Figure 38. Information Seeking Following Campaign Interactions



Note: The first number in legend refers to the number of survey respondents answering "% Have searched for information since interaction", and the second number refers to the number answering "Interaction was influential in decision to search for information".

Source: Event Follow-Up (Percent have searched for information is based on question I7. Influence of interaction on decision to search for information is based on question 7d) and Mobile Surveys (Percent have searched for information is based on question I13. Influence of interaction on decision to search for information is based on question I13b), Fall 2015.

Those who searched for more information were most likely to consult internet search engines like Google or Bing. Utility websites were also a common source of information (see Table 31). Between one-third and one-fifth of consumers, depending on the channel, consulted the Energy Upgrade California website.

Table 31. Where Consumers Searched for Information

Where did you search for this information?	Retail (n=55)	CBO (n=21)	Mobile (n=27)
Search engine	56%	52%	74%
Utility website	40%	52%	44%
Energy Upgrade California website	**33%**	**29%**	**19%**
Talking to a friend or neighbor	9%	0%	19%
Home improvement retailer website	35%	19%	15%
Energy Star website	13%	29%	11%
Retail store representative	13%	5%	4%
Other	0%	0%	0%

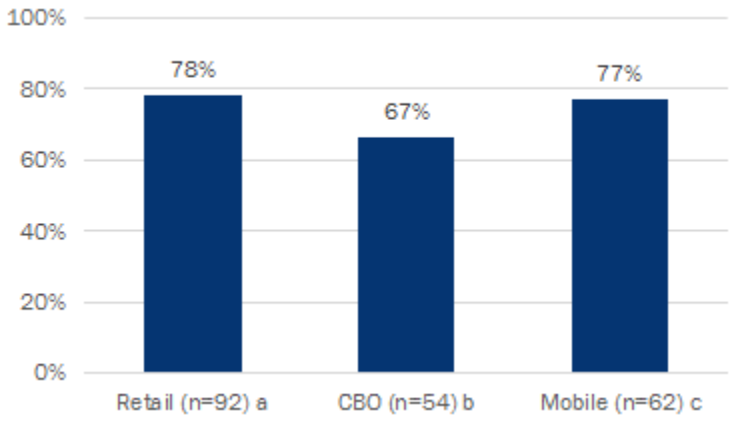
Note: Sums to more than 100% because some respondents gave multiple responses. Includes only respondents who reported searching for information after their interaction.

Source: Event Follow-Up (I7c) and Mobile Surveys (I13a), Fall 2015.

Information-Sharing Behaviors

A goal of the Energy Upgrade Campaign is to provide consumers with information that they will share with others in their families and communities. Between two-thirds and three-quarters of consumers interviewed through the event follow-up surveys discussed or shared energy information since their interaction with the campaign (see Figure 39). Information sharing is generally high across all marketing channels.

Figure 39. Information Sharing after Campaign Interactions



Note: Letters are assigned to each marketing channel. Letters next to percentage indicate the percentage is significantly different from the indicated marketing channel at the 90% level.

Source: Event Follow-Up (I6) and Mobile Surveys (I9), Fall 2015.

Household members followed friends, neighbors, and colleagues were the most discussion partners (see Table 32). Social media, which has the potential to reach a larger number of people than one-on-one discussions, is less popular. Those who interacted with mobile displays were most likely to share information via social media, which is not surprising given that consumers create digital artifacts to share via social media at the display.

Table 32. Information Sharing/Discussion Partners

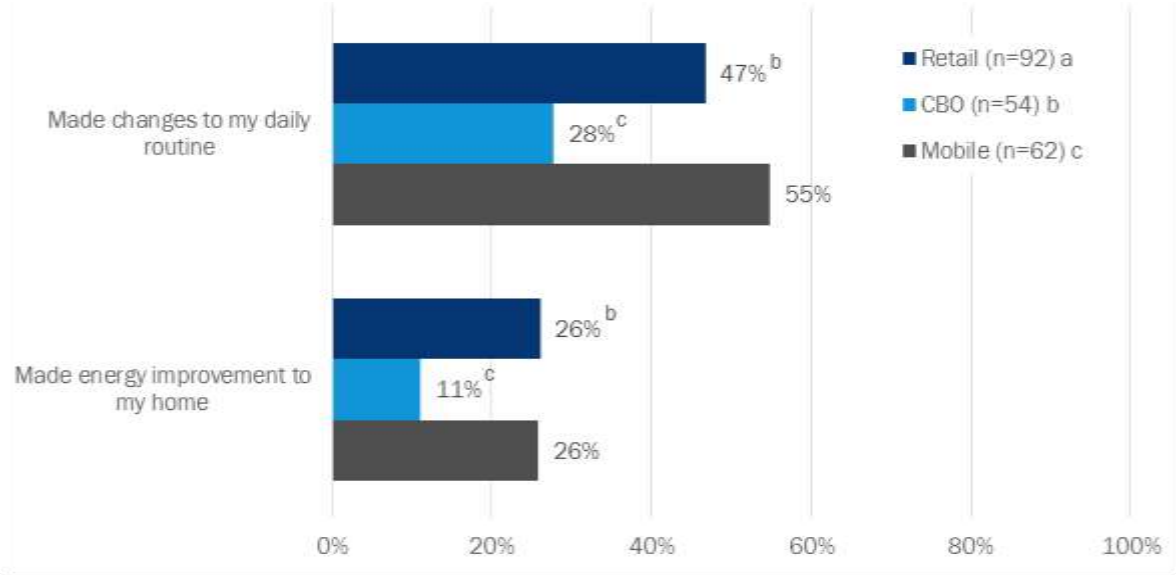
With whom have you discussed or shared ideas about energy in general or how energy affects your everyday life?	Retail (n=72) a	CBO (n=36) b	Mobile (n=48) c
Other people in your household	89%	83%	88%
Your friends, neighbors or colleagues	68%	64%	63%
Your social media networks	8%	11%	23%[a]

Source: Event Follow-Up (I6) and Mobile Surveys (I9), Fall 2015.

Energy-Savings Actions

Consumers who interacted with the Energy Upgrade California campaign went beyond searching for and sharing information -- many took energy saving actions. It was more common for consumers to change their daily routines than to make home improvements (see Figure 40). Approximately half of retail (47%) and mobile attendees (55%) and one-quarter of CBO attendees (28%) made changes to their daily routine. Approximately half as many made home improvements.

Figure 40. Actions Taken as a Result of Campaign Interaction



Note: Letters are assigned to each marketing channel. Letters next to percentage indicate the percentage is significantly different from the indicated marketing channel at the 90% level.

Source: Event Follow-Up (Percent made changes to daily routine based on survey question MA1. Percent made improvements to their home base on survey question MA3a) and Mobile Surveys (Percent made changes to daily routine based on survey questions MA1. Percent made improvements to their home base on survey question MA3a), Fall 2015.

We asked mobile survey respondents to identify the types of changes they made to their daily routines as a result of their interaction with the mobile display.[51] Half or close to half now turn the lights off when not in a

[51] We did not ask this question of respondents to the retail and CBO event follow-up survey due to survey length.

room, use full loads when doing their laundry, or have made adjustments to their thermostats to limit their heating and cooling use (see Table 33).

Table 33. Changes to Daily Routine as a Result of Mobile Display

"Did you make any of the following changes to your daily routine?"	Percentage of Respondents (n=62)
Turn off lights when not in the room	53%
Use full loads for laundry	50%
Set my thermostats to ensure that my heating/cooling system is used only when necessary	40%
Unplug appliances and electronic equipment when not using them	35%
Wash laundry using cold water	34%
Other change to daily routine	2%

Note: Percentages sum to more than 100% because many respondents took multiple actions
Source: Mobile Survey (MA5), Fall 2015.

We asked consumers who interacted with retail, CBO, and mobile displays whether they took specific energy saving actions in the past 60 days.[52] When assessing these responses, we only wanted to consider respondents who had the potential to take the action either because they had not previously completed the action or, for some measures, were not renters. Based on this approach, all respondents were eligible actors for at least one of the actions investigated. To be able to attribute the actions taken to the campaign, we asked respondents who had taken actions to rate the influence of the campaign on their action, as well as the likelihood of taking the same action if they had not interacted with the campaign.[53] While not all of the actions that the survey asked about were directly promoted by the SW ME&O program, the provision of information on energy management more generally may lead to this type of action taking.

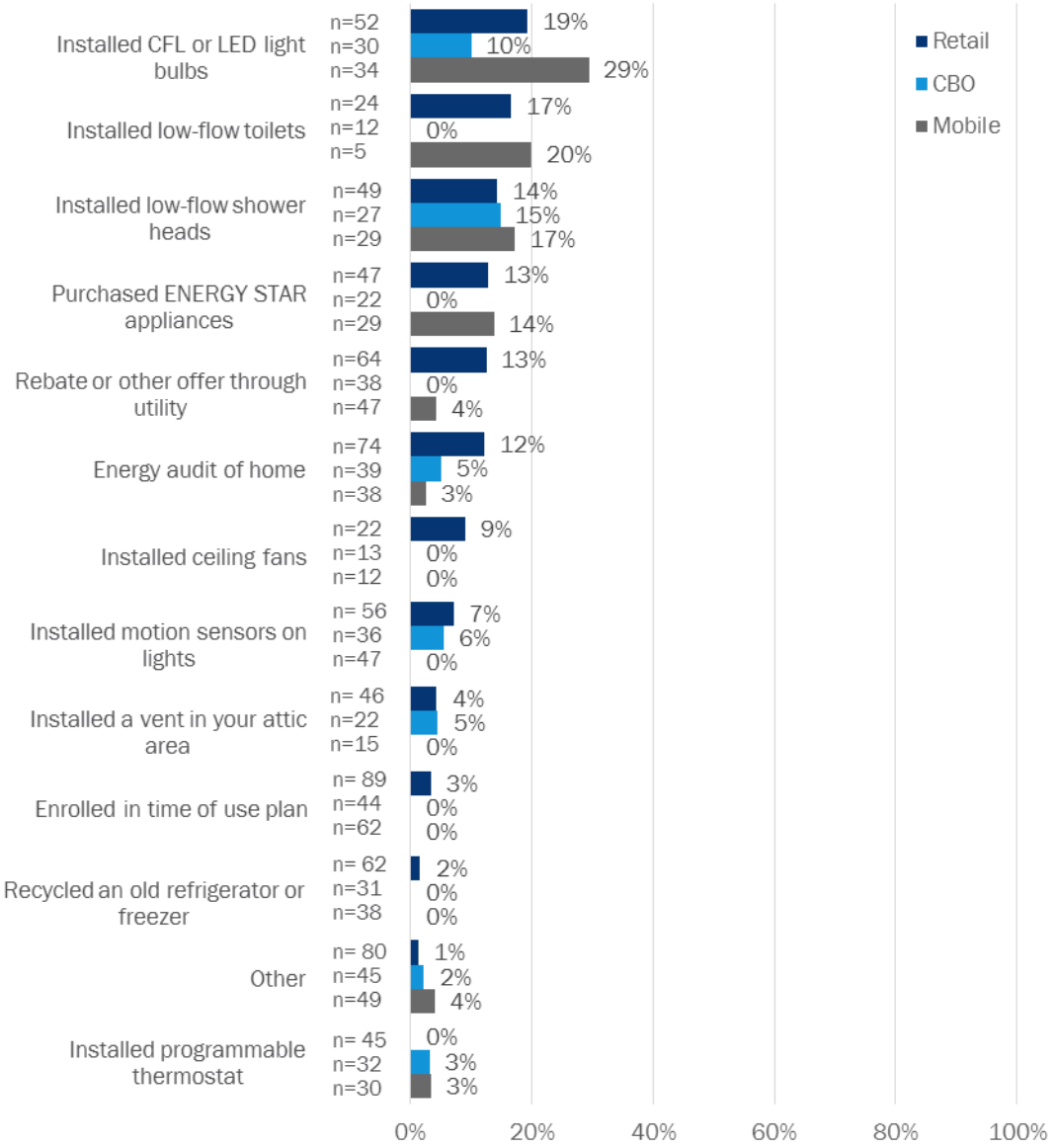
Consumers were most likely to install energy efficient light bulbs, low-flow toilets, or low-flow showerheads as a result of their Energy Upgrade California campaign interaction (see Figure 41). The general patterns are similar across marketing channels.[54] Consistent with the results in Figure 40, consumers who interacted with CBOs events were less likely to report taking specific actions as a result of the campaign.

[52] We invited event attendees to complete the survey 30 days after their interaction. Respondents could take up to 3 weeks to complete the survey. For this survey question, we needed to pick a time frame that was not so long that it would include time before their interaction with the campaign, but not so short that it would exclude actions taken immediately after their interaction.

[53] Respondents who provided a rating of five or greater on a scale from 0 to 10 where 0 is "Not at all influential" and "10="Very influential were asked about their likelihood of taking the same action in the absence of the campaign.

[54] We did not test for statistically significant differences between marketing channels due to the small and varied sample sizes across actions. The small sample sizes also make it impossible to tie actions taken to the topic of the campaign interaction.

Figure 41. Actions Taken as a Result of Campaign Interactions (Past 60 Days) – Aided



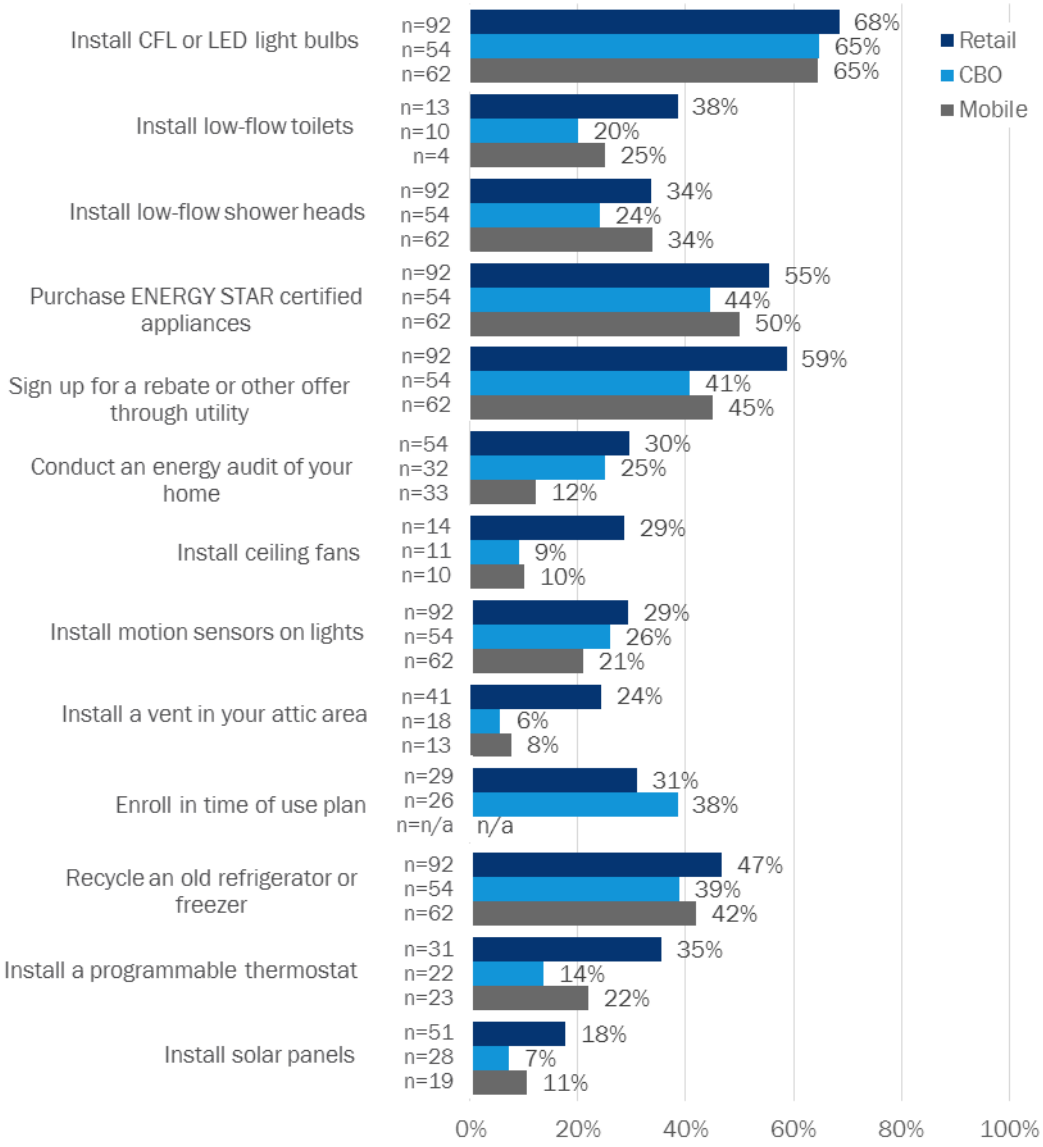
Note: The number of cases are the number of survey respondents who had not already completed the action prior to the interaction and, for applicable measures, respondents who own their home (i.e., installed solar panels, installed ceiling fans, installed attic vent, and installed low-flow toilets).

Source: Event Follow-Up (MA2) and Mobile Surveys (MA2), Fall 2015.

It is possible that consumers that interacted with the campaign did not have time to complete an action before they participated in the survey, but planned to do so in the future. To capture these intentions, we asked respondents whether they planned to take certain actions in their home in the next 12 months. Please note, we consider certain actions (e.g., enrollment in time of use programs, installation of low-flow toilets) to be one-time actions that they are not likely to repeat. Therefore, we did not ask respondents who told us previously that they had taken the action about these actions.

A majority of respondents planned to take at least one action in the next 12 months (see Figure 42). As with actions already taken, installing energy efficient light bulbs are the most common action planned. However, more expensive or time-intensive measures, such as buying new ENERGY STAR certified appliances, signing up for a rebate or other offer through a utility, or recycling an old refrigerator or freezer, were commonly planned actions as well. Of course, stated intentions to act in the future do not guarantee an action will be actually be taken. Many overstate their intention to act due to a desire to appear more socially responsible (i.e., social desirability bias).

Figure 42. Actions Planned in Next 12 Months



Note: The number of cases are based on the number of survey respondents who had not completed the action prior to the interaction and, for applicable measures, respondents who own their home (i.e., installed solar panels, installed ceiling fans, installed attic vent, and installed low-flow toilets).

Source: Event Follow-Up (MA4a-m) and Mobile Surveys (MA4a-m), Fall 2015.

6. Summary and Recommendations

This section of the report summarizes key findings from the Verification and Integrated Effectiveness Study and provides recommendations regarding the continued implementation of the SW ME&O program.

6.1 Summary of Key Findings

The findings from this study provide a mixed picture of SW ME&O effectiveness. In terms of the formal program performance metrics established for the 2014-2015 period, CSE achieved four of the five metrics for which they are directly responsible. We provide key findings related to each metric below, as well as in Table 34.

- Twenty percent of Californians are aware of Energy Upgrade California. However, there has been no significant change in awareness over the 2014-2015 period, and familiarity with and knowledge of the brand remains weak.
- Between 40% and 60% of those aware of Energy Upgrade California are aware of a program or topic that the program communicated about
- 52% of those aware of Energy Upgrade California can identify energy-saving actions that the program communicated about
- Less than 1% of Californians can identify the Energy Upgrade California website unaided. However, there has been a significant increase in aided awareness of the website among those aware of the brand. We found that awareness of the website increased from 19% in April 2015 to 43% in November 2015. Further, more than half of those aware of the website reported visiting in the past 6 months.
- Approximately 900,000 unique visitors accessed the Energy Upgrade California website, and 35% of visitors spent more than 10 seconds per page. In addition, 21% of visitors viewed three or more pages.
- For digital advertising, 0.11% of those who saw a digital advertisement clicked on it, which exceeded the target value for digital click through rates.
- On the process side of program implementation, CSE engaged with CBOs, local governments, retailers, and realtors in administering the program. In addition, CSE conducted research on small and medium businesses to inform the development of messaging for this sector in late 2015 and 2016.
- Finally, coordination and information sharing occurred between CSE, the IOUs and RENs over the program period through ongoing meetings and information sharing tools such as the Trumba calendar.

The following table summarizes performance of the SW ME&O program against the program performance metrics. Green cells indicate where CSE achieved a target value and yellow indicates where CSE almost achieved a target value.

Table 34. SW ME&O Program Performance Summary

Metric	Description	Target	Actual Performance
1	Awareness of Energy Upgrade California	20% aware (aided)	20%
2	Knowledge among IOU ratepayers who are aware of Energy Upgrade California of the specific actions and opportunities communicated by the initiative that they can take to better manage their energy use	25% can identify highlighted programs (aided)	40% - 60%
		25% can identify actions to save energy (unaided)	67%
		25% know to go to the website to learn more (aided)[a]	43%
3	Engagement with Energy Upgrade California website, digital media, social media, and community outreach	Website: 1.3 million unique visitors	907,144
		Website: 25% of visitors view ≥3 pages	21%
		Website: 30% of visitors spend >5 sec on a page	35%
		Social media: 40,000 Facebook fans	48,752
		Digital media: 0.08% click through rate	0.11%
4	Participation in and engagement with Energy Upgrade California by CBOs, local governments, retailers, and realtors	Yes/No	Yes - Achieved
5	Small business messaging is researched and piloted	Yes/No	Yes - Achieved
6	RENs and IOUs provide information to CSE and the marketing firm in a timely manner	Yes/No	Yes – Achieved by the IOUs/RENs
7	EM&V roadmap for Energy Upgrade California is completed	Yes/No	Yes – Achieved by the CPUC

[a] The final version of this metric refers to unaided awareness, which is less than 1%. However, the CPUC believes that aided awareness better captures the true intent of this metric.

Beyond the performance metrics, the evaluation team identified the following key findings around campaign effectiveness:

- **Unaided Brand Awareness**: Californians struggle to name any energy-related brands without prompting, and unaided awareness of Energy Upgrade California remains low. In particular, only a handful of consumers named Energy Upgrade California when asked what brands, campaigns, or initiatives they had heard of that encourage Californians to save energy (1% in April 2015 and 2% in November 2015). If increased brand awareness continues to be an objective of the program, CSE should work to increase this value in future program years.

- **Brand Familiarity and Knowledge**: First, while awareness of Energy Upgrade California increased by only 3 percentage points since the brand assessment study in January 2013 (17% compared to 20%), those who are aware of the brand are somewhat more familiar with it. In particular, the average familiarity rating increased significantly from 3.09 in January 2013 to 4.11 in November 2015.[55]

[55] This value is based on a scale from 1 to 7 where 1 is "I have only heard the name" and 7 is "I know a lot about it".

Second, aided awareness of energyupgradeca.org among those aware of the brand increased significantly between April 2015 and November 2015 from 19% to 43%. These findings suggest a deepening of brand awareness among consumers as opposed to a broadening of awareness among a greater portion of the population. This is consistent with the direction that CSE received from the CPUC's Energy Division through the advice letter process.

- **Energy Self-Efficacy**: An objective of the program is to empower Californians to better manage their energy use. As a result, the evaluation team explored the degree to which consumers felt they were capable of managing their energy use. We found that consumers have moderate levels of energy self-efficacy (average scores of 4.7 to 5.0 on a scale from 1 to 7), which remained consistent over the course of 2015. This indicator will likely take longer to change as it requires a more fundamental shift in people's understanding of both the need for change and available energy management solutions. The program should strive to increase this value moving forward.

- **Energy Saving Action**: In contrast to these advances on key measures of awareness, a deeper analysis of consumer engagement with and actions taken due to the program suggests that its effects on behavior are limited. In particular, the team assessed the performance of different community outreach channels (i.e., CBO, retail, and mobile outreach) at the center of CSE's move towards direct, one-on-one in-person engagements. Through surveys with consumers who attended events and agreed to take a follow-up survey, we found that there was significant variation across the one-on-one outreach channels of retail, CBO, and mobile displays. Overall, we found that consumers had greater recall of retail and mobile events compared with CBO events and took a greater number of actions as a result of those engagements than those who engaged with CBOs.

  These findings suggest that the retail and mobile channels have been more effective than CBOs. In particular, mobile and retail events are creating experiences that are more memorable for consumers than those at CBO events. While all three community outreach channels (i.e., CBOs, retail, and mobile) offer one-on-one, customized experiences for consumers, CBOs have the added challenge of communicating SW ME&O program messaging at events that may have a very different focus. In these cases, consumers may not see the campaign as aligned with their interests and therefore may be less inclined to interact with program representatives. The fact that CBOs collected a greater number of email addresses at events than retail or mobile representatives but have the lowest levels of event recall is one indication that consumers are not interacting with CBOs in the same way that they are in retail and mobile display settings.

6.2 Recommendations

The strategy employed by the implementers of the SW ME&O program will always depend on the objectives and associated metrics established for the Energy Upgrade California campaign. One of the key challenges in implementing, as well as evaluating the 2014-2015 program was that implementation began before the metrics and target vales were determined. As a result of the late finalization of the program metrics, data tracking and to some extent, messaging and marketing content changed over the course of the program period. Based on this experience, it is clear that providing early and consistent direction to the implementation team on the objectives of the campaign is critical to its success.

As part of an overall focus on establishing a framework for assessment moving forward, particularly in the next program cycle beginning in 2017, the evaluation team recommends the following:

- **Establish more comprehensive program performance metrics**. While the metrics established for the SW ME&O program will always depend on the objectives outlined by the CPUC, it is important that the

next set of metrics provide a more holistic picture of program effectiveness. As outlined, the 2014-2015 metrics provided discrete measurements of awareness and knowledge, but did not require that the results be tied directly to the program (i.e., awareness and knowledge may be the result of other marketing efforts or information sources). Further, if awareness and knowledge of the brand continue to be important components of the program's objectives, unaided measures of these metrics should be included as they can provide a sense of whether the brand has made a strong impression on consumers, and whether consumers understand what the brand is and what it provides.

- **Engage the SW ME&O evaluator in developing program performance metrics**. The CPUC should consider making the evaluation team responsible for the development of program performance metrics. In the 2014-2015 period, the evaluation team was asked to comment on draft metrics and provided input regarding potential measurement challenges. Expanding this role would help ensure that the metrics provide a more holistic view of program performance.

- **Consider setting internal implementation team targets for event recall**. Results from this study show that it is difficult for consumers to remember their engagement with the campaign, particularly through the CBO channel (54% of participants remember interacting with an Energy Upgrade California representative). While this is an inherent challenge of implementing and assessing program performance, setting internal goals related to recall of event participation will motivate implementation team members to develop improved ways of interacting with consumers within a community setting. It can also encourage implementation team members to conduct an internal analysis of which types of events lead to the greatest levels of engagement with the campaign. The goal of setting targets in this area and increasing recall of event participation more generally is to increase the likelihood that consumers will take desired actions after the engagement and attribute that action to the program.

  Given the lack of established benchmarks for event recall in this and other industries, the evaluation team suggests using the results of this study as a baseline. The determination of target recall values moving forward should be addressed as part of the stakeholder process and consider future campaign objectives.

- **Continue to implement outreach through the retail and mobile channels**. Given that CSE plans to continue its focus on what it refers to as "higher quality" engagements with a smaller section of the California population, outreach should continue through both retail and mobile channels. The findings suggest that these channels have been more effective than the CBO channel in catalyzing action. CBO outreach could be improved with more consistent implementation across organizations, as well as performance-based targets.

- **Debrief with participating Community Ambassadors to understand what is working well in terms of consumer engagement and what the program could improve**. This report provides a number of targeted recommendations related to working with CBOs to implement SW ME&O. In particular, recommendations covered additional training, the data submission process, and marketing collateral. To get greater context from these partners, CSE should consider holding an in-person meeting or focus group with participants from 2014-2015 to understand where it makes the most sense to use this channel and whether it may not be appropriate for reaching certain sub-populations.

- **To facilitate future evaluation of the SW ME&O program, CSE should establish a centralized database that tracks program activities in a consistent manner and with consistent definitions across channels**. Implementers should be required to enter their activities and customer interactions on a regular basis, and the information should be at both the aggregate and individual level. For example, each event should have information on the date, location, number of customers attending, number providing

contact information, etc. The individual customer contact information should then be linked to the information about the event itself. This database should be the source of information for a dashboard that is continuously updated, as well as the source for monthly metrics reports. To allow greater transparency into the cost-effectiveness of different activities, the database should also contain updated expenditures by channel. The centralized database will allow ongoing and real time evaluation so that feedback can be provided on a timelier basis. We suggest the evaluation team work directly with the implementer to ensure appropriate information is collected and documented.

- **Pursue additional research strategies to address gaps in the 2014-2015 research**. As documented through this report and discussed with the CPUC and stakeholders over the course of conducting this study, evaluating the effectiveness of statewide marketing programs is challenging given the crowded media space, the complexity of promoted energy management topics, and the issues around self-reported exposure to marketing and outreach. Given the environment in which SW ME&O is implemented and evaluated, it is important that all parties continue to work together to test new and different approaches to researching effectiveness. The evaluation team continues to believe there is a role for the following approaches previously proposed to the CPUC and stakeholders:
  - **Experimental Design** – While not reflective of actual exposure, an experiment in which evaluators can control who is exposed to marketing and outreach mitigates the problems of self-selection, which were encountered as part of this study. Used in conjunction with other data collection methods, an approach that utilizes a control group and treatment conditions that vary the level of exposure to selected campaign content would strengthen the internal validity of study findings.
- **Real-Time Data Collection on Exposure** – Another strategy to address the biases that are associated with self-reported campaign exposure is the use of passive media measurement techniques. If the campaign were to place greater emphasis paid mass media, technologies that record customer exposure to different campaign ads provide additional opportunities for measuring campaign impacts.[56]

[56] Passive media measurement typically operates through a smartphone app that collects information about advertisements that users are exposed to on television or over the radio. The app also tracks on-line and social media behavior to measure cross media campaign impacts. That is, the technology can detect whether a television ad drives someone to the internet for more information.

A. Appendix – Program Theory and Logic Model

Provided under a separate cover.

B. Appendix – Data Collection Instruments

Provided under a separate cover.

C. Appendix - Additional CBO and Retail Infographics

Provided under a separate cover.

D. Appendix – Surveys Dispositions

In this Appendix, we provide details on the survey dispositions and response rates for the general population surveys.[57] The survey response rate is the number of completed interviews divided by the total number of potentially eligible respondents in the sample. We calculated the response rate using the standards and formulas set forth by the American Association for Public Opinion Research (AAPOR).[58] For various reasons, we were unable to determine the eligibility of all sample units through the survey process and chose to use AAPOR Response Rate 3 (RR3). RR3 includes an estimate of eligibility for these unknown sample units. The formulas used to calculate RR3 are presented below. The definitions of the letters used in the formulas are displayed in the Survey Disposition tables below.

$$E = (I + R + NC) / (I + R + NC + e)$$

$$RR3 = I / ((I + P) +(R + NC) + (E*UH))$$

We also calculated a cooperation rate, which is the number of completed interviews divided by the total number of eligible sample units actually contacted. In essence, the cooperation rate gives the percentage of participants who completed an interview out of all of the participants with whom we actually communicated. We used AAPOR Cooperation Rate 3 (COOP3), which is calculated as:

$$COOP3 = I / (I +P + R)$$

[57] The Brand Assessment survey was a telephone survey whereas the other three surveys were internet panel surveys. Therefore, the number of sampled units is quite different for the Brand Assessment survey as is some of the rules for the assignment of survey dispositions.

[58] *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys*, AAPOR, 2015. http://www.aapor.org/AAPOR_Main/media/publications/Standard-Definitions2015_8theditionwithchanges_April2015_logo.pdf

Table 35. AAPOR Survey Response Dispositions and Response Rates

Result	Brand Assessment	Climate Credit	Wave 1 Tracking	Wave 2 Tracking
Sample Frame	142,869	3,859	2,660	3,198
I=Complete Interviews	2,000	971	1,007	1,111
P=Partial Interviews	92	92	113	24
R=Refusal and break off	18,848	0	0	0
NC=Non Contact	38,424	0	0	0
O=Other	4,888	0	0	0
e=estimated proportion of cases of unknown eligibility that are eligible Estimate of e is based on proportion of eligible households among all numbers for which a definitive determination of status was obtained (a very conservative estimate).	0.498	0.620	0.722	0.807
UH=Unknown household	42,809	2,144	1,109	1,791
Response Rate	**4.7%**	**40.6%**	**52.4%**	**43.1%**
Cooperation Rate	**10.0%**	**91.3%**	**89.9%**	**97.9%**

E. Appendix – Additional Tracking Survey Tables

In this Appendix, we provide the results for all respondents who completed the full Wave 1 and Wave 2 tracking surveys. As discussed in the methods section of the report, the Wave 1 survey was a dual frame survey in which we interviewed English-speaking respondents using the YouGov internet panel and Spanish and Chinese language-speaking respondents via telephone. For Wave 2, we completed just the English internet interviews. For strict comparison purposes, we report only the results of the Wave 1 English internet interviews in the body of the report. We provide the results of the full Wave 1 sample in this Appendix compared to the internet only respondents. Both samples are weighted to represent the overall California adult population using gender, age, ethnicity, and education. In most cases, the differences between the full Wave 1 sample and the internet only sample are slight and not statistically significant.

For Wave 2, we included a panel component in the sample design in which a portion of the sample had completed the Wave 1 survey and a portion were fresh respondents. As discussed in more detail in the methods section of the report, we reported only the results of the fresh respondents in the body of the report due to the possibility of a panel effect biasing the results of the combined sample. We provide the results from the full Wave 2 sample in this Appendix as compared to the fresh respondents only. Both samples are weighted to represent the overall California adult population using gender, age, ethnicity, and education. In most cases, the differences between the full Wave 2 sample and only the fresh respondents are slight and not statistically significant.

The abbreviations in the table columns below have the following definitions:

Wave 1:

- **Int + Tele** = Full Wave 1 Sample, English and non-English interviews
- **Int. Only** = English internet interviews only

Wave 2:

- **Fresh Resp. + Panel** = Full Wave 2 Sample, panel and fresh respondents
- **Fresh Resp. Only** = Fresh respondents only

The bolded columns in the tables below indicate the results that we present in the report.

Table 36. Awareness of Energy Upgrade California: Aided (Figure 21)

	Wave 1		Wave 2	
	Int. + Tele	Int. Only	Fresh Resp. + Panel	Fresh Resp. Only
	(A)	(B)	(C)	(D)
Unweighted N	1001	836	1052	522
Aware	16%	15%	22%	20%
			A	b
Not Aware	84%	85%	78%	80%
	C	d		

Comparison Groups: ABCD/AC/BD

T-Test for Means, Z-Test for Percentages

Uppercase letters indicate significance at the 95% level.

Lowercase letters indicate significance at the 90% level.

Table 37. Awareness of Energy Upgrade California Compared to Other Energy Brands: Aided (Figure 22)

	Wave 1		Wave 2	
	Int. + Tele	Int. Only	Fresh Resp. Panel	Fresh Resp. Only
	(A)	(B)	(C)	(D)
Unweighted N	1001	836	1052	522
Familiarity with brand: ENERGY STAR	73%	80%	83%	78%
		A	AD	
Familiarity with brand: Flex Your Power	53%	55%	60%	56%
		A	Ad	
Familiarity with brand: Save our Water	0%	0%	48%	50%
Familiarity with brand: Go Solar California	37%	36%	46%	44%
			A	B
Familiarity with brand: WaterSense	20%	21%	27%	27%
			A	B
Familiarity with brand: Green Power California	13%	11%	23%	24%
	B		A	B
Familiarity with brand: Energy Upgrade California	16%	15%	22%	20%
			A	b

Comparison Groups: ABCD/AC/BD

T-Test for Means, Z-Test for Percentages

Uppercase letters indicate significance at the 95% level.

Lowercase letters indicate significance at the 90% level.

Table 38. Awareness of Energy Upgrade California Marketing Tools (Figure 23)

	Wave 1		Wave 2	
	Int. + Tele	Int. Only	Fresh Resp. + Panel	Fresh Resp. Only
	(A)	(B)	(C)	(D)
Unweighted N	1001	836	1052	522
Aware of Any Brand Item	44%	43%	55%	57%
			A	B
Commercials Featuring "Bear"	24%	23%	33%	35%
			A	B
"Stay Golden, California" Slogan	21%	20%	30%	30%
			A	B
Energy Upgrade California (Aided)	16%	15%	22%	20%
			A	b
Logo	9%	11%	15%	15%
			A	b
Energy Upgrade California (Unaided)	1%	1%	2%	3%

Comparison Groups: ABCD/AC/BD

T-Test for Means, Z-Test for Percentages

Uppercase letters indicate significance at the 95% level.

Lowercase letters indicate significance at the 90% level.

Table 39. Awareness of Brands or Campaigns that Encourage Energy Saving: Unaided (Figure 24)

	Wave 1		Wave 2	
	Int. + Tele	Int. Only	Fresh Resp. + Panel	Fresh Resp. Only
	(A)	(B)	(E)	(F)
Unweighted N	1001	836	1052	522
Energy topic (not brand/campaign related)	12%	10%	9%	12%
	cB			
Other energy brands/campaigns/programs - general	7%	8%	10%	9%
Utility	5%	5%	7%	8%
Non-Energy brand/campaigns	5%	6%	5%	4%
Save Water (action, not brand)	2%	2%	3%	4%
ENERGY STAR	2%	3%	3%	2%
		A	D	
Flex Your Power	1%	2%	1%	0%
			D	
Energy Upgrade California	1%	1%	1%	2%
CA Solar Initiative	0.1%	0.1%	0.3%	0.3%
Other	3%	2%	4%	3%
Don't Know/Nothing	71%	73%	70%	68%
		A		

Comparison Groups: ABCD/AC/BD

T-Test for Means, Z-Test for Percentages

Uppercase letters indicate significance at the 95% level.

Lowercase letters indicate significance at the 90% level.

Table 40. Familiarity with Energy Upgrade California (Table 28)
(Among Those Aware of Energy Upgrade California)

	Wave 1		Wave 2	
	Int. + Tele, Aware	Int. Only, Aware	Fresh Resp. + Panel, Aware	Fresh Resp. Only, Aware
	(A)	(B)	(C)	(D)
Unweighted N	139	111	196	79
1- I have only heard the name	34%	31%	21%	17%
	C			
2	10%	10%	12%	3%
			D	
3	11%	9%	5%	5%
4	15%	15%	23%	30%
				d
5	17%	17%	21%	22%
6	9%	12%	10%	16%
		a		
7- I know a lot about it	4%	6%	7%	7%
		A		
MEAN	3.13	3.38	3.70	4.11
		A	A	A

Comparison Groups: ABCD/AC/BD

T-Test for Means, Z-Test for Percentages

Uppercase letters indicate significance at the 95% level.

Lowercase letters indicate significance at the 90% level.

Table 41. Associations with Energy Upgrade California: Unaided (Figure 25)
(Among Those Aware of Energy Upgrade California)

	Wave 1		Wave 2	
	Int. + Tele, Aware*	Int. Only, Aware	Fresh Resp. + Panel, Aware	Fresh Resp. Only, Aware
	(A)	(B)	(C)	(D)
Unweighted N	111	111	196	79
Alternative / Improved Energy Sources	10%	9%	11%	7%
Negative - General	11%	11%	8%	8%
Upgrade to Energy-Efficient Appliances/EE Home Improvements	19%	20%	21%	16%
Save Energy/Save Money Generally	15%	15%	18%	22%
Positive - General	3%	3%	5%	3%
Energy Infrastructure Improvements	2%	1%	1%	2%
			a	b
Campaign / Program Encourages Saving Energy	2%	2%	6%	7%
Rebates / Incentives / Tax credits	0%	0%	1%	1%
Other	8%	7%	8%	9%
Nothing	32%	36%	22%	23%

Comparison Groups: ABCD/AC/BD

T-Test for Means, Z-Test for Percentages

Uppercase letters indicate significance at the 95% level.

Lowercase letters indicate significance at the 90% level.

**telephone respondents were not asked this question: shown with original Wave 1 weight*

Table 42. Awareness of Campaign Topics: Aided (Figure 27)
(Among Those Aware of Energy Upgrade California)

	Wave 2		Heard about Topic from Energy Upgrade California	
	Fresh Resp. + Panel, Aware	Fresh Resp. Only, Aware	Fresh Resp. + Panel, Aware	Fresh Resp. Only, Aware
	(A)	(B)	(C)	(D)
Unweighted N	196	79	196	79
Climate Credit	40%	40%	8%	0%
Home Upgrade	47%	48%	26%	21%
Home Automation	66%	60%	7%	22%
Time Varied Rates	62%	54%	27%	39%
				a

Comparison Groups: ABCD/AC/BD
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 43. Awareness of Energy Saving Actions: Unaided (Figure 29)
(Among Those Aware of Energy Upgrade California)

	Wave 1		Wave 2	
	Int. + Tele, Aware	Int. Only, Aware	Fresh Resp. + Panel, Aware	Fresh Resp. Only, Aware
	(A)	(B)	(C)	(D)
Unweighted N	146	111	196	79
Weatherize Home	30%	32%	30%	21%
			d	
Upgrade Appliances	25%	33%	29%	25%
		A		
Upgrade Lighting	17%	17%	18%	12%
Turn Off Lights	20%	15%	12%	11%
	B			
Solar	16%	16%	13%	8%
Program / Adjust Thermostat	17%	18%	9%	12%
Conserve Water	19%	19%	27%	31%
Turn Off Appliances / Use Less	13%	6%	9%	9%
	B			
Conserve Energy(Generic)	2%	1%	0%	0%
Use Less During Peak Hours	2%	1%	2%	2%
Recycle	0%	0%	0%	0%
Utility Program	1%	1%	1%	1%
Other	10%	10%	1%	1%
	C	D		
No/None	16%	18%	31%	33%
			A	b

Comparison Groups: ABCD/AC/BD

T-Test for Means, Z-Test for Percentages

Uppercase letters indicate significance at the 95% level.

Lowercase letters indicate significance at the 90% level.

Table 44. Awareness of Internet Resources for Energy Saving Information: Unaided (Figure 30)

	Wave 1		Wave 2	
	Int. + Tele, Aware	Int. Only, Aware	Fresh Resp. + Panel, Aware	Fresh Resp. Only, Aware
	(A)	(B)	(C)	(D)
Unweighted N	146	111	196	79
Utility Website	30%	33%	35%	32%
Search Engine/Internet (General)	7%	7%	9%	7%
Other Government Agency	2%	2%	3%	0%
State Government / Utility Commission	6%	8%	6%	3%
Environmental Website	3%	3%	3%	4%
Other Non-Energy Website	2%	3%	5%	9%
				c
Energy.gov (U.S. Dept of Energy)	6%	7%	3%	2%
ENERGY STAR	1%	1%	3%	3%
Other Energy Website	1%	2%	5%	9%
Solar Company (Solar City, etc.)	0	0	1%	2%
Energy Upgrade California	1%	1%	1%	1%
Flex Alert	0	0	1%	0
News / News Website	0	0	>1%	0
Don't Know/None	58%	53%	51%	52%

Comparison Groups: ABCD/AC/BD

T-Test for Means, Z-Test for Percentages

Uppercase letters indicate significance at the 95% level.

Lowercase letters indicate significance at the 90% level.

Table 45. Awareness of Energy Upgrade California Website: Aided (Figure 31)
(Among Those Aware of Energy Upgrade California)

	Wave 1		Wave 2	
	Int. + Tele, Aware	Int. Only, Aware	Fresh Resp. + Panel, Aware	Fresh Resp. Only, Aware
	(A)	(B)	(C)	(D)
Unweighted N	146	111	196	79
Yes	25%	19%	37%	43%
	B		a	B
No	75%	81%	63%	57%
	c	D		

Comparison Groups: ABCD/AC/BD
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 46. Energy Self-Efficacy (Figure 32)

	Wave 1		Wave 2	
	Int. + Tele, Aware	Int. Only, Aware	Fresh Resp. + Panel, Aware	Fresh Resp. Only, Aware
	(A)	(B)	(C)	(D)
Unweighted N	144	111	190	76
Mean	5.07	4.98	5.04	4.94
	b			
	Int. + Tele, Not-Aware	Int. Only, Not-Aware	Fresh Resp. + Panel, Not-Aware	Fresh Resp. Only, Not-Aware
	(A)	(B)	(C)	(D)
Unweighted N	820	706	833	428
Mean	4.78	4.68	4.63	4.68

Comparison Groups: ABCD/AC/BD
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

F. Appendix – Tracking Survey Results and Demographics by Segment

In 2009, the CPUC commissioned a residential customer segmentation study that grouped California residents into five segments based on their likelihood to take energy saving actions and motivations for doing so.[59] As we noted in Section 4.2.1, CSE developed, implemented and coordinated messaging for three key target audiences drawn from this segmentation study. The target audiences for the Energy Upgrade California campaign focused on three segments: leading achievers, striving believers, and disconnected. Table 47 contains a description for all five segments.

Table 47. California Residential Customer Segments

Segment	General Profile
Leading Achievers	The Leading Achievers have the means and will to take energy saving actions. The Leading Achievers are generally willing to reduce their energy use and are resource-minded, recycle regularly, and index highly compared to other segments on energy-related altruism.
Practical Spenders	Practical Spenders are the most likely of all segments to make energy efficiency purchases. However, the Practical Spenders are most likely of all segments to feel they use more energy than their neighbors. This is likely because the Practical Spenders are motivated by the here and now. Members of this segment are convenience and comfort-driven, and are generally more concerned with the quality of their daily lives than concern for the future or resources.
Striving Believers	Overall, Striving Believers are on board with the energy saving movement, but relative to all other segments, this group has adopted fewer energy efficiency measures given their high sense of personal responsibility to take action, strong sense of altruism, and high concern for resources.
Thrifty Conservers	Thrifty Conservers are less likely to take energy saving actions, but if they do, it is out of a concern for climate change and natural resources. However, Thrifty Conservers feel that their household energy use is small and that their actions will have little to no impact on energy supplies.
Disconnected	The Disconnected are the most limited financially in their ability to take action and have the greatest barriers overall to action. This group tends to perceive their energy use as normal (same usage as others), and are likely unaware of the breadth of energy saving options available to them.

In this Appendix, we provide results to the survey questions reported in the body of the report broken down by the five customer segments. We see consistent differences in awareness and understanding of Energy Upgrade California and knowledge of campaign topics across the five segments. In most cases, the differences as expected with the segments that are more likely to act having greater awareness and knowledge. However, we do not see a differential campaign impact for the segments that were targeted as part of the Energy Upgrade California campaign. That is, we do not see larger differences between Waves 1 and 2 for the targeted segments than the non-targeted segments.

[59] Opinion Dynamics. *California Residential Customer Market Segmentation Study (*2009).

Table 48. Awareness of Energy Upgrade California: Aided (Figure 21)

	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	141	178	197	200	120	99	104	125	132	62
Aware	13%	20%	16%	14%	10%	22%	26%	18%	16%	19%
		M								
Not Aware	87%	80%	84%	86%	90%	78%	74%	82%	84%	81%
					J					

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 49. Awareness of Energy Upgrade California Compared to Other Energy Brands: Aided (Figure 22)

	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	141	178	197	200	120	99	104	125	132	62
Familiarity with brand: ENERGY STAR	91%	81%	86%	81%	54%	84%	82%	86%	79%	57%
	JLM	M	M	M		R	R	R	R	
Familiarity with brand: Flex Your Power	62%	59%	61%	52%	40%	65%	55%	61%	55%	44%
	M	M	M	m		r		r		
Familiarity with brand: Save our Water	-	-	-	-	-	55%	52%	47%	43%	56%
Familiarity with brand: Go Solar California	46%	47%	31%	27%	37%	48%	53%	36%	35%	52%
	KL	KL					PQ			pq
Familiarity with brand: WaterSense	30%	28%	17%	23%	7%	29%	25%	27%	23%	35%
	KM	kM	M	M				k		M
Familiarity with brand: Green Power California	9%	17%	7%	8%	14%	27%	27%	22%	14%	31%
		Kl				Iq	q	LK		MQ
Familiarity with brand: Energy Upgrade California	13%	20%	16%	14%	10%	22%	26%	18%	16%	19%
		M								

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 50. Awareness of Energy Upgrade California Marketing Tools (Figure 23)

	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	141	178	197	200	120	99	104	125	132	62
Aware of Any Brand Item	38%	49%	40%	40%	45%	60%	65%	57%	47%	57%
						I	jQ	LK		
Commercials Featuring "Bear"	27%	27%	20%	18%	29%	28%	48%	33%	31%	32%
					I		JNpQ	LK	L	
"Stay Golden, California" Slogan	19%	20%	21%	21%	15%	42%	39%	29%	22%	20%
						IQR	JQR			
Energy Upgrade California (Aided)	13%	20%	16%	14%	10%	22%	26%	18%	16%	19%
		M								
Logo	18%	16%	8%	6%	11%	19%	18%	17%	8%	16%
	KL	kL				Q	q	Lkq		
Energy Upgrade California (Unaided)	0%	0%	3%	1%	0%	1%	3%	7%	0%	1%
								LNQR		

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 51. Awareness of Brands or Campaigns that Encourage Energy Saving: Unaided (Figure 24)

	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	141	178	197	200	120	99	104	125	132	62
Energy topic (not brand/campaign related)	12%	15%	8%	7%	7%	20%	19%	6%	13%	4%
		l				PR	PR		pr	
Other energy brands/campaigns/programs - general	15%	10%	7%	5%	2%	18%	4%	13%	8%	2%
	kLM	m				OqR		IoR		
Utility	6%	4%	8%	4%	3%	7%	5%	12%	4%	14%
								Iq		m
Non-Energy brand/campaigns	8%	7%	8%	4%	0%	11%	1%	9%	1%	0%
	M	oM	M	m		OQ		OQ		
Save Water (action, not brand)	2%	1%	2%	3%	2%	3%	10%	4%	2%	1%
ENERGY STAR	2%	1%	3%	3%	5%	1%	2%	2%	1%	1%
					j					
Flex Your Power	1%	3%	2%	1%	0%	1%	1%	0%	1%	0%
		ol								
Energy Upgrade California	0%	0%	3%	1%	0%	1%	3%	4%	0%	1%
								I		
CA Solar Initiative	0%	1%	0%	0%	0%	0%	0%	2%	0%	0%
Other	1%	3%	2%	3%	3%	0%	6%	2%	7%	1%
									NPR	
Don't Know/Nothing	69%	66%	72%	76%	83%	58%	68%	67%	67%	82%
					IJk					Npq

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 52. Familiarity with Energy Upgrade California (Table 28)
(Among Those Aware of Energy Upgrade California)

	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	21	29	28	24	9	13	21	21	17	7
1- I have only heard the name	18%	30%	44%	29%	17%	6%	11%	23%	14%	37%
			i							
2	17%	2%	6%	19%	9%	3%	2%	7%	4%	0%
3	6%	9%	12%	13%	0%	0%	3%	10%	10%	0%
4	26%	19%	1%	24%	4%	28%	11%	28%	43%	52%
	K			K				K	o	m
5	12%	20%	18%	15%	20%	36%	34%	4%	22%	11%
						p	p			
6	14%	1%	19%	0%	49%	3%	39%	25%	0%	0%
			j		J		JN			
7- I know a lot about it	8%	19%	0%	0%	0%	24%	0%	4%	6%	0%
MEAN	3.69	3.74	3.01	2.79	4.49	4.89	4.72	3.72	3.80	3.02

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 53. Associations with Energy Upgrade California: Unaided (Figure 25)
(Among Those Aware of Energy Upgrade California)

	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	141	178	197	200	120	99	104	125	132	62
Alternative / Improved Energy Sources	22%	7%	17%	12%	7%	21%	5%	22%	11%	9%
	JLM		JM			O		LOQr		
Negative - General	10%	24%	7%	18%	4%	6%	29%	7%	21%	5%
		IKM		PiKM			NPR		NPR	
Upgrade to Energy-Efficient Appliances/EE Home Improvements	15%	11%	11%	5%	5%	13%	7%	10%	9%	1%
	LM	lm	lm			R		r	r	
Save Energy/Save Money Generally	6%	10%	10%	4%	16%	18%	14%	14%	4%	23%
					IL	IQ	Q	LQ		Q
Positive - General	3%	2%	3%	1%	8%	3%	1%	1%	3%	3%
			I		L					
Energy Infrastructure Improvements	1%	3%	5%	3%	0	2%	0	3%	5%	0
			i							
Campaign / Program Encourages Saving Energy	4%	1%	1%	3%	1%	1%	2%	2%	1%	6%
Rebates / Incentives / Tax credits	-	-	-	-	-	-	-	-	-	-
Other	4%	5%	7%	4%	7%	9%	10%	5%	8%	14%
Nothing	34%	38%	40%	51%	56%	32%	33%	37%	39%	38%
				PqIJk	rIJK					

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 54. Awareness of Campaign Topics: Aided (Figure 27)

	Wave 2					Heard about Topic from Energy Upgrade California				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(N)	(O)	(P)	(Q)	(R)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	99	104	125	132	62	99	104	125	132	62
Climate Credit	33%	43%	33%	31%	12%	2%	7%	0%	0%	0%
	R	R	R	R						
Home Upgrade	26%	31%	19%	16%	10%	45%	4%	22%	0%	15%
	r	pQR				O				
Home Automation	73%	56%	66%	66%	16%	0%	7%	16%	6%	0%
	oR	R	R	R				p		
Time Varied Rates	60%	67%	55%	45%	35%	19%	14%	0%	2%	5%
	qR	jQR	R			Qr	Q			

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 55. Awareness of Energy Saving Actions: Unaided (Figure 29)

	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	141	178	197	200	120	99	104	125	132	62
Weatherize Home	49%	47%	40%	35%	10%	34%	21%	33%	28%	6%
	nLM	OlM	M	M		R	r	R	R	
Upgrade Appliances	33%	24%	37%	32%	12%	32%	18%	40%	24%	11%
	M	M	JM	M		R		OQR		
Upgrade Lighting	23%	16%	27%	15%	6%	20%	19%	26%	19%	13%
	M	M	JLM	m				Ir		
Turn Off Lights	13%	7%	12%	16%	14%	8%	13%	16%	17%	6%
				j						
Solar	36%	14%	20%	20%	11%	19%	8%	25%	14%	6%
	NJKLM		m	m				OqR		
Program / Adjust Thermostat	24%	19%	18%	20%	5%	6%	13%	16%	12%	2%
	NM	M	M	M			R	nR	R	
Conserve Water	12%	12%	14%	15%	7%	29%	22%	20%	14%	8%
				m		IQR	r			
Turn Off Appliances / Use Less	3%	1%	5%	6%	8%	7%	11%	10%	5%	15%
			j	j	iJ		J			q
Conserve Energy(Generic)	1%	1%	1%	0%	2%	4%	0%	0%	2%	0%
						I				
Use Less During Peak Hours	3%	2%	1%	1%	0%	0%	1%	1%	1%	1%
Recycle	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Utility Program	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%
Other	4%	9%	5%	6%	16%	0%	1%	1%	0%	2%
No/None	12%	20%	17%	26%	50%	18%	34%	23%	34%	59%
				Ik	IJKL		jN		Np	NOPQ

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 56. Awareness of Internet Resources for Energy Saving Information: Unaided (Figure 30)

	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	141	178	197	200	120	99	104	125	132	62
Utility Website	33%	36%	33%	32%	21%	38%	31%	34%	26%	26%
	m	M	m	m						
Search Engine/Internet (General)	15%	8%	15%	10%	9%	8%	5%	11%	16%	8%
									O	
Other Government Agency	7%	0%	2%	5%	3%	3%	3%	8%	1%	1%
	k			Q				KQR		
State Government / Utility Commission	4%	4%	2%	2%	1%	1%	5%	5%	1%	1%
Environmental Website	2%	2%	3%	2%	1%	1%	0%	4%	3%	0%
Other Non-Energy Website	4%	1%	2%	2%	2%	2%	2%	3%	5%	9%
										Mno
Energy.gov (U.S. Dept of Energy)	2%	3%	1%	3%	0%	4%	0%	4%	2%	0%
		o								
ENERGY STAR	1%	7%	1%	0%	0%	2%	0%	3%	1%	0%
		IK						q		
Other Energy Website	3%	0%	1%	1%	0%	7%	1%	2%	0%	1%
	jl					oQ				
Solar Company (Solar City, etc.)	0%	2%	1%	1%	0%	1%	0%	3%	4%	0%
Renewable/Alternative Energy (No specific Website)	2%	0%	1%	0%	0%	0%	0%	0%	2%	0%
Energy Upgrade California	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Flex Alert	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
News / News Website	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
None (Would not search)	46%	53%	53%	55%	69%	54%	60%	45%	56%	63%
					IJKL		p			p

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP

T-Test for Means, Z-Test for Percentages

Uppercase letters indicate significance at the 95% level.

Lowercase letters indicate significance at the 90% level.

Table 57. Awareness of Energy Upgrade California Website: Aided (Figure 31)

	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	141	178	197	200	120	99	104	125	132	62
Yes	4%	4%	4%	1%	1%	12%	14%	5%	5%	9%
		Lm				IPq	JPQ	I	I	M
No	96%	96%	96%	99%	99%	88%	86%	95%	95%	91%
	N	O		pqJ	Rj			NO	nO	

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

Table 58. Energy Self-Efficacy (Figure 32)

Self-Efficacy Score	Wave 1					Wave 2				
	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con	Lead. Ach.	Prac. Spend	Strive Bel.	Thrift Cons.	Dis-Con
	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
Unweighted N	139	175	194	195	114	95	102	121	127	58
Mean	5.39	4.37	5.15	4.34	4.55	5.48	4.41	5.33	3.98	4.55
	JKLM		JLM	Q		OQR	Q	LkOQR		Q

Comparison Groups: IJKLM/NOPQR/IN/JO/KP/LQ/MR/LP
T-Test for Means, Z-Test for Percentages
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

G. Appendix – Integrated Communications Plans

Provided under a separate cover.

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