

# Process Evaluation of the SCE 2006-08 Home Energy Efficiency Survey (HEES) Program

Study ID: SCE0275.01

## Final Report

August 4, 2009

**ECONorthwest**

ECONOMICS • FINANCE • PLANNING  
888 SW Fifth Avenue, Suite 1460  
Portland, Oregon 97204  
503-222-6060

## **Acknowledgements**

This report was prepared by ECONorthwest's Portland office for Southern California Edison under the supervision of Carol Yin. Dr. Stephen Grover was the ECONorthwest project manager for this evaluation and questions regarding the report should be directed to him at [grover@portland.econw.com](mailto:grover@portland.econw.com) or by phoning the Portland office at (503) 222-6060. Jessica Smith, Logan Van Ert, and John Boroski of ECONorthwest also assisted with this analysis and report. This study was funded through the Public Goods Charge for energy efficiency, and available for download at <http://www.calmac.org>.

Additional firms and individuals involved with this evaluation include Dr. Philippus Willems, Freeman and Sullivan Population Research Services, and John Stevenson (University of Wisconsin Survey Center).

## TABLE OF CONTENTS

<b>Executive Summary .....</b>	<b>i</b>
Program Background .....	i
Evaluation Overview .....	i
Key Findings.....	ii
Recommendations.....	iii
<b>1. Introduction.....</b>	<b>1</b>
1.1 Evaluation Overview .....	1
<b>2. Program Background .....</b>	<b>2</b>
2.1 Progress Toward Goals.....	3
2.2 HEES Program Logic Model and Program Theory.....	5
Activities.....	6
Short Term Outcomes .....	7
Mid Term Outcomes.....	7
Long Term Outcomes .....	7
2.3 Key Research Issues .....	9
Determine the effectiveness of the HEES recruitment strategies.....	9
Assess the behavioral impact of HEES.....	9
Investigate if the recommendations algorithm is appropriate.....	10
Examine the account number mechanism.....	10
<b>3. HEES Program Evaluation Results .....</b>	<b>10</b>
3.1 Participant Phone Survey.....	10
Call Disposition .....	11
Demographics .....	12
Marketing Efforts.....	16

Key Marketing Channels .....	16
Review of Marketing Materials .....	18
Survey Completion Time and Length.....	21
Energy Efficiency Starter Kit.....	23
Awareness of Other HEES Modes.....	26
HEES Recommendations and Behavioral Impacts.....	29
Summary of HEES Recommendation Results.....	31
Results by Recommendation Measure Category .....	35
Further Action.....	54
Participant Satisfaction .....	56
Charts in the HEES Report .....	57
Ease of Completing the HEES Survey.....	60
Satisfaction Ratings .....	61
Reasons for Dissatisfaction.....	66
Overall Suggestions .....	73
3.2 Review of Recommendations from the 2004-2005 Statewide HEES Evaluation .....	77
Recommendations integrated into the program during the 2006-2008 program cycle: .....	78
Recommendation <i>partially</i> integrated into the 2006-2008 program cycle: .....	80
Recommendation <i>not</i> integrated into the 2006-2008 program cycle:.....	84
<b>4. HEES Program Key Findings and Recommendations.....</b>	<b>85</b>
<b>5. Appendix: HEES Evaluation Survey Instrument.....</b>	<b>93</b>

## EXECUTIVE SUMMARY

### PROGRAM BACKGROUND

This report presents the process evaluation results for the Southern California Edison (SCE) 2006-08 Home Energy Efficiency Survey (HEES) Program. The survey tool, marketed as the Home Energy and Water Efficiency Survey, uses a series of questions to determine energy and water saving opportunities that exist within a participant's home and offers conservation tips and appliance upgrade recommendations. The survey results pair tips with phone numbers to call and websites to visit in order to access the appropriate utility rebate programs and other energy efficiency programs. In addition to energy efficiency tips, the survey tool presents a summary of the customer's water and energy usage.

In brief, the HEES program is designed to increase residential customer awareness of actual energy consumption, behavioral changes that can reduce energy use, and efficient equipment options (including available rebates) through a variety of survey modes.

### EVALUATION OVERVIEW

The key objectives of this process evaluation were to assess the behavioral impact of the HEES program, to identify drivers of customer satisfaction, and to collect suggestions for making the energy survey more user-friendly. To address these issues, the following major evaluation tasks were completed:

- *Logic model and program theory.* A logic model and program theory established a starting point for all evaluation activities. The structure of the logic model, which links program activities and expected outcomes, is a useful instrument for identifying specific program assumptions that can be tested using a survey or other primary data collection activities.
- *In-depth interviews.* In-depth interviews were conducted with program managers and other key staff members in November 2007. Program staff members helped to clarify program goals and gauge program progress, provided valuable insight into daily operations, and proposed research topics to be addressed by the evaluation.
- *Participant survey.* The primary data collection instrument was a participant survey, fielded over the phone. The survey explored the participant experience with program services and addressed the research issues identified by the logic model and in-depth interviews. When appropriate, results were also examined by survey mode (mail-in, online, in-home, and phone) to investigate how participants in the various modes compare with regard to the most effective marketing strategies, recommendation implementation rates, and measures of satisfaction.
- *Program-specific data collection and review.* Another key evaluation activity was a comprehensive review of all available program documents. In particular, this evaluation assessed the effectiveness of the program's marketing materials and also documented the extent to which recommendations from previous evaluations have been implemented in the current program cycle.

## KEY FINDINGS

The following are some of the key findings of this program evaluation:

Respondents were asked about a random sample of five recommendations they received in their HEES reports. Overall, 14 percent of the 3,409 tips reviewed in this evaluation were implemented as a result of the HEES program. The HEES program spurred action at the highest rates in the water heating/water usage and lighting measure categories. Overall, no-cost or low-cost conservation tips were implemented at much higher rates than recommendations to purchase new equipment. Moreover, participants are generally satisfied with results of the tips that they implement: For 72 percent of the tips executed as a result of the program, respondents were “very satisfied” with the results. Respondents were only dissatisfied with three percent of the tips implemented. Most often, respondents who were less than fully satisfied explained that they expected higher energy savings associated with the measure.

Forty-four percent of the tips reviewed had already been implemented prior to program participation. This was most prominent within the washing/drying clothes and space heating recommendation categories. The rate at which respondents are receiving tips they have already implemented prior to program participation is one indicator of how well the recommendations algorithm is calibrated with the survey responses. The frequency at which respondents said that the measure did not apply to their households is another indicator of the effectiveness of the HEES algorithm.

The HEES program is channeling participants to access further SCE resources, but there is room for improvement. As a result of the HEES program, only 20 percent of respondents said they visited a utility website to get additional information on energy efficiency programs and 15 percent of respondents called the utility for additional information. Nineteen percent of respondents joined another energy efficiency program, most frequently, the Refrigerator/Freezer Recycling program and the Single Family Rebate program. Increasing the frequency and detail of information on other energy efficiency programs in the HEES report may enhance customer satisfaction with the program.

Once the electric, gas, and water account numbers are automatically linked, the energy and water use analysis, as well as the regional comparison, may be more useful and convincing information sources. While the majority of respondents found the usage charts to be “very” or “somewhat useful,” respondents who supplied their gas and/or water account numbers to the survey tool found the charts to be more useful than those who did not. Notably, when asked about the most difficult part of the survey, a frequent response was that locating the account numbers was the toughest task. In addition, only half the respondents who are customers of Southern California Gas or Golden State Water integrated either their gas or water account numbers into the survey algorithm. Thus, a mechanism that automatically links all three account numbers together, as well as additional partnerships with other utilities, may increase the usefulness of the charts as well as overall customer satisfaction with the HEES program.

Overall, satisfaction levels with the HEES program are high. The majority (79 percent) of respondents found the HEES tool very easy to use and 43 percent of respondents reported that they encouraged others to participate in the future. Respondents identified the energy and water usage analysis as the most helpful part of the HEES program.

While the majority of respondents are “very satisfied” with their HEES reports, many would like it to be more customized to their homes. The top reason respondents were not fully satisfied with the usefulness of the HEES recommendations was that the tips did not seem customized for their households (23 percent). Many respondents also explained that the information provided was too basic, that they had already implemented most of the measures prior to program participation (18 percent) or were already knowledgeable about them (17 percent). Moreover, when asked about one thing they would change about the program, the second most popular answer was to make the report more customized. However, the most common answer to this question was to “make the survey shorter,” and thus efforts to develop a more personalized report should be wary of increased survey length. Similarly, the most difficult things about the survey are its long length and figuring out how to answer the questions.

Bill inserts, the SCE website, mailed surveys, and SCE Account Representatives are the most effective marketing channels for the HEES program. The key marketing messages are resonating with customers. The Energy Efficiency Starter Kit is a key participation driver for some respondents. Of those who expected a Kit, 12 percent of respondents would not have participated in the HEES program at about the same time without it, and nine percent did not know. About one-third of respondents said the Kit (and the additional free CFLs for the in-home mode) was very important in their decision to take the survey. The CFL is reported to be the most valuable item in the kit.

The program has limited cross-promotion among survey modes. Overall, only 29 percent of respondents were aware of other HEES modes, and awareness was higher among phone participants (44 percent were aware of another mode). Of those who were aware of another mode, most chose their particular mode because it was easiest, the most convenient, or the fastest.

Respondents place a high value on the in-home mode. In-home HEES respondents read their HEES reports more thoroughly than respondents in the other modes. While many respondents repeatedly mentioned that they wished the survey was shorter, in-home respondents consistently asked for a more in-depth, longer consultation. Eighty-eight percent of respondents were “very satisfied” with the knowledge, professionalism, and enthusiasm of their in-home auditor, which is the highest satisfaction rating among the program elements assessed.

## RECOMMENDATIONS

Based on these and other findings presented in this evaluation, we make the following recommendations:

- 1. Review the HEES algorithm to reduce the amount of recommendations delivered in the report that the customer has already executed or do not apply to the customer’s household.** When participants receive recommendations to adopt energy efficiency measures they have already carried out or that do not apply to their households, the report appears less personalized and is also less useful.

Currently, the recommendations database congratulates respondents for two measures they already installed: energy efficient clothes washers and low-flow showerheads. The program may wish to consider a separate section of the report that highlights energy efficiency measures that the participant is already doing. This information would create a more personalized feel to the survey, serve as a “reality check” (prompting the customer to enter more accurate information later if needed), and reinforce positive energy efficiency behaviors.

2. **Heighten focus on other electric, water, and utility resources in the HEES marketing materials and reports.** Many respondents do not recall receiving any information on other programs, or they desired more specific information. In addition, interest in finding out about other SCE energy efficiency programs was cited by over half of respondents as a very important reason for participating. This benefit was not used at all in the headlines or taglines of marketing materials that we reviewed, and thus we recommend that SCE evaluate the effectiveness of using this benefit as a marketing message. The program could also increase both participant satisfaction and the rate at which participants implement equipment upgrade recommendations by more aggressively advertising other utility energy efficiency programs on the results pages. New program partnerships might include the California Solar Initiative and Cool Roofs. The HEES report would also benefit from providing more detail about the program requirements and procedures. The large equipment measures with the highest implementation rates were the refrigerator and freezer recycling measures, which were paired with detailed text about the SCE Refrigerator/Freezer Recycling program.

It would also be helpful to provide more specific weblinks to the appropriate rebate or other program in order to make the measures more actionable. For many of the recommendations, the links are only to the general utility websites. Notably, of the four modes, on-line HEES respondents visited utility program websites as a result of their HEES report at the highest rates. Therefore improvements to the information provided on other energy efficiency programs should also increase the effectiveness of the on-line survey mode.

3. **Update the recommendations database.** The general recommendations database has remained essentially the same since 2004 and should be updated to provide more customized and useful results for each user.
  - **Include more advanced recommendations.** Customers who have already implemented most of the basic energy efficiency measures would benefit from information about more advanced information, such as tips about solar energy and incentive opportunities through the California Solar Initiative, cool roofs, LED lights, and renewable energy. New advanced offerings could also be effective marketing messages that encourage past participants to re-take the survey.
  - **Tailor the electric recommendations to match the detailed household information collected in the survey.** The recommendations database has been revised to include gas and water recommendations in the 2006-2008 program cycle.



The survey instrument has also been updated over the years to capture greater detail about the participant's behaviors and electric equipment holdings, while the electric recommendations database has not. The program managers should consider how the recommendations database can be expanded to provide more specific electric recommendations analogous to the higher level of detail collected on each household.

- **Expand the recommendations text for sophisticated measures.** A consistent comment was that the HEES report was too technical or that respondents wanted more specific information about the recommended measures. For the more technical measures or more obscure equipment such as whole house fans, the program should provide greater detail in the recommendation text (or a link to supplementary information in the on-line report) so that the customer has a better understanding of the measure and is more confident about implementation.
  - **Proceed with plans to create a separate survey instrument and recommendations for renters.** While the survey instrument does have appropriate options and filters for renters, the general recommendations database is the same for all participants. Surveyed respondents consistently commented on the importance of a customized report, and a separate tool geared toward renters may increase satisfaction and behavioral impacts from the program. Another viable option is to simply create more tailored recommendations for renters, populated by the current tool.
4. **Make the bill history automation project a key priority.** A tool that automatically accesses the customer's billing information from their gas and water utilities, keyed off of their SCE account numbers, will increase user-friendliness of the tool, as well as the usefulness of the energy and water analysis.
  5. **Integrate additional services into the in-home HEES mode to reap additional savings.** Respondents are very satisfied with their in-home auditors and commonly ask for a more in-depth audit. The in-home HEES mode is also the most expensive to provide. The HEES program should consider offering cost-effective additional services such as weather-stripping and blower door tests to increase the savings benefits associated with these consultations.
  6. **Increase cross-promotion of alternative HEES modes, and briefly describe each mode's advantages so that customers can make informed choices.** The majority of respondents were unaware of other HEES modes. Higher awareness of other options may increase customer participation and satisfaction, as participants can self-select the mode that works best for them. The various language offerings should also be clear across all modes. Currently, respondents who receive the survey form in the mail in English may not be aware that they could participate in another language.
  7. **Provide more assistance to on-line users in completing the survey.** The most difficult parts of the HEES program are reported to be the survey length and figuring out how to

answer the questions. Thus, prompts that assist participants with potentially difficult questions may increase the user-friendliness of the survey and persuade customers to carefully complete the lengthy questionnaire. Such assistance might include pop-ups that define various heating and cooling equipment, so users can determine what kind of system is installed in their homes, or tips that help them determine the type of defrost system their refrigerators have.

- 8. Continue to use carefully designed incentives (for example, with a limited time frame) to encourage participation.** The availability of incentives appears to have played a secondary role in encouraging participation; nevertheless, about 12 percent of all participants who received an Energy Efficiency Starter Kit said they would not have participated otherwise.<sup>1</sup>
  
- 9. Continue using targeted in-language marketing.** Asian language marketing to previously underserved communities has been effective in encouraging these customers to participate in the mail-in HEES, with higher response rates than those achieved by English/Spanish language mailers.

---

<sup>1</sup> The role of the Starbucks Card incentive was not assessed in the evaluation phone survey.

# 1. INTRODUCTION

## 1.1 EVALUATION OVERVIEW

This report presents the process evaluation results for the Southern California Edison (SCE) 2006-08 Home Energy Efficiency Survey (HEES) Program. In brief, the HEES program is designed to increase residential customer awareness of actual energy consumption, behavioral changes that can reduce energy use, and efficient equipment options (including available rebates) through a variety of survey modes.

Some of the key objectives of this evaluation were to measure how well HEES is resulting in customer conservation actions, identify drivers of customer satisfaction, and collect suggestions for making the surveys more user-friendly. Other research goals are described subsequently in the report. To address these issues, the following major evaluation tasks were completed:

- *Logic model and program theory.* A logic model and program theory established a starting point for all evaluation activities. The structure of the logic model, which links program activities and expected outcomes, is a useful instrument for identifying specific program assumptions that can be tested using a survey or other primary data collection activities.
- *In-depth interviews.* In-depth interviews were conducted with program managers and other key staff members in November 2007. Program staff members helped to clarify program goals and gauge program progress, provided valuable insight into daily operations, and proposed research topics to be addressed by the evaluation.
- *Participant survey.* The primary data collection instrument was a participant survey, fielded over the phone. The survey explored the participant experience with program services and addressed the research issues identified by the logic model and in-depth interviews. When appropriate, results were also examined by survey mode (mail-in, online, in-home, and phone) to investigate how participants in the various modes compare with regard to the most effective marketing strategies, recommendation implementation rates, and measures of satisfaction.
- *Program-specific data collection and review.* Another key evaluation activity was a comprehensive review of all available program documents. In particular, this evaluation assessed the effectiveness of the program's marketing materials and also documented the extent to which recommendations from previous evaluations have been implemented in the current program cycle.

Additional details regarding these tasks are discussed in the relevant report chapters.

The remainder of this report is organized into three sections. The next section gives an overview of the program, and includes a detailed program description, program theory and logic model, and research issues that were developed to guide this evaluation. This is followed by a presentation of detailed evaluation results, which includes findings from the program participant survey, marketing materials review, and the review of previous program recommendations. The

report concludes with a section on key observations and conclusions, and recommended changes to make the program more effective. The participant survey instrument is presented in the appendix.

## **2. PROGRAM BACKGROUND**

The Home Energy Efficiency Survey (HEES) program is a resource-acquisition program that provides residential customers with a mail-in, online, telephone, or onsite energy analysis of their homes. The online version is offered as a standard length “Energy 15” or an abbreviated “Energy 5.” As the name suggests, the Energy 15 survey is designed to require about 15 minutes, while the brief Energy 5 should take five minutes to complete. The survey instrument will be referred to as the “HEES” in this evaluation report.

KEMA is the program implementer for all survey modes, which are offered in English, Spanish, Chinese, Vietnamese, and Korean. The Asian languages are a new offering in the 2006-2008 cycle for the in-home and phone HEES modes and a special marketing team was hired to promote this new initiative through in-language newspapers and at outreach events such as the Chinese Moon Festival and the Vietnamese Technology Festival. Global Energy Services provides the in-home and phone audits in the Asian languages. These in-language, in-home audits are more expensive to deliver than standard in-home audits, but according to the program manager, are producing noticeable educational impacts.

Primary program marketing strategies include advertising at community events, e-mail “blasts,” mailing the surveys to customer homes, advertisements on the SCE website, cross-marketing through other SCE programs, and incentive gifts. Bill inserts were a prominent marketing method in the 2004-2005 program cycle, but since then SCE replaced the bill inserts with a single space for printed messages on the bill statement that must be shared among the various SCE marketing initiatives. As a result, the 2006-2008 HEES program is less focused on billing statements as a communications channel. The program also receives referrals from the SCE Customer Service Center, which advises customers who complain about high energy bills to take an energy survey. An incentive starting in April 2007 was Energy Efficiency Starter Kits—including one CFL, one low-flow showerhead, and three faucet aerators—which were sent to participants in all HEES survey modes. Another incentive campaign offered a \$10 Starbucks gift card at the end of 2007.

The survey tool, marketed as the Home Energy and Water Efficiency Survey, uses a series of questions to determine energy and water efficiency opportunities within the participant’s home and offers behavioral tips and appliance upgrade recommendations, as well as the associated energy bill savings. The survey results pair recommendations with phone numbers to call and websites to visit to access appropriate appliance rebate programs and other energy efficiency programs. Overall, the HEES program aims to increase customer awareness of energy efficiency measures and prompt participation in other energy efficiency programs.

In addition to energy efficiency recommendations, the survey tool presents a summary of the customer’s water and energy use. The gas and water components are new elements in the 2006-2008 cycle. The HEES results include charts that depict water, electric, and gas usage and billing amounts over the past year (by appliance), and include a comparison of the customer’s water and

energy consumption with other similar households in the region. The HEES program coordinates with Southern California Gas (SoCal Gas) and Golden State Water Company (GSW) to retrieve gas and water account information, in addition to the customer's electric bill history. If the bill history is not available, the survey tool estimates energy and water usage. Currently, online HEES participants must manually enter each of their gas, electric, and water account numbers. Mail-in survey forms are now pre-printed with the customer's SCE account number and the customer is asked to fill-in their SoCal Gas and GSW account numbers. For the in-home HEES, the auditor contacts the customers prior to arrival to determine the service account numbers or request that the customers provide their utility bills during the visit. A goal of the 2009-2011 cycle is to sync the gas and water utility account numbers to the appropriate SCE electric accounts so that only the SCE account number is necessary to extract water and gas billing information.

## **2.1 PROGRESS TOWARD GOALS**

The HEES program claims savings for each survey completed, as well as for the CFLs installed either by the in-home auditors at each household (up to six are installed in each home) or via the free incentive kit offered to participants in all four modes.<sup>2</sup> A verification process is in place to determine installation rates of the incentive kit measures.<sup>3</sup> Notably, the in-home audits claim higher savings than other delivery mechanisms, but are the most costly to implement. Therefore, the in-home consultations are targeted to households with the highest demand and in the hottest climate zones, where they are likely to produce the greatest savings (even though the claimed savings per household are independent of the home's location). Table 1 shows the HEES program's success in achieving its participation goals for each delivery mode. As of Q2 2008, the program surpassed its online goal, and reached 84 percent of its phone goal, 63 percent of its in-home, and 51 percent of its mail-in goal. Overall, the program had attained 74 percent of its participation goal through the second quarter in 2008.

---

<sup>2</sup> The Energy Efficiency Starter Kit was a free gift to participants in 2007 and included a CFL, low-flow showerhead, and three faucet aerators.

<sup>3</sup> A random sample of two percent of the kits sent out is used.

**Table 1: Participation Goals by Mode**

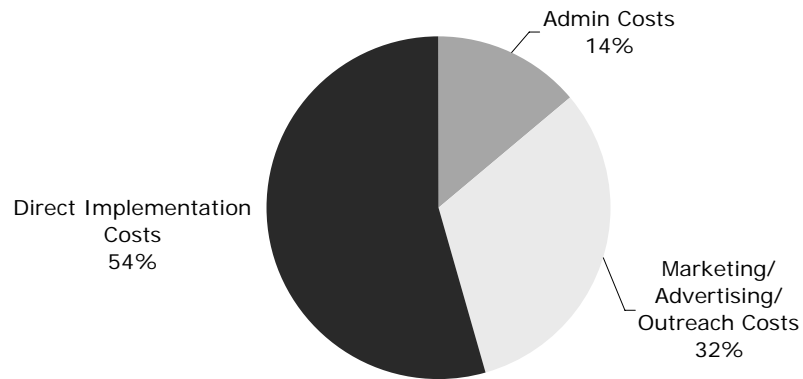
Quarter	Mail-In	On-line	In-Home	Phone	Total
2006 Q1	2,280	786	702	46	3,814
2006 Q2	4,866	1,342	1,096	130	7,434
2006 Q3	1,298	1,977	1,022	113	4,410
2006 Q4	118	2,751	409	49	3,327
2007 Q1	499	3,741	426	44	4,710
2007 Q2	2,457	4,119	295	53	6,924
2007 Q3	1,775	6,628	513	52	8,968
2007 Q4	6,855	7,436	614	142	15,047
2008 Q1	6,110	5,651	1,348	335	13,444
2008 Q2	676	3,338	1,903	431	6,348
Total	26,934	37,769	8,328	1,395	74,426
Goal	52,960	33,100	13,241	1,655	100,956
% of Goal Achieved through 2008 Q2	51%	114%	63%	84%	74%

Data provided by SCE

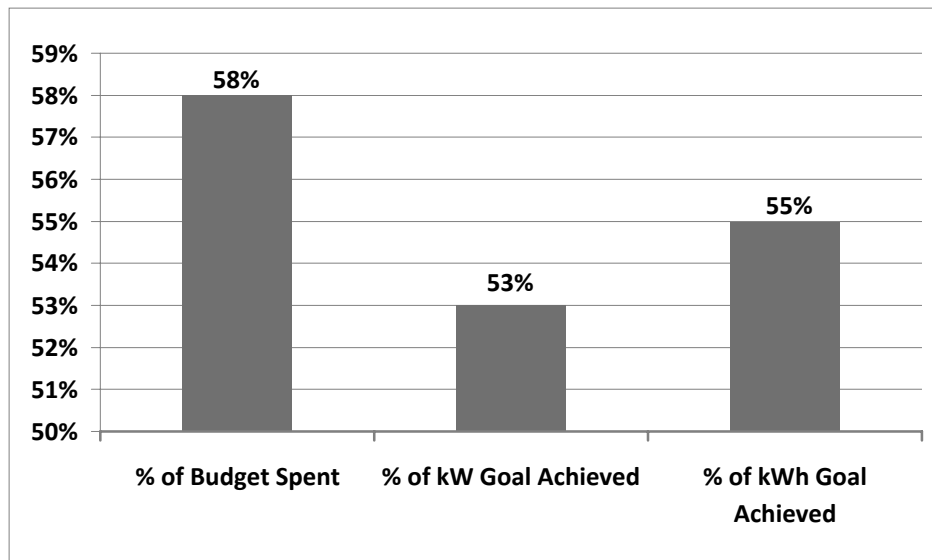
Figure 1 shows how the program has allocated its spending through Q2 2008.<sup>4</sup> The HEES program has devoted over half of expenditures to direct implementation, 32 percent to marketing activities, and 14 percent to administrative costs. Figure 2 compares the program's expenditures with its progress towards its savings goals, which shows that savings are generally keeping pace with expenditures. The program had spent 58 percent of its total operating budget through Q2 2008 and achieved 53 percent of its kW goal and 55 percent of its kWh goal. In-home audits generate the greatest savings, and the order of the remaining modes is mail-in, online, and phone (highest to lowest).

<sup>4</sup> SCE Quarterly and Monthly Reports, Q2 and June 2008 (<http://eega2006.cpuc.ca.gov/>)

**Figure 1: HEES Expenditures by Category (Q1 2006 – Q2 2008)**



**Figure 2: HEES Progress Towards Savings Goals and Expenditures (Q1 2006 – Q2 2008)**



## 2.2 HEES PROGRAM LOGIC MODEL AND PROGRAM THEORY

One of the first tasks for the evaluation was to develop a program logic model and document the program theory for the HEES program. The structure of the logic model that links activities and outcomes is a useful instrument for identifying specific program assumptions that can be tested using survey or other primary data collection activities. Crucial program evaluation issues often question whether program services are adequately designed and equipped to generate their desired outcomes.

Additionally, the construction of a program theory and logic model provides a common knowledge and language between program implementers, evaluators, and stakeholders. It allows for a more precise conversation about what is occurring within a program and why the program actions should produce the expected outcomes.

The following program theory for the Home Energy Efficiency Survey (HEES) Program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes.

## **Activities**

### *Coordination with other programs*

An objective of the HEES program is to channel participants to other SCE and SoCal Gas energy efficiency programs such as the Single Family Rebate, Summer Discount (air conditioning recycling), and 20/20 Summer Savings programs. The recommendations on the HEES report are coupled with the contact information and program offerings of appropriate energy efficiency programs. Therefore, HEES program staff members synchronize with other SCE and SOCAL GAS programs to direct survey design efforts.

### *Marketing and outreach*

The online HEES is promoted through the SCE website and through e-mail blasts to available client lists such as subscribers to the Los Angeles Times newspaper. In addition, in-language paper HEES surveys are mailed directly to customers in targeted zip codes, such as those located in hotter climate zones and areas of higher energy usage. The in-home HEES survey audits are advertised through mailers, which are also targeted by zip code and available in-language. SCE offers an incentive kit (23-watt CFL, low-flow showerhead, and 3 faucet aerators) to customers who participate in the program through any mode, and the in-home HEES includes free installation of the measures. Follow-up marketing mailers and e-mails are sent to customers to remind them of the incentive offer for completing a survey.

Other SCE program and outreach activities, such as Change a Light, Change the World, also promote the HEES program through their marketing materials.

### *HEES Survey*

The HEES survey is provided in four different modes (mail-in, online, in-home, and phone) and in five languages (English, Spanish, Chinese, Vietnamese and Korean) in order to appeal to a broad range of customers.

The survey instrument asks the participants a series of questions about their home and then offers a specific list of tips based on the responses. Recommendations include both changes in behavior and information on more energy efficient appliances. Tips are coupled with phone numbers and web links for other energy efficiency programs, such as rebate programs that reduce the cost of installing the recommended upgrades. The HEES program also accesses the customer's billing information to produce a graphical analysis of each participant's annual trends in electric, gas, and water use, and benchmarks each household against other similar households in the region.



## Short Term Outcomes

*Customers are aware of the HEES*

The marketing collateral successfully reaches the target customer groups. The content is convincing and clearly indicates how to access the HEES survey. As a result, customers become aware of the HEES survey opportunity and understand its potential benefits.

*Customers complete the survey and become more aware of their energy use profile and savings opportunities*

Customers that take the online version or conduct an over-the-phone session receive instantaneous results. Customers that fill-out the mail-in version obtain the survey results by mail within two weeks. Customers who request an in-home survey receive some immediate feedback from the auditor and an e-mail link to the complete report.

After reading their HEES results, participants understand how their energy and water use varies throughout the year and how their household compares with other similar households. Through the “Savings Tips” section, participants gain new knowledge about daily behaviors and equipment that can reduce their water and energy consumption. The participants also become aware of SCE/SOCAL GAS rebate and demand-response programs that can assist them in implementing the saving measures.

## Mid Term Outcomes

*Customers implement low-cost energy saving recommendations and inquire about energy efficiency programs identified in the survey*

After receiving survey results, participants adopt some or all of the recommended energy-saving behaviors and purchase low-cost equipment upgrades. The participants contact some of the other SCE/SOCAL GAS programs identified in the survey to access equipment rebates and to learn about further savings opportunities.

*kWh, kW, therm, and water savings and utility bill reductions*

After implementing some of the HEES recommendations, participants achieve energy savings, which translate into reduced energy bills.

## Long Term Outcomes

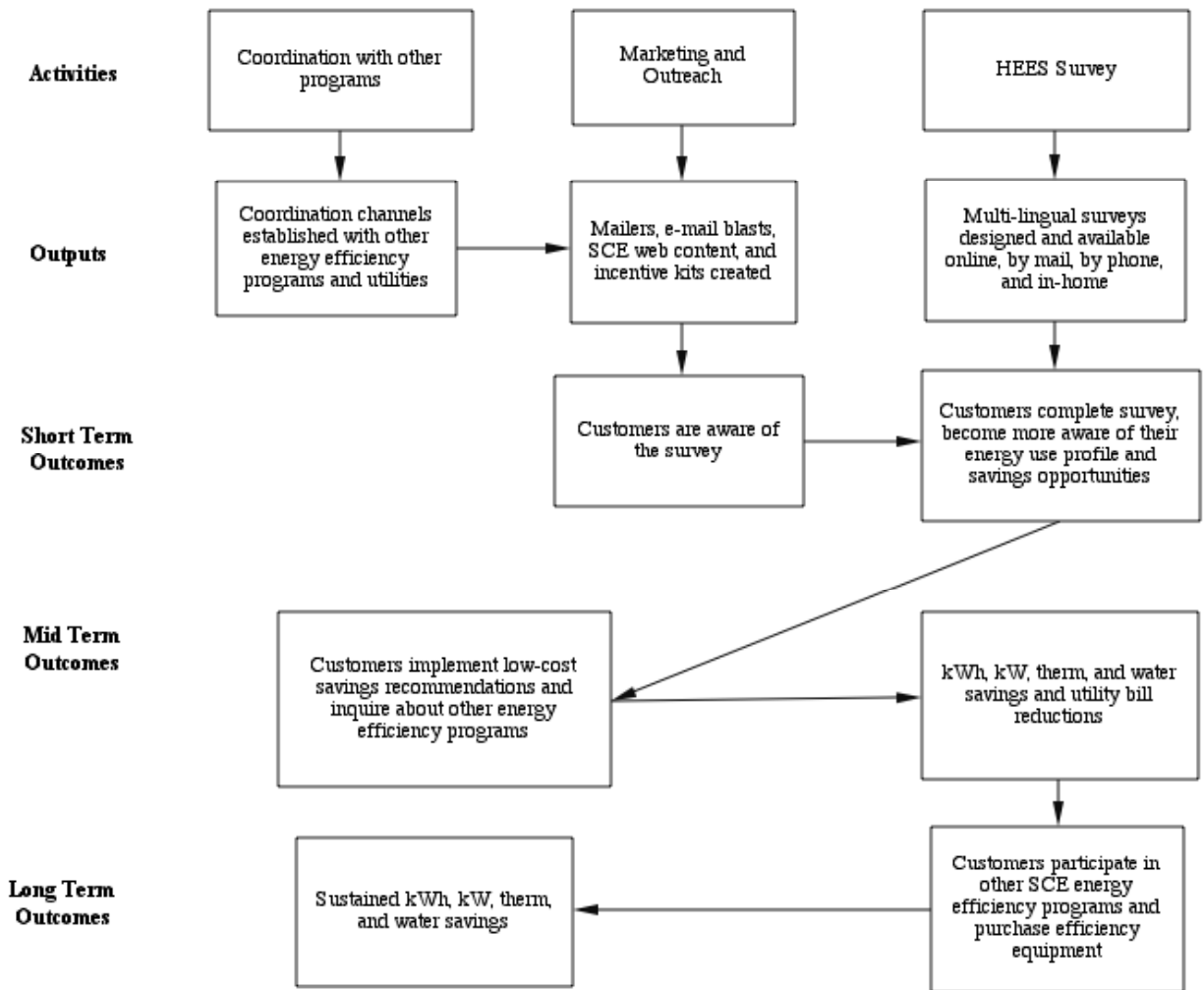
*Customers participate in other SCE energy efficiency programs and purchase energy efficiency equipment*

Customers recognize the savings benefits of implementing the low-cost energy efficiency measures and begin to incorporate energy efficiency into their standard purchasing decisions. Customers utilize SCE programs to implement the major equipment upgrades recommended by the HEES results and participate in demand response programs.

*Sustained kWh, kW, therm, and water savings*

There is a higher level of energy-efficient equipment installed in California homes and customers adopt energy-saving behaviors as standard practice. Thus, customers are more energy- and water-efficient and there are peak demand reductions.

**Figure 3: HEES Program Logic Model**



## 2.3 KEY RESEARCH ISSUES

An early step in the evaluation was to interview the HEES program managers in order to better understand the program mechanics and to discuss potential research topics. Each in-depth interview took about an hour to complete, and subsequent questions were addressed via e-mail correspondence. The interviews were based on a series of open-ended questions, and issues that were discussed include:

1. Program purpose (as perceived by the interviewee)
2. How the program actually works
3. What metrics the program is tracking
4. What is working well, and not working well
5. Potential program changes to consider
6. Coordination with other programs (Southern California Gas and Golden State Water)

Based on the program theory, a review of program documents (*e.g.*, quarterly reports, PIP), and through the in-depth interviews, the research issues below were identified. These research issues helped to direct the focus of all data collection tasks, including participant survey development, review of program documents and marketing materials. The fundamental research question is if the HEES tool is effectively designed to increase the residential adoption of energy efficiency and water conservation practices. To that end, there are several researchable issues:

### **Determine the effectiveness of the HEES recruitment strategies**

The process evaluation can assess the efficacy of the HEES marketing program, investigating what specific elements of the marketing campaign most effectively stimulate participation. Related areas of research include why customers select a particular HEES mode and if they are aware of the other survey modes (online, mail-in, in-home, phone). Moreover, the primary marketing strategy consists of Energy Efficiency Starter packs as incentive gifts. This process evaluation analyzes the role of this incentive in the recruitment process. Are participants speeding through the online survey in order to get the gift, with no regard to the survey results? Would customers participate in the program at about the same time without the gifts?

### **Assess the behavioral impact of HEES**

The program is meant to incite action—to inform participants of opportunities to save money and provide resources to execute the recommendations. It is important to know if the design of the HEES report is successfully imparting useful knowledge, referring participants to helpful resources, and if this coordination effort is motivating participants to adopt more energy- and water-efficient behaviors. Are recommendations clearly explained and are the appropriate resources easy to access? This evaluation analyzes which recommendations are executed most frequently and which ones are ignored, and for what reasons. Insight into this decision-making can inform a more action-oriented program design. Notably, a previous SCE billing analysis determined the online survey format to be the least effective in generating energy savings

actions, while the in-home personal approach was the most effective. This evaluation considers the impacts of the various HEES modes and what can be done to improve results for the online format.

### **Investigate if the recommendations algorithm is appropriate**

The HEES report provides a list of energy and water saving recommendations, which are triggered by responses to survey questions about customer equipment holdings and household behaviors. Customers sometimes receive recommendations in the HEES report that they have already implemented in the past (such as installing CFLs). Past research from SCE shows this is true for about 30 percent of recommendations that are provided to HEES respondents. Does this jeopardize the credibility of the other recommendations or does this motivate customers to implement the remaining measures? Is there a certain threshold of repetition that is good? Furthermore, should there be more advanced energy efficiency tips for sophisticated customers who already do most of the energy efficiency behaviors, and if so, what types?

### **Examine the account number mechanism**

Online HEES participants were required to manually input their electric, gas, and water account numbers in order to integrate their billing data into the results during the later part of the 2006-2008 program cycle. Customers who receive a paper survey through the mail already have their electric account numbers pre-printed, and are given the option of writing in their Southern California Gas and Golden State Water account numbers. How much of a burden is the account number requirement, and do customers who do not enter in their account information find less value in their HEES reports?

## **3. HEES PROGRAM EVALUATION RESULTS**

### **3.1 PARTICIPANT PHONE SURVEY**

To address these research issues, ECONorthwest fielded a participant phone survey through Freeman Sullivan in September and October 2008. The survey took between 15 and 20 minutes to complete. As shown in Table 2, ECONorthwest provided Freeman Sullivan with two sample batches. The first contained HEES participants with contact information from 2007. The second expanded the participant sample through July 2008 in order to provide additional data points for the in-home and phone HEES modes. Notably, only 12 percent of respondents are drawn from the first sample batch. No contact information was available for the abbreviated Energy 5 online HEES, and so these participants could not be surveyed. Table 3 shows how many respondents were surveyed from each HEES mode (mail-in, online, in-home, and phone). The original quota goal was 200 respondents for each mode, for a total of 800 completes. However, given the relatively low participation counts for the phone mode, only 127 completes were achieved for the phone mode, while 200 completes were attained for each of the other three modes.

**Table 2: Respondents from Each Sample Batch**

Survey Mode	Batch 1		Batch 2	
	Survey Completes	Total Sample	Survey Completes	Total Sample
Mail	55	4,360	173	6,740
On-line <sup>5</sup>	36	1,798	196	5,556
In-home	9	607	222	3,725
Phone	1	140	126	735
Total	101	6,905	717	16,756

**Table 3: Total Surveys Completed**

Survey Mode	Original Quota	Completed	Mode Percent of Total
Mail	200	228	28%
On-line	200	232	28%
In-home	200	231	28%
Phone	200	127	16%
Total	800	818	100%

## Call Disposition

The call disposition report is presented in Table 4 below. Freeman Sullivan made a total of 11,633 phone calls: 1,626 from the first sample batch and 10,007 from the second sample batch. Interviews were partially or fully completed for eight percent of the phone calls made; seven percent were complete interviews. The overall refusal rate was six percent and about 11 percent of the called participants were ineligible due to a language barrier.

---

<sup>5</sup> Energy 15 participants only

**Table 4: Call Disposition**

	Sample Batch 1 (N=1,626)	Sample Batch 2 (N=10,007)	Total Sample (N=11,633)
<b>Not Part of the Survey Population</b>	<b>16.5%</b>	<b>29.1%</b>	<b>27.4%</b>
Non-Working Number	1.8%	1.0%	1.1%
Fax/Dataline	0.7%	1.3%	1.2%
Disconnected	6.5%	8.7%	8.4%
Incapacitated/Incoherent	0.5%	0.3%	0.3%
Business	0.2%	0.5%	0.5%
Language Barrier/Non-English	3.1%	12.1%	10.8%
Person not at number	1.9%	3.4%	3.2%
Does Not Recall	1.2%	1.6%	1.5%
Deceased	0.4%	0.3%	0.3%
Ineligible-Other	0.1%	0.1%	0.1%
<b>Eligibility Unknown</b>	<b>42.4%</b>	<b>51.7%</b>	<b>50.4%</b>
No Answer	7.5%	11.5%	10.9%
Busy	9.0%	5.8%	6.3%
Answering machine/voicemail	25.2%	33.7%	32.5%
Unavailable for Duration	0.7%	0.6%	0.6%
<b>Refusals</b>	<b>8.9%</b>	<b>5.3%</b>	<b>5.8%</b>
Soft	2.3%	1.9%	1.9%
Hard	6.6%	3.4%	3.9%
<b>Eligibility Known</b>	<b>23.6%</b>	<b>5.6%</b>	<b>8.1%</b>
Callback	23.6%	5.6%	8.1%
<b>Completed Interviews</b>	<b>8.5%</b>	<b>8.3%</b>	<b>8.3%</b>
Completed interviews	6.2%	7.2%	7.0%
Partial - Callback	1.0%	0.9%	0.9%
Partial - Refusal	1.4%	0.2%	0.4%

## Demographics

The following six tables provide basic demographic information about the 818 program participants who were surveyed for this evaluation. As shown in Table 5, most respondents live in single-family detached homes (72 percent), nine percent live in condos, eight percent live in apartments, and five percent live in mobile or manufactured homes. Furthermore, Table 6 shows that most respondents own their homes: 78 percent of respondents own their homes, while only 22 percent rent their homes.

**Table 5: Type of Home**

<b>Housing Type</b>	<b>Mail-in Percent (N=228)</b>	<b>On-line Percent (N=232)</b>	<b>In-home Percent (N=229)</b>	<b>Phone Percent (N=127)</b>	<b>Total Percent (N = 816)</b>
Single-Family Detached Home	74%	74%	66%	72%	72%
Condo	7%	6%	15%	9%	9%
Apartment	8%	12%	6%	7%	8%
Mobile Home / Manufactured Home	6%	1%	9%	5%	5%
Townhouse	4%	4%	2%	3%	3%
Duplex/Quadplex	2%	2%	1%	3%	2%
Don't know	0%	0%	1%	0%	<1%

(Survey question D2)

**Table 6: Own or Rent**

<b>Housing Type</b>	<b>Mail-in Percent (N=228)</b>	<b>On-line Percent (N=230)</b>	<b>In-home Percent (N=227)</b>	<b>Phone Percent (N=125)</b>	<b>Total Percent (N = 810)</b>
Own	77%	72%	84%	77%	78%
Rent	23%	28%	16%	23%	22%

(Survey question D1)

Table 7 and Table 8 show that the highest share of respondents (37 percent) are 65 years or older and the most common household size is two. Notably, the online mode was the least popular among older participants. About one-third of respondents are between the ages of 35 and 54, and only 11 percent of respondents are under the age of 35.

**Table 7: Age**

<b>Age Range</b>	<b>Mail-in Percent (N=226)</b>	<b>On-line Percent (N=229)</b>	<b>In-home Percent (N=224)</b>	<b>Phone Percent (N=122)</b>	<b>Total Percent (N = 801)</b>
Under 25 Years	4%	6%	0%	2%	3%
25 To 34 Years	7%	17%	4%	6%	8%
35 To 44 Years	10%	25%	10%	20%	16%
45 To 54 Years	14%	24%	18%	23%	19%
55 To 59 Years	12%	9%	7%	7%	9%
60 To 64 Years	10%	7%	4%	6%	7%
65 Years or Older	43%	12%	57%	36%	37%

(Survey question D4)

**Table 8: Number of People in Household**

<b>Number of People</b>	<b>Mail-in Percent (N=226)</b>	<b>On-line Percent (N=229)</b>	<b>In-home Percent (N=226)</b>	<b>Phone Percent (N=124)</b>	<b>Total Percent (N = 805)</b>
1	19%	10%	24%	21%	18%
2	30%	31%	41%	25%	32%
3	19%	17%	12%	16%	16%
4	17%	22%	12%	15%	17%
5	8%	10%	4%	14%	8%
6	4%	7%	4%	4%	5%
More than 6	4%	3%	3%	5%	4%

(Survey question D3)

Table 9 shows that highest level of education reached by the respondents is widely distributed. Twenty-four percent of respondents said their highest level of education reached was a high school diploma or less, 28 percent said their highest level was some college, seven percent said their highest level was an Associates degree, 22 percent said their highest level was a Bachelors degree, and 19 percent said their highest level was a graduate or professional degree. Overall, 41 percent of respondents had at least a Bachelor's degree.

**Table 9: Highest Level of Education**

<b>Highest Level of Education</b>	<b>Mail-in Percent (N=224)</b>	<b>On-line Percent (N=229)</b>	<b>In-home Percent (N=226)</b>	<b>Phone Percent (N=122)</b>	<b>Total Percent (N = 801)</b>
High school diploma or less	34%	13%	24%	25%	24%
Some college	31%	23%	26%	35%	28%
Associates degree	6%	10%	5%	4%	7%
Bachelors degree	15%	31%	23%	15%	22%
Graduate or professional	13%	23%	21%	20%	19%
Don't know	1%	0%	0%	0%	<1%

(Survey question D5)

As shown in Table 10, about half of the respondents (46 percent) have an annual household income of \$40,000 or less, with roughly 10 percent in each of the higher categories.



**Table 10: Annual Household Income**

<b>Income Range</b>	<b>Mail-in Percent (N=204)</b>	<b>On-line Percent (N=198)</b>	<b>In-home Percent (N=193)</b>	<b>Phone Percent (N=103)</b>	<b>Total Percent (N = 698)</b>
Less than \$20,000	32%	5%	19%	27%	20%
\$20,000 to less than \$40,000	31%	20%	27%	26%	26%
\$40,000 to less than \$60,000	11%	15%	12%	13%	13%
\$60,000 to less than \$80,000	7%	15%	10%	11%	11%
\$80,000 to less than \$100,000	5%	12%	7%	9%	8%
\$100,000 to less than \$150,000	6%	21%	9%	5%	11%
More than \$150,000	4%	11%	10%	10%	9%
Don't know	2%	1%	4%	0%	2%

(Survey question D6)

Due to SCE's partnerships with Southern California Gas (SoCal Gas) and the Golden State Water (GSW) Company, customers can integrate their SoCal Gas and GSW account histories into the HEES algorithm. Table 11 shows how many respondents are customers of one of these other utilities, and the majority (73 percent) are serviced by SoCal Gas and/or GSW. However, as shown in Table 12, of this group, only half remember entering (or providing the survey administrator) at least one of these additional account numbers.

**Table 11: Customer of SoCal Gas and/or GSW?**

<b>Customer?</b>	<b>Mail-in Percent (N=188)</b>	<b>On-line Percent (N=193)</b>	<b>In-home Percent (N=199)</b>	<b>Phone Percent (N=115)</b>	<b>Total Percent (N=695)</b>
Yes	70%	69%	78%	75%	73%
No	24%	28%	20%	22%	24%
Don't know	6%	3%	3%	3%	4%

(Survey question P1)

**Table 12: Gas & Water Utility Account Numbers Listed**

<b>Account Numbers Listed</b>	<b>Mail-in Percent (N=129)</b>	<b>On-line Percent (N=133)</b>	<b>In-home Percent (N=153)</b>	<b>Phone Percent (N=86)</b>	<b>Total Percent (N=501)</b>
SoCal Gas or GSW	50%	62%	59%	45%	55%
Neither	13%	10%	7%	17%	11%
Don't know	36%	28%	33%	37%	33%

Multiple responses accepted (Survey question P2)

## Marketing Efforts

### Key Marketing Channels

Marketing is a key component contributing to the success of the HEES, first to generate awareness of the program, and second—and more important—to encourage completion of a survey. The HEES program markets through a variety of methods to reach targeted customer segments, as well as the overall residential customer base. Before the 2006-2008 program cycle, bill inserts were a prominent marketing channel used to inform customers of the various energy efficiency surveys offered by SCE and, as shown in Table 13 below, many participants recall first learning about HEES through bill inserts.

The high percentage of respondents recalling bill inserts as their initial information source may reflect customer participation in 2006 when these inserts were still being heavily used. Respondents may also consider any mailed materials from SCE a bill insert. More recently, however, SCE's use of a revised billing statement supports only a single printed message on the bill, so that the HEES message can only be presented infrequently through this channel. As a result, program managers have turned to alternate methods to encourage participation, including direct mail letters, postcards and self-mailers, mail-in surveys sent directly to the customer, e-mails, newspaper advertising, and community events.

- The in-home and phone surveys are marketed through direct mailings of 10,000 to 20,000 pieces at a time targeted to specific geographic areas whose combination of climate and housing stock characteristics (*e.g.*, hot climates, older homes) make them good candidates for energy efficiency measures. The number of mailings is designed to maintain a steady flow of work for the HEES auditors without creating excessive backlogs. Newspaper ads targeted to ethnic communities are also used to encourage customers to call and schedule an audit.
- Online surveys are marketed both through the SCE website and e-mail “blasts” to SCE customers, both of which may include the offer of CFLs, an energy efficiency kit, or other incentives such as gift cards.
- Mail-in surveys are typically sent directly to the customer in a brightly colored envelope with the marketing messages shown in Table 14. Follow up postcards are used to remind the customer that they have received the survey and to offer the online mode as an alternative that can be accessed by going to the SCE website.

Some of these alternative marketing methods are highlighted in the participant survey results, with specific marketing techniques associated with different survey delivery mechanisms (see Table 13). Mail-in respondents most frequently first received the HEES paper survey in the mail (31 percent). Online respondents most commonly learned about the program through the SCE website (38 percent). In-home respondents identified bill inserts as their initial information source (21 percent) and phone respondents said they heard about the program from a SCE representative (28 percent), which may also reflect referrals to the program by the SCE call center when the customer calls with a high bill complaint. Referrals from friends and family were most prominent with the in-home audit mode. It should also be noted that about one-sixth of respondents could not recall how they first learned about the HEES program.

In addition, respondents were asked about the most useful information source in their decisions to participate in the HEES program. One-third of the respondents said that they did not seek any additional information sources and 23 percent did not know. Most commonly, the additional sources were bill inserts (nine percent), the SCE website (eight percent), and a utility representative (five percent).

As bill inserts have become less available as a marketing tool, HEES program managers have sought to improve the ability of other marketing techniques to cost-effectively generate completed surveys. Examples of steps taken in 2007 and 2008 to improve customer response to marketing efforts include:

- Developing a more colorful direct mail package, including both the initial mail-in survey and subsequent follow-up postcards.
- Using an internal, specialized marketing team to work with in-language materials targeted to customers who speak Vietnamese, Chinese, and Korean.
- Encouraging participation in the online survey through the provision of the “Energy Efficiency Starter Kit” and sometimes through the use of additional incentives, such as a \$10 Starbucks gift card that generated almost 4,000 audits in a two-week period at the end of 2007.
- Providing online customers with the option to use the mail-in HEES survey (but not the in-home survey), and reminding recipients of the mail-in form of the online survey option.

Response rates from these other marketing approaches can be illustrated by the following results, although it should be emphasized that these do not reflect results for a full year or program cycle.

- An e-mail blast sent to 247,000 My Account customers on July 11, 2007 at an estimated cost of \$189,000 was opened by 14 percent of customers, for a total of 34,580 views. Of those who opened the e-mail, five percent completed the survey, for a total of 1,600 completed surveys.
- Offering an additional incentive in the form of a Starbucks gift card caused the number of online surveys completed to jump from an average of about 350 a week for the previous five weeks to more than 3,000 for the two-week promotional period.
- For the first 10 months of 2007, response rates were higher for in-language, mail-in surveys mailed to Chinese (13 percent), Vietnamese (nine percent), and Korean (10 percent) customers than those for English (six percent) and Spanish speaking (six percent) households. According to the SCE Program Manager, in-language response rates continued to exceed those for the general population in 2008.

**Table 13: First Information Source**

<b>Source</b>	<b>Mail-in Percent (N=228)</b>	<b>On-line Percent (N=232)</b>	<b>In-home Percent (N=231)</b>	<b>Phone Percent (N=127)</b>	<b>Total Percent (N = 818)</b>
Bill insert	22%	16%	21%	23%	20%
SCE website	0%	38%	2%	2%	12%
Survey was mailed to me	31%	2%	4%	6%	11%
Utility representative	2%	3%	10%	28%	9%
Friend/family	3%	3%	10%	4%	5%
Flyer or brochure	6%	4%	5%	6%	5%
Letter from utility	8%	0%	6%	4%	5%
E-mail	0%	9%	0%	0%	3%
Newspaper ad	1%	0%	6%	1%	2%
Community event	0%	0%	3%	1%	1%
Contractor	0%	6%	0%	0%	2%
Postcard in the mail	3%	0%	2%	1%	1%
Newsletter	0%	0%	3%	1%	1%
Phone call from SCE	0%	0%	0%	6%	1%
Television	1%	0%	0%	2%	1%
Buying Solar Equipment	0%	2%	0%	0%	1%
Workshop/Conference	0%	0%	1%	0%	0%
Complaining about high bill	0%	0%	2%	0%	0%
Radio	0%	1%	0%	0%	0%
Other	0%	3%	4%	0%	2%
Don't know	21%	13%	17%	17%	17%

(Survey question Q1)

## Review of Marketing Materials

To determine the extent to which the messages conveyed by the marketing materials influenced the decisions of participating customers, the evaluation team summarized the marketing channels and messages used for various survey types, as shown Table 14 below.

**Table 14: Marketing Messages and Survey Formats**

<b>In-home/Phone survey</b>			
<b>Letter Envelope</b>	<b>Self-mailer 1</b>	<b>Self-mailer 2</b>	<b>In-Language Newspaper Ads</b>
Save energy, money and the environment	Save energy, money and the environment	Let our energy experts save you money	Save energy, money and the environment
Let our energy experts save you money	Let our energy experts save you money	You may receive up to 6 free CFLs	Free Home Energy Survey
<b>Mail-in survey</b>			
<b>Envelope</b>	<b>Survey Cover</b>	<b>Follow-up Postcard 1</b>	<b>Follow-up Postcard 2</b>
Let's work together to save California's energy and water resources.	Help save Southern California's energy and water resources	Survey these great gifts	Save Energy, Money and the Environment in Just 15 Minutes
Get a free energy efficiency kit by completing the enclosed survey today	Complete this survey to receive a FREE Energy Efficiency Kit	Get all 3 free and save energy, money and the environment	Get Free Personalized Energy and Water Saving Recommendations ...Plus 3 Free Gifts
<b>On-line survey</b>			
<b>E-mail blast</b>			
Save energy, money and the environment in just 15 minutes			

Note that messages in all the marketing media emphasized saving energy, while most also emphasized saving money and the environment through the “save energy, money, and the environment” message. There were, however, some differences in the extent to which various aspects of the message were emphasized.

- The e-mail blast in support of the online mode, while also using the previous message, emphasized ease of participation with the fact that the survey requires just 15 minutes to complete.
- Marketing of the in-home survey used the above message on one side of the direct mail envelope, but used the other side of the envelope to prominently note the role of “energy experts” in making the savings possible. This reference to the auditors was also emphasized in two self-mailer direct mail pieces.
- Both the mail-in survey and follow up self-mailers/postcards for the in-home survey also used incentive offers to encourage participation.

To compare these advertised benefits with the customer participation decision, survey respondents were asked to rate how important various factors were in their decision to take the survey. For the comparison with the marketing messages, the percentage of respondents for each

survey type who considered a factor “very important” in their decision to take the survey is presented in Table 15.

Consistent with the messages used in all marketing materials, the desire to reduce energy cost was the factor most frequently considered “very important” for all survey types, while concern about the environment was rated very important by more than two-thirds of respondents overall. The opportunity to learn about energy efficiency programs was not mentioned as a selling point at all in marketing materials, yet was considered very important by more than half of all respondents and by 65 percent of telephone survey participants. This suggests that customers might respond favorably to marketing appeals that offer messages related to, for example, the availability of rebates for your next appliance purchase.

Despite the emphasis on free CFLs or the free Energy Efficiency Starter Kit in many marketing materials, respondents generally said they considered these offers less important than other factors, with only about one-third stating they considered the free items very important. It is interesting to note that while only 26 percent of web survey participants said the free items were very important (the lowest of any group of participants), the spike in online audits when the \$10 Starbucks gift card was offered suggests that these participants are very responsive to at least some types of incentives.

**Table 15: Percentage of Participants Considering Factors “Very Important”**

<b>Decision Factor</b>	<b>Mail-in (N=228)</b>	<b>On-line (N=232)</b>	<b>In-home (N=231)</b>	<b>Phone (N=127)</b>	<b>Total (N=818)</b>
To reduce the cost of my energy bill	88%	85%	89%	91%	88%
Concern about environment	75%	63%	66%	71%	69%
Desire to find information on energy efficiency programs	51%	48%	57%	65%	54%
Free items	36%	26%	35%	33%	32%

(Survey questions Q9-Q11, E4)

A detailed breakdown of the importance of the free measures, presented in Table 16, indicates that while 18 percent of respondents said that they did not realize they would get the Energy Efficiency Starter Kit, about half of respondents asserted that the Kit was very important or somewhat important in their decision to take the survey. Online participants had the highest share of respondents who said that the incentives were “not very important” or “not at all important.”

**Table 16: Importance of Kit in Taking Survey**

<b>Importance Level</b>	<b>Mail-in Percent (N=228)</b>	<b>On-line Percent (N=232)</b>	<b>In-home Percent (N=231)</b>	<b>Phone Percent (N=126)</b>	<b>Total Percent (N=817)</b>
Very important	36%	26%	35%	33%	32%
Somewhat important	18%	24%	13%	17%	18%
Not very important	9%	19%	7%	11%	12%
Not at all important	12%	19%	13%	17%	15%
Did not know I would get kit	19%	10%	23%	19%	18%
Don't know	7%	2%	9%	2%	5%

(Survey question E4)

As shown in Table 17, most participants said that not having the offer of an Energy Efficiency Starter Kit would not have kept them from completing the HEES. However, a significant percentage of respondents—particularly among those who completed the on-line HEES—said they would not have taken the survey without this incentive. Among respondents who were aware that they would receive the Kit, about 12 percent would not have participated without the Kit, and nine percent did not know. With more than 100,000 surveys targeted for the 2006-2008 program cycle, this suggests that anywhere from 12,000 to 20,000 surveys would not have been completed without this incentive.

**Table 17: Would Have Taken Survey Without Kit?**

<b>Would have taken survey?</b>	<b>Mail-in Percent (N=185)</b>	<b>On-line Percent (N=208)</b>	<b>In-home Percent (N=178)</b>	<b>Phone Percent (N=103)</b>	<b>Total Percent (N=674)</b>
Yes	79%	78%	76%	88%	79%
No	9%	18%	11%	6%	12%
Don't know	11%	4%	13%	6%	9%

(Survey question E5)

## Survey Completion Time and Length

Once they had been informed about the HEES, most respondents said they acted quickly to participate in the program by completing a survey. As shown in Table 18, roughly half of respondents took the HEES immediately after they learned about it, and about 80 percent of respondents participated in the program within one month. As expected, fewer in-home respondents took the survey immediately, since there would generally be a longer lag time to set up an appointment for the auditor to visit the home. The 26 percent who said they took the in-home survey immediately presumably meant that they acted immediately to schedule the appointment.

**Table 18: Interval from Survey Awareness to Participation**

<b>Took survey...</b>	<b>Mail-in Percent (N=227)</b>	<b>On-line Percent (N=232)</b>	<b>In-home Percent (N=231)</b>	<b>Phone Percent (N=127)</b>	<b>Total Percent (N = 817)</b>
Immediately	43%	57%	26%	43%	42%
Less than one month later	39%	34%	45%	37%	39%
1-6 months later	7%	7%	15%	9%	9%
6 months to a year later	1%	0%	2%	0%	1%
More than a year later	1%	0%	1%	2%	1%
Don't know	8%	2%	11%	10%	8%

(Survey question Q1A)

Table 19 shows that the length of time to take the survey does not vary significantly for the mail-in, online, and phone survey modes. (Notably, the shorter Energy 5 online survey is omitted from the sample.) Not surprisingly, the majority of in-home HEES respondents (64 percent) reported that it required more than 15 minutes to complete the consultation. However, over half the respondents who participated in the program through the other three modes finished the survey in less than 15 minutes, while less than 30 percent needed more than 15 minutes.

**Table 19: HEES Length**

<b>Time to complete survey</b>	<b>Mail-in Percent (N=228)</b>	<b>On-line Percent (N=231)</b>	<b>In-home Percent (N=231)</b>	<b>Phone Percent (N=127)</b>	<b>Total Percent (N=817)</b>
Less than 5 Minutes	8%	5%	3%	7%	6%
5 to 10 Minutes	24%	27%	8%	22%	20%
10 to 15 Minutes	22%	33%	18%	23%	24%
More than 15 Minutes	29%	20%	64%	29%	36%
Don't know	18%	15%	8%	19%	14%

(Survey question Q12)

Table 20 shows that before they participated in the HEES program, 41 percent of respondents felt they were “very knowledgeable” about opportunities for improving the energy efficiency of their homes, while a smaller share (30 percent) said they were “very knowledgeable” about energy efficiency *program* offerings for their homes. One-quarter of the respondents said they were “not very” or “not at all knowledgeable” about energy efficiency program offerings. As noted previously, the relatively lower level of knowledge regarding SCE programs suggests that this may be an effective marketing message to encourage HEES participation.



**Table 20: Base Level of Knowledge Before Completing HEES**

Before taking the Survey, how knowledgeable were you about...	Very Knowledgeable Percent	Somewhat Knowledgeable Percent	Not Very Knowledgeable Percent	Not at All Knowledgeable Percent	Don't Know Percent
Opportunities for improving the energy efficiency of your home (N = 818)	41%	45%	8%	4%	2%
Energy efficiency program offerings for your home (N = 818)	30%	43%	17%	8%	2%

(Survey questions Q7-Q8)

### Energy Efficiency Starter Kit

As discussed above, one primary marketing strategy of the 2006-2008 HEES program was offering free Energy Efficiency Starter Kits to all participants beginning in April 2007. Table 21 shows that 81 percent of mail-in, on-line, and phone HEES respondents received a Kit (one CFL, one low-flow showerhead, one kitchen faucet aerator, and two bathroom faucet aerators). Over two-thirds of that group installed the CFL, over half installed the low-flow showerhead, while 38 percent installed the kitchen faucet aerator, and 27 percent installed both of the bathroom faucet aerators. Overall, 18 percent (86 respondents) of those who received a Kit installed all four items. The incentive kit ensures that most surveys generate at least some energy savings, and 87 percent of this group installed at least one of the items.

**Table 21: Received Energy-Efficiency Starter Kit in the Mail**

Received Kit	Mail-in, On-line, & Phone Percent (N=587)
Yes	81%
No	17%
Don't know	2%

Installed Items*	Percent (N=474)
CFL	68%
Low-flow showerhead	55%
Kitchen sink aerator	38%
One bathroom sink aerator	7%
Both bathroom sink aerators	27%
None	12%
Don't know	1%

\*Multiple responses accepted (Survey questions E1-E2)

For the in-home HEES mode, the auditors offer to install up to six CFLs in the home and provide the customer with the Energy Efficiency Starter Kit. The auditor can install the low-flow showerhead and aerators from the Kit on request. Table 22 shows that about half of the respondents allowed the auditors to install CFLs in their homes and 39 percent of this subgroup said that their in-home auditors installed all six CFLs (see Table 23). Twenty-eight percent of respondents requested that the auditor install the low-flow showerhead, 18 percent had the kitchen sink aerator installed, and 15 percent asked that both bathroom aerators be installed.

**Table 22: Items Installed by In-Home Auditor**

Installed Items	In-home Percent (N=231)
CFL	55%
Low-flow showerhead	28%
Kitchen sink aerator	18%
One bathroom sink aerator	4%
Both bathroom sink aerators	15%
None	19%
Was not offered anything	10%
Don't know	8%

Multiple responses accepted (Survey question E3)

**Table 23: Number of CFLs Installed by In-Home Auditor**

# CFLs	In-home Percent (N =128)
1	7%
2	11%
3	5%
4	19%
5	6%
6	39%
Don't know	13%

(Survey question E3A)

Following the in-home visit, 38 percent of respondents installed at least one of the remaining items in the Energy Efficiency Starter Kit, while 14 percent claimed they did not receive a Kit,

and nine percent did not know. Of the group that installed something, Table 24 shows that 82 percent installed the CFL.<sup>6</sup>

**Table 24: Items Installed After In-Home HEES**

<b>Received Kit</b>	<b>Percent (N = 204)</b>
Yes	39%
No	38%
Did not receive a kit	14%
Don't know	9%

<b>Installed Items*</b>	<b>Percent (N = 79)</b>
CFL	82%
Low-flow showerhead	33%
Kitchen sink aerator	17%
One bathroom sink aerator	6%
Both bathroom sink aerators	18%

\*Multiple responses accepted (Survey questions E3B-E3C)

Respondents who received a Kit were also asked which item they found the most valuable (regardless of whether or not they installed the items). As shown in Table 25, 47 percent of respondents preferred the CFL and 38 percent found the low-flow showerhead the most valuable. Only nine percent of respondents identified the aerators as the most valuable item.

**Table 25: Most Valuable Item in Energy Efficiency Kit**

<b>Most Valuable Item in Kit</b>	<b>Mail-in Percent (N=162)</b>	<b>On-line Percent (N=207)</b>	<b>In-home Percent (N=174)</b>	<b>Phone Percent (N=104)</b>	<b>Total Percent (N=648)</b>
CFL	43%	46%	53%	42%	47%
Low-flow showerhead	38%	34%	20%	32%	31%
Kitchen sink aerator	7%	6%	2%	4%	5%
Bathroom sink aerators	3%	5%	3%	7%	4%
None	4%	4%	2%	3%	3%
Don't know	6%	4%	19%	13%	10%

(Survey question E6)

<sup>6</sup> While the auditors may have installed the showerheads and faucet aerators while on-site, they are not allowed to install the CFL that is provided in the Energy Efficiency Starter Kit.

## Awareness of Other HEES Modes

Table 26 shows that only 29 percent of respondents were aware of other survey modes and of the four survey modes, respondents who took the HEES over-the-phone were most aware of other options.<sup>7</sup> The majority of respondents who were aware of another mode chose their particular mode because it was perceived to be the easiest, the most convenient, or the fastest (see Table 27)

Online participants were especially likely to mention this as their reason, perhaps in response to the “save energy, money and the environment in less than 15 minutes” marketing message noted previously.

**Table 26: Awareness of Other HEES Modes**

<b>Aware?</b>	<b>Mail-in Percent (N=228)</b>	<b>On-line Percent (N=232)</b>	<b>In-home Percent (N=231)</b>	<b>Phone Percent (N=127)</b>	<b>Total Percent (N = 818)</b>
Yes	27%	27%	23%	44%	29%
No	71%	70%	73%	53%	68%
Don't know	2%	3%	4%	3%	3%

(Survey question Q2)

<sup>7</sup> Participants who initiate the phone survey listen to an initial phone recording menu that mentions all four HEES modes. This may explain the higher awareness among phone respondents.

**Table 27: Reason for Selecting HEES Mode**

<b>Reason</b>	<b>Mail-in Percent (N=62)</b>	<b>On-line Percent (N=62)</b>	<b>In-home Percent (N=53)</b>	<b>Phone Percent (N=56)</b>	<b>Total Percent (N = 233)</b>
Was the most convenient/easiest/fastest	73%	90%	81%	77%	69%
Would provide the most helpful/accurate information	0%	0%	8%	7%	8%
Wanted an in-person consultation	0%	0%	2%	2%	4%
Did not have internet access	8%	2%	0%	0%	3%
Fastest mode to get the free energy efficiency starter kit	8%	0%	0%	0%	3%
Needed survey in my language	5%	5%	4%	4%	3%
Wanted the free Energy Efficiency Starter Kit	2%	0%	2%	2%	3%
Trouble with on-line portal	0%	0%	4%	0%	1%
Not comfortable with computers/internet	2%	0%	0%	0%	0%
Was the only mode that was offered to me	2%	0%	0%	0%	0%
Other	0%	3%	11%	11%	5%
Don't know	8%	3%	4%	4%	6%

Multiple responses accepted (Survey question Q4)

As shown in Table 28, almost 80 percent of respondents were “very satisfied” with their survey modes. The remaining respondents were probed for further information about why they were not fully satisfied (see Table 29).

- The primary complaint of on-line HEES respondents was that it took too long to complete the survey, which was also commonly mentioned by mail-in and phone respondents.
- In contrast, in-home respondents most frequently said that the survey was not comprehensive enough.
- A total of seven mail-in HEES respondents (13 percent of those who were less than very satisfied) said it was too much work to handwrite all the answers. Since most of the mail-in survey responses require participants to only fill in bubbles, respondents may have been referring to the time required to locate and enter their utility account numbers, which were not pre-printed on the survey form until relatively recently.
- Among those who participated over the phone, four respondents (22 percent) mentioned that the survey was impersonal.
- Finally, about 25 percent of responses to this question are categorized as “other.” These responses were either unrelated to dissatisfaction with the survey mode or were nonsensical.

**Table 28: Satisfaction with Mode**

<b>Level of Satisfaction</b>	<b>Mail-in Percent (N=227)</b>	<b>On-line Percent (N=232)</b>	<b>In-home Percent (N=231)</b>	<b>Phone Percent (N=127)</b>	<b>Total Percent (N = 817)</b>
Very satisfied	71%	81%	81%	78%	78%
Moderately satisfied	18%	13%	11%	13%	14%
Slightly satisfied	2%	1%	2%	1%	2%
Neutral	4%	3%	1%	1%	2%
Slightly dissatisfied	1%	0%	1%	1%	1%
Moderately dissatisfied	0%	0%	0%	1%	<1%
Very dissatisfied	0%	0%	1%	2%	1%
Don't know	4%	2%	2%	4%	3%

(Survey question Q5)

**Table 29: Why Not Fully Satisfied with Mode?**

<b>Reason</b>	<b>Mail-in Percent (N=53)</b>	<b>On-line Percent (N=39)</b>	<b>In-home Percent (N=39)</b>	<b>Phone Percent (N=22)</b>	<b>Total Percent (N = 153)</b>
Took too long to complete survey	11%	18%	5%	14%	12%
Not comprehensive enough	4%	10%	21%	9%	10%
Questions did not apply to my household	8%	5%	13%	9%	8%
Questions were too technical	8%	13%	0%	0%	6%
Too much work to handwrite all the answers in	13%	0%	3%	0%	5%
Too impersonal	2%	3%	5%	18%	5%
Questions did not have enough answer choices	4%	0%	3%	5%	3%
Was too complicated	4%	5%	0%	5%	3%
Took too long to receive survey report	4%	3%	0%	0%	2%
Website survey portal had errors	0%	5%	0%	0%	1%
Website survey portal was slow	0%	5%	0%	0%	1%
Was annoying/difficult to enter in my account #	2%	0%	0%	0%	1%
Did not get incentive	2%	3%	0%	0%	1%
Not enough space to write	2%	3%	0%	0%	1%
Other	17%	15%	49%	23%	25%
Don't know	40%	23%	15%	32%	28%

Multiple responses accepted (Survey question Q6)

## HEES Recommendations and Behavioral Impacts

A key feature of the HEES program is the recommendations that advise participants on ways to increase the energy and water efficiency of their homes. This section of the report analyzes the behavioral impacts of the HEES program on purchasing energy and water efficient equipment, adopting efficient energy and water consumption behaviors, and joining other utility efficiency programs.

The behavioral impacts of the recommendations are examined first. The phone survey instrument probed each respondent about five random recommendations they received in their survey results. Only respondents who actually read their HEES reports were asked about the various recommendations. Table 30 shows that 12 percent of respondents either did not read their reports or do not recall receiving their reports, and therefore these respondents skipped out of this survey question battery. Overall, about half of respondents read their reports thoroughly, and this is highest for the in-home mode (64 percent) and lowest for the on-line mode (44 percent).

Respondents who did not read their reports were asked “why not?” As shown in Table 31, these respondents most frequently mentioned that they generally were not interested in the results or that they received the report too long after taking the survey.

**Table 30: Level of Attention to HEES Report**

<b>How well did you read the report?</b>	<b>Mail-in Percent (N=228)</b>	<b>On-line Percent (N=231)</b>	<b>In-home Percent (N=231)</b>	<b>Phone Percent (N=127)</b>	<b>Total Percent (N=817)</b>
Read the report thoroughly	53%	44%	64%	57%	54%
Read some portions of the report	18%	27%	11%	20%	19%
Just glanced through it	12%	13%	11%	13%	12%
Did not read the report at all	3%	3%	6%	1%	3%
Do not recall receiving the report	9%	13%	6%	6%	9%
Don't know	6%	1%	2%	2%	3%

(Survey question Q13)

**Table 31: Why HEES Report Not Read**

<b>Reason</b>	<b>Mail-in Percent (N=6)</b>	<b>On-line Percent (N=6)</b>	<b>In-home Percent (N=13)</b>	<b>Phone Percent (N=1)</b>	<b>Total Percent (N=26)</b>
Wasn't interested	0%	17%	23%	100%	19%
Received too long after I sent the survey in, lost interest	17%	17%	0%	0%	8%
Didn't have time	0%	0%	8%	0%	4%
Overwhelmed by all the information in the report	0%	0%	8%	0%	4%
Did not seem customized/personalized, too cookie-cutter	0%	17%	0%	0%	4%
Other	17%	50%	38%	0%	35%
Don't know	67%	0%	23%	0%	27%

Multiple responses accepted (Survey question Q14)

Figure 4 shows the distribution of HEES recommendations that customers received in both sample batches combined.<sup>8</sup> The evaluation team grouped the standard HEES recommendations into categories so that they were more manageable for tabulations and follow-up questions in the survey. During this process:

- Tips mentioned less than 100 times were filtered out.
- Tips that only encouraged participants to join specific SCE Programs such as the Summer Discount program, the Direct Assistance Program, the Home Energy Upgrade Finance Program, and the California Alternative Rates for Energy (CARE) program were removed from the sample database altogether. (Customers remaining in the sample were still asked about any utility programs they joined as a result of the HEES in the evaluation survey.)
- Tips that only congratulated customers for buying an energy efficient clothes dryer or low-flow showerheads were pulled from the sample.
- “A tip about indoor water usage” (a long list of water use best practices) was also removed.
- Each tip was re-phrased in order to fit appropriately into the evaluation survey questions, and these re-writes are presented in the tables in this section.

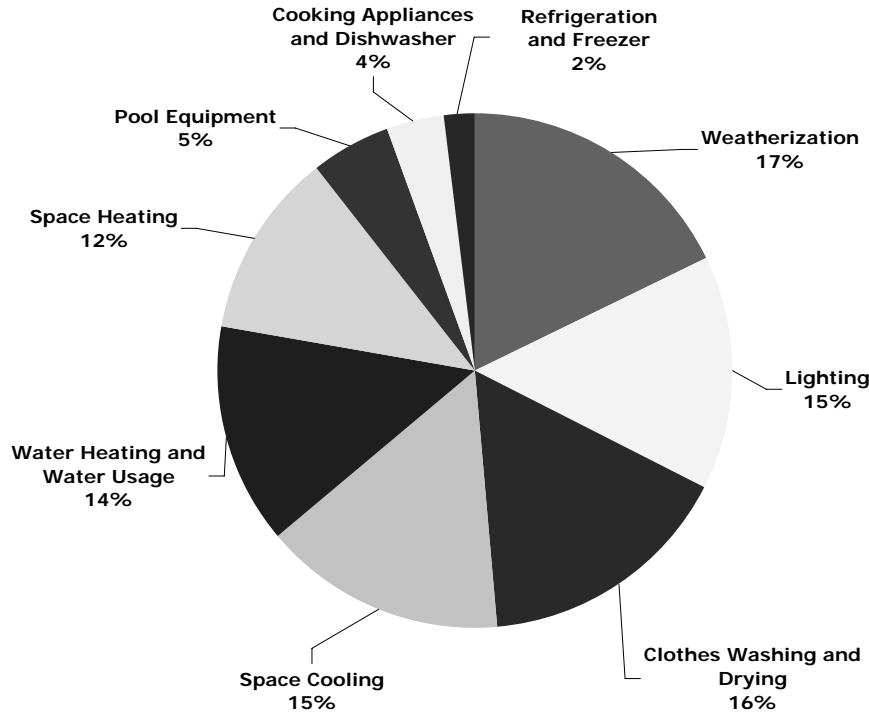
In the end, the evaluation worked with a total of 47 different types of tips, which are grouped into nine categories.

<sup>8</sup> The sample batches were originally analyzed independently, and the distributions of recommendations were very similar.



Figure 4 shows that there is a fairly even distribution of weatherization, lighting, clothes washing and drying, space cooling and heating, and water usage measures, while pool equipment, cooking, and refrigeration/freezer measures are less frequent.

**Figure 4: HEES Recommendations in Sample by Category (N = 268,927 Tips)**



### Summary of HEES Recommendation Results

Each respondent was asked about a random sample of five tips they received in their HEES reports. The number of respondents and tips represented in each of the nine recommendation categories are listed in Table 32. The distribution of tips reviewed is generally consistent with the distribution of total tips in the pie chart above. Fewer tips were reviewed within the refrigerator and freezer, cooking and dishwasher, and pool equipment categories, and thus these results should be viewed with caution. For the subsequent tables in this section, the sample size N refers to the number of tips, rather than the number of respondents. While each respondent may receive each tip only once, respondents may have received more than one of the tips within each category.

**Table 32: Respondents and Tips Per Recommendations Category**

Measure Category	Respondents Per Category (N=695)	Tips Asked Per Category (Total = 3,409)	Tips Asked, Percent of Total
Weatherization	502	634	19%
Space Cooling	443	589	17%
Lighting	468	547	16%
Washing & Drying Clothes	405	532	16%
Water Heating & Water Usage	356	443	13%
Space Heating	351	382	11%
Refrigerator & Freezer	98	107	3%
Cooking & Dishwasher	89	90	3%
Pool & Spa	75	85	2%

Table 33 summarizes the share of recommendations implemented as a result of the HEES program. Overall, 14 percent of the 3,409 tips reviewed in the phone survey were implemented as a result of the HEES report. This rate is fairly consistent across all four survey modes. The highest implementation rates were for water heating/water usage measures and lighting. Both of these categories included primarily low-cost or easy-to-implement behavioral tips, such as installing low-flow showerheads and faucet aerators, turning down the water heater temperature, and installing CFLs. Notably, as most participants received an Energy Efficiency Starter Kit that included the showerhead, aerators, and a CFL, this free equipment likely is responsible for the high rates in these categories.

**Table 33: Recommendations Implemented Due to HEES by Survey Mode**

Measure Category	Mail-in Percent	On-line Percent	In-home Percent	Phone Percent	Total Percent
Water Heating & Water Usage (N=443)	25%	30%	27%	28%	28%
Lighting (N=547)	20%	26%	22%	21%	22%
Refrigerator & Freezer (N=107)	9%	13%	29%	7%	16%
Weatherization (N=634)	6%	14%	9%	12%	10%
Space Heating (N=382)	9%	16%	9%	8%	11%
Space Cooling (N=695)	9%	14%	8%	10%	10%
Washing & Drying Clothes (N=532)	7%	8%	11%	10%	9%
Pool & Spa (N=85)	5%	7%	6%	0%	6%
Cooking & Dishwasher (N=90)	6%	3%	8%	0%	4%
Total (N=3,409)	12%	17%	14%	14%	14%

(Survey question R3)

Table 34 summarizes the tips that respondents received in their HEES reports that they had already implemented prior to their participation in the program. This was most prevalent among the categories of washing/drying clothes and space heating, where over 60 percent of the measures had already been implemented. Most of the washing and drying clothes tips were also simple behavioral suggestions, such as washing and drying full loads and using cold water, which a high share of respondents claimed to already do. For space heating, 62 percent of the measures had already been implemented. This tip category is also primarily comprised of behavioral changes, such as lowering the thermostat setpoint and changing the furnace filter. Overall, 44 percent of the tips had already been implemented, and again, this rate does not vary much among the four HEES modes.

**Table 34: Recommendations Implemented Prior to HEES**

Measure Category	Mail-in Percent	On-line Percent	In-home Percent	Phone Percent	Total Percent
Water Heating & Water Usage (N=443)	39%	33%	38%	36%	37%
Space Cooling (N=589)	42%	34%	41%	29%	37%
Lighting (N=547)	50%	50%	41%	60%	49%
Washing & Drying Clothes (N=532)	73%	70%	65%	61%	68%
Weatherization (N=634)	37%	29%	23%	24%	29%
Space Heating (N=382)	63%	56%	68%	58%	62%
Refrigerator & Freezer (N=107)	14%	9%	3%	25%	12%
Cooking & Dishwasher (N=90)	36%	60%	42%	75%	50%
Pool & Spa (N=85)	33%	36%	6%	0%	22%
Total (N=3,409)	48%	43%	42%	43%	44%

(Survey question R3)

Table 35 shows that of the tips implemented due to the HEES program, about half were done immediately after the respondents read their HEES reports, and an additional 35 percent were executed within a month.

**Table 35: Time of Implementation**

Measure	Immediately	Within 1 Month	Within 3 Months	Within 6 Months	More than 6 Months	Don't Know
Water Heating & Water Usage (N=128)	56%	34%	6%	2%	0%	0%
Space Cooling (N=64)	44%	41%	8%	5%	3%	0%
Lighting (N=130)	53%	34%	8%	2%	1%	2%
Washing & Drying Clothes (N=52)	75%	21%	2%	2%	0%	0%
Weatherization (N=67)	25%	42%	24%	6%	1%	1%
Space Heating (N=44)	34%	45%	7%	9%	0%	0%
Refrigerator & Freezer (N=18)	50%	28%	11%	11%	0%	0%
Cooking & Dishwasher (N=6)	83%	0%	0%	0%	17%	0%
Pool & Spa (N=6)	37%	43%	13%	4%	2%	0%
Total (N=516)	49%	35%	9%	4%	1%	1%

(Survey question R4)

As shown in Table 36, most respondents were “very satisfied” with the measures they implemented as a result of the HEES program. For 72 percent of the tips, respondents were “very satisfied,” and only three percent of comments were negative. The lowest ratings were for the space heating and the pool and spa categories. However, all respondents who said they were less than “very satisfied” were asked to explain why. Reasons for dissatisfaction are presented in the following section that provides in-depth results for each recommendation category.

**Table 36: Satisfaction with New Measures**

Measure	Very Satisfied	Moderately Satisfied	Slightly Satisfied	Neutral	Slightly Dissatisfied	Moderately Dissatisfied	Very Dissatisfied	Don't know
Water Heating & Water Usage (N=128)	71%	16%	4%	8%	2%	0%	0%	0%
Space Cooling (N=64)	82%	6%	5%	2%	0%	3%	0%	3%
Lighting (N=130)	72%	10%	5%	8%	0%	0%	3%	2%
Washing & Drying Clothes (N=52)	75%	16%	6%	0%	2%	2%	0%	0%
Weatherization (N=67)	72%	16%	1%	7%	0%	0%	0%	3%
Space Heating (N=44)	55%	27%	2%	5%	2%	2%	2%	5%
Refrigerator & Freezer (N=18)	78%	6%	0%	11%	0%	6%	0%	0%
Cooking & Dishwasher (N=6)	83%	0%	17%	0%	0%	0%	0%	0%
Pool & Spa (N=6)	67%	9%	7%	2%	0%	7%	0%	9%
Total (N=516)	72%	13%	4%	6%	1%	1%	1%	2%

(Survey question R5)

The following section, “Results by Recommendation Category,” provides greater detail on the impacts of the HEES report at the individual recommendation level.

## Results by Recommendation Measure Category

### Water Heating & Water Usage

Table 37 details the behavior of respondents for water heating/water usage recommendations they received in their HEES reports. Overall, 28 percent of the measures were done as a result of the program, and this is particularly high for the tips to lower the hot water temperature and install low-flow showerheads and faucet aerators. Moreover, 37 percent of the water heating/water usage tips had already been implemented prior to program participation. The implementation rate is lowest for the large equipment replacement measure, to purchase a hot water heater. The sample size for each individual measure varies substantially (between eight and 231 respondents), and therefore the weight of these results must be viewed in the context of the sample sizes. This note on sample sizes is applicable to all the measure categories.

**Table 37: Water Heating & Water Usage - Doing the Measure?**

Measure	Already did before HEES	Result of HEES	No	Other <sup>9</sup>	Don't Know	Do Not Recall Tip
Lower your hot water heater setting to 120 degrees (N=231)	42%	25%	23%	3%	3%	4%
Install Low Flow Shower Heads and Faucet Aerators (N=95)	37%	38%	20%	2%	3%	0%
Install Low Flow Showerheads (N=72)	21%	38%	42%	0%	0%	0%
Replace your old electric water heater with a new energy efficient model (N=20)	5%	0%	80%	5%	10%	0%
Take your car to a car wash rather than washing at home (N=17)	59%	12%	29%	0%	0%	0%
Making your waterbed every day and cover it with a comforter (N=8)	63%	0%	13%	0%	25%	0%
Total (N=443)	37%	28%	28%	2%	2%	3%

(Survey questions R1, R3)

Table 38 shows that among respondents who were not fully satisfied with the water measures they implemented as a result of the HEES program, most were discontent with their energy savings (57 percent). Other common remarks were that the measure was a hassle (eight percent of tips) and it is hard to remember to keep doing it (five percent of tips). Notably, for 24 percent of the water tips, respondents offered another reason. For low-flow showerheads and faucet aerators, other responses included:

- No change on the water bill (2)
- Did not like the water pressure (1)
- Aerators did not work on all of the faucets (1)
- There was a calcium build-up in the shower (1)

For the hot water temperature setback measure, “other” responses were that it was difficult to get a lower water temperature (1), the shower is not warm enough (1), and it is not efficient for the dishwasher (1).

<sup>9</sup> The “other” category includes respondents who were already considering the measure before they took the survey and respondents who were already implementing the measure before they took the survey, but are now doing so more frequently as a result of the survey.

**Table 38: Water Heating & Water Usage – Why Are You Not Fully Satisfied?**

Measure	Not getting ENOUGH energy savings	Not getting ANY energy savings	Is a hassle	Hard to remember to keep doing it	Don't know	Other
Lower your hot water heater setting to 120 degrees (N=18)	44%	0%	6%	0%	28%	22%
Install low flow shower heads and faucet aerators (N=13)	46%	23%	8%	8%	8%	8%
Install low flow showerheads (N=6)	50%	17%	0%	0%	17%	67%
Total (N=37)	46%	11%	5%	3%	19%	24%

Multiple responses accepted (Survey question R6)

Table 39 shows that overall, respondents did not execute water measures they received because the measure did not apply to them (19 percent of tips disregarded), did not fit with their lifestyles (18 percent of tips disregarded), or the respondent did not understand how to do it (10 percent of tips disregarded). Cost was a common barrier for not buying a more efficient water heater and for washing the car at a car wash.

Other reasons mentioned for not installing the low-flow showerheads and faucet aerators were: do not use a lot of water (2), the equipment is ugly (2), already had showerheads (2), did not fit on fixtures (1), are difficult to install (1), landlord's job (1), moved, and did not get the Energy Efficiency Starter Kit (1). Rationales for not lowering the hot water temperature were: they barely used the hot water (1), did not own the house (1), indifference (1), and that the house has a demand system (1). All four respondents who offered an alternative reason for not purchasing a new water heater said that their old one still works.

**Table 39: Water Heating & Water Usage – Why Didn’t You Do The Measure?**

Reason	Install Low Flow Showerheads (N=30)	Lower your hot water heater setting to 120 degrees (N=52)	Install Low Flow Shower Heads and Faucet Aerators (N=19)	Replace your old electric water heater with a new energy efficient model (N=16)	Take your car to a car wash rather than washing at home (N=5)	Making your waterbed every day and cover it with a comforter (N=1)	Total (N=123)
Does not apply to me	7%	25%	16%	19%	20%	0%	18%
Lifestyle	17%	23%	5%	0%	40%	100%	17%
Did not understand how	10%	17%	0%	0%	0%	0%	10%
Too expensive	0%	0%	16%	38%	60%	0%	8%
Too much effort	17%	6%	0%	0%	0%	0%	7%
Will do in future	7%	2%	11%	13%	0%	0%	6%
Not enough savings	7%	2%	0%	0%	20%	0%	3%
Did not have time	7%	2%	0%	0%	0%	0%	2%
Landlord	0%	6%	5%	0%	0%	0%	3%
Forgot about it	3%	2%	0%	0%	0%	0%	2%
Don’t know	3%	10%	16%	6%	0%	0%	8%
Other	23%	8%	32%	25%	0%	0%	17%

Multiple responses accepted (Survey question R2)

### *Space Cooling*

Table 40 shows that on average, 37 percent of the space cooling recommendations had been executed prior to program participation, only 10 percent were carried out as a result of the HEES, and 45 percent were disregarded. The program had a low impact on the equipment upgrades such as whole house fans, evaporative coolers, and air conditioners.

On average, respondents were fully satisfied with the tips executed due to the program, and the only negative remarks were associated with the tip to clean the air conditioner filter monthly. As shown in Table 41, reasons mentioned for dissatisfaction were that the measure was not generating enough energy savings (42 percent) and it is hard to remember to keep doing it (17 percent). The three other comments offered could not be deciphered.



**Table 40: Space Cooling - Doing the Measure?**

Measure	Already did before HEES	Result of HEES	No	Other	Don't Know	Do Not Recall Tip
Clean your air conditioner filter monthly (N=318)	45%	12%	36%	4%	2%	2%
Install a Whole House Fan (N=161)	20%	3%	70%	1%	4%	1%
Raise your air conditioner's temperature to 78 degrees F (N=80)	51%	19%	26%	3%	1%	0%
Replace your old evaporative cooler with an energy efficient model (N=25)	8%	4%	56%	8%	20%	4%
Replace your old central air conditioning with an energy efficient model (N=5)	20%	0%	60%	0%	20%	0%
Total (N=589)	37%	10%	45%	3%	3%	1%

Multiple responses accepted (Survey question R1, R3)

**Table 41: Space Cooling – Why Are You Not Fully Satisfied?**

Measure	Not getting ENOUGH energy savings	Not getting ANY energy savings	Is a hassle	Hard to remember to keep doing it	Equipment is ugly	Don't know	Other
Clean your air conditioner filter monthly (N=12)	42%	0%	0%	17%	0%	17%	25%
Total (N=12)	42%	0%	0%	17%	0%	17%	25%

Multiple responses accepted (Survey question R6)

Table 42 shows reasons why respondents failed to implement the space cooling measures suggested in their HEES reports. For 27 percent of the space cooling measures disregarded, respondents said the measure did not apply to their households and for 15 percent of the ignored tips, respondents said they were too expensive. A common justification for disregarding the air conditioner setpoint measure was that it did not coincide with the respondents' lifestyles.

Other explanations represented 19 percent of the answers. For cleaning the air conditioner filter monthly, these included:

- We don't use the air conditioner often (9)
- Moved/moving (3)
- Clean it twice a year (2)
- Air conditioner is broken (2)
- Air conditioner is brand new (2)
- Clean it sometimes (2)

- Am gone half the year (1)
- Have individual room air conditioners (1)
- Have not done it yet (1)

With regard to installing a whole house fan, other responses included:

- Already have regular fans/ceiling fans (8)
- Have a vaulted ceiling (1)
- Have a furnace with a fan that goes through the house (1)
- Have a covered air conditioner (1)
- Bought a new air conditioner and replaced windows instead (1)
- “They suck a lot of dirt into the house”
- “Never thought about it.”

Other reasons for not raising air conditioning setpoints to 78 degrees were: rarely use air conditioning (2), have a swamp cooler (1), and for comfort (1). For replacing your old evaporative cooler, one respondent said his current one is not used, and the other said his equipment was new.

**Table 42: Space Cooling – Why Didn’t You Do The Measure?**

<b>Reason</b>	<b>Clean your air conditioner filter monthly (N=112)</b>	<b>Install a Whole House Fan (N=112)</b>	<b>Raise your air conditioner’s temperature to 78 degrees F (N=21)</b>	<b>Replace your old evaporative cooler with an energy efficient model (N=14)</b>	<b>Replace your old central air conditioning with an energy efficient model (N=2)</b>	<b>Total (N=261)</b>
Does not apply to me	32%	20%	43%	29%	0%	27%
Too expensive	2%	26%	0%	50%	100%	15%
Too much effort	13%	5%	14%	0%	0%	9%
Lifestyle	4%	10%	19%	7%	0%	8%
Will do in future	4%	15%	0%	0%	0%	8%
Did not have time	8%	2%	0%	0%	0%	4%
Forgot about it	7%	0%	5%	0%	0%	3%
Did not understand how	4%	4%	0%	0%	0%	3%
Landlord	4%	2%	0%	0%	0%	3%
Not enough savings	0%	2%	0%	0%	0%	1%
Don’t know	1%	3%	0%	0%	0%	2%
Other	23%	15%	19%	14%	0%	19%

Multiple responses accepted (Survey question R2)

## *Lighting*

As shown in Table 43 shows that about half of respondents who received the suggestion about CFLs had already installed CFLs in their homes prior to taking the survey, and 28 percent did so as a result of the HEES program. This high rate of implementation is likely a result of the free Energy Efficiency Starter Kit presented to most respondents. Conversely, only seven percent of respondents who received the measure to add controls to their security lights executed the tip as a result of the survey.

**Table 43: Lighting - Doing the Measure?**

Measure	Already did before HEES	Result of HEES	No	Other	Don't Know	Do Not Recall Tip
Add motion sensors, a photoelectric cell, or a simple timer to your security lighting (N=145)	30%	7%	58%	2%	3%	0%
Replace your incandescent lights with ENERGY STAR labeled CFLs (N=402)	56%	28%	8%	7%	0%	1%
Total (N=547)	49%	22%	21%	5%	1%	1%

(Survey questions R1, R3)

As shown in Table 44, respondents who were less than fully satisfied with the lighting measures they implemented as a result of the HEES expected higher energy savings. In addition, regarding CFLs, 26 percent of responses are categorized as “other,” half of which described displeasure with the light quality. The remaining comments were vague statements, such as “difficult to do suggestions,” “too soon to tell,” and “haven’t really seen a difference.” Only one respondent was less than fully satisfied with the security lighting measure, and offered a neutral comment.

**Table 44: Lighting – Why Are You Not Fully Satisfied?**

Measure	Not getting ENOUGH energy savings	Not getting ANY energy savings	Is a hassle	Hard to remember to keep doing it	Equipment is ugly	Don't know	Other
Add motion sensors, a photoelectric cell, or a simple timer to your security lighting (N=6)	50%	17%	0%	0%	0%	17%	17%
Replace your incandescent lights with ENERGY STAR labeled CFLs (N=31)	32%	19%	10%	6%	3%	10%	26%
Total (N=37)	35%	19%	8%	5%	3%	11%	24%

Multiple responses accepted (Survey question R6)

As shown in Table 45, almost half of respondents did not install security lighting because they said it did not apply to them. Other common justifications included that the measure was too expensive or it required permission from their landlords. Respondents also avoided CFLs due to cost and others said they would install them in the future. However, 33 percent of respondents who failed to implement the CFL advice offered an “other” reason including:

- Concern about mercury (3)
- Installed some CFLs (2)
- Installed the CFL I received (1)
- Do not like CFLs (1)
- Do not like new light bulbs (1)
- New CFLs gave me a headache (1)
- Too small for my lamp (1)
- Cannot get three way with fluorescent bulbs (1)

**Table 45: Lighting – Why Didn’t You Do The Measure?**

<b>Reason</b>	<b>Add motion sensors, a photoelectric cell, or a simple timer to your security lighting (N=84)</b>	<b>Replace your incandescent lights with ENERGY STAR labeled CFLs (N=33)</b>	<b>Total (N=117)</b>
Does not apply to me	45%	6%	34%
Too expensive	10%	15%	11%
Will do in future	6%	15%	9%
Lifestyle	7%	9%	8%
Landlord	10%	3%	8%
Too much effort	4%	3%	3%
Did not understand how	2%	3%	3%
Did not have time	0%	6%	2%
Forgot about it	1%	0%	1%
Not enough savings	0%	0%	0%
Don’t know	2%	12%	5%
Other	13%	33%	19%

Multiple responses accepted (Survey question R2)

### ***Washing & Drying Clothes***

Table 46 shows that many of the behavioral washing and drying clothes tips received had already been implemented prior to program participation. Overall, 68 percent of the tips were already implemented. The HEES survey had the strongest impact on the measure to wash clothes in cold water, but overall, only nine percent of tips were implemented due to the program. Only 17

percent of tips were disregarded. In general, the sample sizes for the equipment replacements in this category are too small to draw reliable conclusions.

**Table 46: Washing and Drying Clothes - Doing the Measure?**

Measure	Already did before HEES	Result of HEES	No	Other	Don't Know	Do Not Recall Tip
Dry full loads in your dryer (N=227)	79%	6%	10%	2%	2%	2%
Wash your clothes in cold water and wash full loads (N=202)	74%	11%	8%	2%	2%	2%
Wash Laundry in Cold Water (N=48)	52%	21%	19%	2%	0%	6%
Line-dry your clothes on warm days (N=24)	13%	8%	79%	0%	0%	0%
Replace your old clothes washer with an energy efficient model (N=18)	17%	0%	72%	6%	6%	0%
Replace your gas dryer with an energy efficient gas dryer (N=6)	0%	17%	83%	0%	0%	0%
Replace your washing machine with an ENERGY STAR labeled model (N=6)	17%	0%	83%	0%	0%	0%
Total (N=531)	68%	9%	17%	2%	2%	2%

(Survey questions R1, R3)

Of the clothes washing and drying tips executed as a result of the HEES program, most (75 percent) received the highest satisfaction marks. As shown in Table 47, the primary reason for dissatisfaction was insufficient energy savings. In addition, two respondents were not satisfied with washing their clothes in cold water because “the clothes are less clean.”

**Table 47: Washing and Drying Clothes – Why Are You Not Fully Satisfied?**

Measure	Not getting ENOUGH energy savings	Not getting ANY energy savings	Is a hassle	Don't know	Other
Wash Laundry in Cold Water (N=3)	0%	0%	33%	0%	67%
Dry full loads in your dryer (N=3)	0%	0%	0%	100%	0%
Line-dry your clothes on warm days (N=2)	50%	50%	0%	0%	0%
Wash your clothes in cold water and wash full loads (N=5)	40%	20%	0%	20%	20%
Total (N=13)	23%	15%	8%	31%	23%

Multiple responses accepted (Survey question R6)

A common reason for avoiding the suggested washing and drying clothing measures was lifestyle factors. However, a large share of the responses was “other” responses. For washing clothes in cold water, half of these alternative comments expressed concern that the cold water would not clean the clothes as well. The remaining remarks included: prefer hot water (2), prefer lukewarm water (1), do not wash everything in cold water (1), moving (1), and have my own method (1). Instead of drying full loads in the dryer, two respondents use a clothesline, another

said “it depends on what kind of clothes,” and the other said it does not save energy with his dryer. Furthermore, alternative reasons for not line-drying their clothes were that it is against home owners association rules (4), too dusty (2), do not have a line (2), and dissatisfaction with the results of line drying.

For replacing your gas dryer, other responses included that the dryer was still new (2) and the dryer is not used (1). For replacing your clothes washer, respondents said the current one was used to capacity, “just bought this washer,” and “the old one hasn’t broken yet.”

**Table 48: Washing and Drying Clothes – Why Didn’t You Do The Measure?**

Reason	Wash Laundry in Cold Water (N=9)	Dry full loads in your dryer (N=22)	Line-dry your clothes on warm days (N=19)	Replace your gas dryer with an energy efficient gas dryer (N=5)	Replace your old clothes washer with an energy efficient model (N=13)	Replace your washing machine with an ENERGY STAR labeled model (N=5)	Wash your clothes in cold water and wash full loads (N=16)	Total (N=89)
Lifestyle	22%	18%	5%	0%	8%	20%	13%	13%
Does not apply to me	0%	41%	21%	40%	8%	60%	6%	6%
Forgot about it	11%	9%	0%	0%	0%	0%	6%	6%
Will do in future	11%	0%	5%	0%	15%	0%	6%	6%
Too expensive	0%	0%	0%	20%	46%	20%	0%	0%
Not enough savings	0%	5%	5%	0%	0%	0%	0%	0%
Too much effort	11%	18%	5%	0%	0%	0%	0%	0%
Did not understand how	0%	0%	0%	0%	0%	0%	0%	0%
Did not have time	0%	0%	0%	0%	0%	0%	0%	0%
Landlord	0%	0%	5%	0%	0%	0%	0%	0%
Don’t know	11%	0%	0%	0%	0%	0%	0%	0%
Other	44%	18%	53%	40%	23%	0%	69%	69%

Multiple responses accepted (Survey question R2)

### *Weatherization*

As shown in Table 49, behavioral measures make up the bulk of the weatherization category. Roughly 30 percent of the tips had already been carried out prior to program participation, only 10 percent of those implemented are due to the survey, and half were disregarded.

**Table 49: Weatherization – Measure Implemented?**

Measure	Already did before HEES	Result of HEES	No	Other	Don't Know	Do Not Recall Tip
Add caulk around the house where two outside materials meet (N=341)	26%	7%	56%	1%	7%	3%
Seal leaky air ducts (N=198)	31%	15%	42%	1%	9%	2%
Cover room air conditioners in the winter (N=69)	39%	13%	35%	3%	9%	1%
Install weatherstripping and caulk your windows and doors (N=15)	40%	7%	53%	0%	0%	0%
Replace your single pane windows with double pane (N=7)	0%	0%	100%	0%	0%	0%
Install attic and wall insulation (N=3)	0%	0%	100%	0%	0%	0%
Total (N=663)	29%	10%	50%	1%	7%	2%

(Survey questions R1, R3)

Any respondents who were less than fully satisfied with the measures they implemented due to the HEES were asked to explain why. Table 50 shows that at least half of explanations for dissatisfaction with the caulking, duct sealing, and covering air conditioner measures were associated with insufficient energy savings. Moreover, one respondent who sealed ducts said it was a hassle. The “other” responses offered only neutral remarks.

**Table 50: Weatherization – Why Are You Not Fully Satisfied?**

Measure	Not getting ENOUGH energy savings	Not getting ANY energy savings	Is a hassle	Don't know	Other
Add caulk around the house where two outside materials meet (N=8)	38%	25%	0%	25%	13%
Seal leaky air ducts (N=8)	50%	13%	13%	13%	13%
Cover room air conditioners in the winter (N=3)	100%	0%	0%	0%	0%
Total (N=19)	53%	16%	5%	16%	11%

Multiple responses accepted (Survey question R6)

For each weatherization measure received and not implemented, each respondent was asked what stopped him from taking action (see Table 51). Most frequently, the weatherization recommendations did not apply to the household (27 percent of weatherization tips disregarded), particularly for adding caulk, covering room air conditioners, and sealing leaky air ducts. For installing insulation and double pane windows, the sample sizes were small, but these respondents most often cited the high costs of these tasks. Other responses that could be deciphered for the caulking measure included:

- Need to find someone to do it (3)
- House not that old (2)
- Landlord’s job (2)
- Don’t have resources to do it (2)
- Moved/moving (2)
- Did not see too many places to put it (1)
- Did something else instead (1)
- Do not need that level of detail (1)
- Other things took priority (1)

For covering room air conditioners, other reasons for not acting on the recommendation were that it was not cold enough yet and the owner might do it. For duct sealing, respondents said they needed to find someone to do it (2), they do not know where the leaks were (1), they were not sure how much more they could do (1), they do not use heat (1), and that the house is new (1). One respondent said he could not install insulation because you “can’t insulate concrete.”

**Table 51: Weatherization – Why Didn’t You Do The Measure?**

<b>Reason</b>	<b>Add caulk around the house where two outside materials meet (N=192)</b>	<b>Seal leaky air ducts (N=84)</b>	<b>Cover room air conditioners in the winter (N=24)</b>	<b>Install weatherstripping and caulk your windows and doors (N=8)</b>	<b>Replace your single pane windows with double pane (N=7)</b>	<b>Install attic and wall insulation (N=3)</b>	<b>Total (N=318)</b>
Does not apply to me	20%	48%	42%	0%	0%	0%	27%
Will do in future	12%	6%	17%	25%	0%	0%	11%
Did not have time	10%	12%	0%	0%	0%	0%	9%
Too expensive	6%	7%	4%	25%	71%	33%	8%
Landlord	14%	1%	4%	0%	0%	0%	8%
Did not understand how	7%	10%	0%	13%	0%	0%	7%
Too much effort	7%	4%	0%	13%	14%	0%	6%
Forgot about it	3%	2%	0%	4%	0%	0%	3%
Lifestyle	2%	1%	13%	13%	0%	0%	3%
Not enough savings	2%	4%	0%	0%	14%	0%	2%
Don’t know	8%	4%	4%	13%	0%	33%	7%
Other	11%	12%	17%	0%	0%	33%	13%

Multiple responses accepted (Survey question R2)



## *Space Heating*

Table 52 shows that a high share of space heating measures received had already been implemented prior to program participation. On average, 62 percent of the tips had already been done, and only 11 percent were carried out due to the HEES program. The only two measures with substantial sample sizes are to maintain furnace filters and lower your heating thermostat.

**Table 52: Space Heating - Doing the Measure?**

Measure	Already did before HEES	Result of HEES	No	Other	Don't Know	Do Not Recall Tip
Clean and change your furnace filters according to manufacturer recommendations (N=261)	67%	10%	18%	3%	2%	1%
Lower your heating thermostat to at least 68 degrees F at day and 55 degrees or off at night (N=109)	52%	14%	31%	1%	2%	0%
Check the filters on your heat pump monthly to see if they need cleaning (N=6)	33%	17%	17%	17%	17%	0%
Do not setback the thermostat at night for your heat pump (N=3)	0%	0%	100%	0%	0%	0%
Replace your old furnace with an energy efficient model (N=3)	0%	33%	67%	0%	0%	0%
<b>Total (N=382)</b>	<b>62%</b>	<b>11%</b>	<b>23%</b>	<b>3%</b>	<b>1%</b>	<b>1%</b>

(Survey questions R1, R3)

Space heating tips implemented as a result of the HEES program were associated with the lowest satisfaction scores. As shown in Table 53, complaints about the furnace filter measure primarily concerned insufficient energy savings. The other two respondents said that changing the filters was too expensive (1) and that “I thought the consultant would do more.” The five respondents who were less than fully satisfied with setting back their thermostats mentioned a variety of reasons, including insufficient energy savings, the hassle, it is hard to remember, and that it is less comfortable at that temperature.

**Table 53: Space Heating – Why Are You Not Fully Satisfied?**

Measure	Not getting ENOUGH energy savings	Not getting ANY energy savings	Is a hassle	Hard to remember to keep doing it	Don't know	Other
Clean and change your furnace filters according to manufacturer recommendations (N=13)	46%	38%	0%	0%	8%	15%
Lower your heating thermostat to at least 68 degrees F at day and 55 degrees or off at night (N=5)	40%	0%	20%	20%	0%	20%
Check the filters on your heat pump monthly to see if they need cleaning (N=1)	0%	0%	0%	0%	100%	0%
Total (N=19)	42%	26%	5%	5%	11%	16%

Multiple responses accepted (Survey question R6)

As shown in Table 54, space heating recommendations were most frequently ignored because they did not apply (26 percent of disregarded tips) or they did not fit their lifestyles (15 percent of disregarded tips), which is particularly the case for lowering the thermostat temperature. However, the samples are quite small for several of the recommendations and thus the results should be interpreted with caution. A larger sample represents the cleaning and changing furnace filters measure, and most respondents did not act on this recommendation because it is too much effort (17 percent) or they did not understand it (15 percent). Twenty percent of these respondents cited another reason, including that they do not use the furnace very often (5), it is the landlord's job (1), they did not read the recommendation (1), and "unable to do so" (1).

**Table 54: Space Heating – Why Didn't You Do The Measure?**

Reason	Clean and change your furnace filters according to manufacturer recommendations (N=46)	Lower your heating thermostat to at least 68 degrees F and 55 degrees F or off at night (N=34)	Do not setback your heat pump at night (N=3)	Replace your old furnace with an energy efficient model (N=2)	Check the filters on your heat pump monthly to see if they need cleaning (N=1)	Total (N=86)
Does not apply to me	9%	47%	33%	0%	100%	26%
Lifestyle	0%	35%	33%	0%	0%	15%
Too much effort	17%	3%	0%	0%	0%	11%
Will do in future	13%	6%	0%	0%	0%	10%
Did not understand how	15%	0%	0%	0%	0%	8%
Did not have time	11%	3%	0%	0%	0%	7%
Forgot about it	4%	6%	0%	0%	0%	5%
Too expensive	2%	0%	0%	100%	0%	4%
Landlord	4%	3%	0%	0%	0%	4%
Not enough savings	0%	0%	0%	0%	0%	0%
Don't know	7%	0%	0%	0%	0%	4%
Other	20%	0%	33%	0%	0%	12%

Multiple responses accepted (Survey question R2)

### *Refrigerator & Freezer*

As shown in Table 55, the sample sizes for refrigerator and freezer measures are small, and on average, only 12 percent of measures were implemented prior to program participation and 65 percent of tips were ignored. A relatively high rate of tips (higher than the overall average) were implemented due to the HEES program, especially for the measures to unplug/recycle your spare freezer or refrigerator.

Table 56 shows that complaints about the measures implemented due to the HEES program pertained almost entirely to disappointing energy savings. The “other” comment for unplugging a spare freezer was that the “freezer is too small to make an impact.”

**Table 55: Refrigerator & Freezer - Doing the Measure?**

Measure	Already did before HEES	Result of HEES	No	Other	Don't Know	Do Not Recall Tip
Replace your primary refrigerator with an ENERGY STAR labeled model (N=31)	16%	10%	68%	0%	3%	3%
Unplug or recycle your spare freezer (N=28)	18%	21%	54%	4%	4%	0%
Recycle your secondary refrigerator (N=28)	0%	18%	75%	7%	0%	0%
Replace your old stand alone freezer or unplug it if it is not absolutely necessary (N=19)	16%	16%	63%	0%	5%	0%
Total (N=107)	12%	16%	65%	3%	3%	1%

(Survey questions R1, R3)

**Table 56: Refrigerator & Freezer – Why Are You Not Fully Satisfied?**

Measure	Not getting ENOUGH energy savings	Not getting ANY energy savings	Is a hassle	Hard to remember to keep doing it	Equipment is ugly	Don't know	Other
Replace your primary refrigerator with an ENERGY STAR labeled model (N=2)	50%	50%	0%	0%	0%	0%	0%
Unplug or recycle your spare freezer (N=2)	50%	0%	0%	0%	0%	0%	50%
Total (N=4)	60%	20%	0%	0%	0%	0%	20%

Multiple responses accepted (Survey question R6)

Table 57 displays factors that contributed to inaction. As expected with large equipment replacements, top reasons for not implementing refrigerator and freezer recommendations were that they are too expensive (28 percent). However, for another 28 percent of tips, respondents said they would implement the measure in the future. Notably, secondary refrigerators and freezers are perceived as “lifestyle essentials” for many respondents.

**Table 57: Refrigerator & Freezer – Why Didn't You Do The Measure?**

Reason	Replace your primary refrigerator with an ENERGY STAR labeled model (N=21)	Unplug or Recycle Your Spare Freezer (N=15)	Recycle Your Secondary Refrigerator (N=21)	Replace your old stand alone freezer or unplug it if it is not absolutely necessary (N=12)	Total (N=69)
Too expensive	38%	7%	43%	8%	28%
Will do in future	33%	7%	29%	42%	28%
Lifestyle	0%	33%	24%	25%	19%
Does not apply to me	0%	53%	5%	8%	14%
Too much effort	10%	0%	10%	8%	7%
Not enough savings	5%	0%	0%	0%	1%
Did not understand how	0%	0%	5%	0%	1%
Forgot about it	0%	0%	0%	0%	0%
Did not have time	0%	0%	0%	0%	0%
Landlord	0%	0%	0%	0%	0%
Don't know	0%	0%	0%	8%	1%
Other	14%	13%	5%	0%	9%

Multiple responses accepted (Survey question R2)

### *Cooking & Dishwasher*

As exhibited in Table 58, 81 percent of respondents who received the dishwasher measure said that they were already doing it. Alternatively, only 19 percent of respondents had already replaced their cooking range with a pilotless gas range, as expected for a large equipment replacement. The HEES had a very small behavioral impact for these measures. Notably, the small sample sizes for some cooking measures limits the relevance of these results.

When asked about satisfaction with the implemented measures, only one respondent who implemented the dishwasher tip was not fully satisfied. This respondent said that not enough energy savings resulted from this behavior.

**Table 58: Cooking & Dishwasher - Doing the Measure?**

Measure	Already did before HEES	Result of HEES	No	Other	Don't Know	Do Not Recall Tip
Wash full loads in your dishwasher (N=47)	81%	4%	9%	4%	0%	2%
Replace your cooking range with a new pilotless gas range (N=37)	19%	5%	68%	5%	3%	0%
Replace your cooking range with a gas range (N=5)	0%	0%	100%	0%	0%	0%
Replace your oven with a pilotless gas oven (N=1)	0%	0%	100%	0%	0%	0%
Total (N=90)	50%	4%	39%	4%	1%	1%

(Survey questions R1, R3)

Table 59 lists the reasons respondents cited for not acting on cooking and dishwasher recommendations. The most frequent explanations were that the measure did not apply or was too expensive. Other justifications offered for not purchasing a gas range were: have an electric kitchen (2), no need to replace it (3), did not know about this equipment (1), and moved to a rental (1).

**Table 59: Cooking & Dishwasher – Why Didn't You Do The Measure?**

Reason	Wash full loads in your dishwasher (N=4)	Replace your cooking range with a new pilotless gas range (N=25)	Replace your cooking range with a gas range (N=5)	Replace your oven with a pilotless gas oven (N=1)	Total (N=35)
Does not apply to me	50%	24%	40%	0%	29%
Too expensive	0%	28%	40%	100%	29%
Lifestyle	0%	12%	0%	0%	9%
Too much effort	0%	8%	0%	0%	6%
Will do in future	0%	8%	0%	0%	6%
Forgot about it	25%	0%	0%	0%	3%
Did not understand how	0%	4%	0%	0%	3%
Not enough savings	0%	0%	0%	0%	0%
Did not have time	0%	0%	0%	0%	0%
Landlord	0%	0%	0%	0%	0%
Don't know	0%	0%	0%	0%	0%
Other	25%	20%	40%	0%	23%

Multiple responses accepted (Survey question R2)

## *Pool & Spa*

As with the previous two categories, few respondents were asked about the pool and spa recommendations they received (because this population of customers is relatively small). However, only five tips were executed specifically as a result of the HEES program—all pool pump motor replacements with a more efficient system. Only one respondent was not fully satisfied with the measure, because the new equipment was not producing enough energy savings.

**Table 60: Pool & Spa - Doing the Measure?**

Measure	Already did before HEES	Result of HEES	No	Other	Don't Know	Do Not Recall Tip
Replace Your Pool Pump Motor with an energy efficient motor system (N=49)	20%	10%	63%	2%	4%	0%
Replace Your Electric Spa Heater with a Gas Heater (N=16)	19%	0%	81%	0%	0%	0%
Use an Insulated Spa or Hot Tub Cover when not in use (N=10)	20%	0%	70%	0%	10%	0%
Install a Timer on Your Pool Filter Pump (N=7)	57%	0%	29%	0%	14%	0%
Use an Insulated Pool Cover (N=2)	0%	0%	100%	0%	0%	0%
<b>Total (N=85)</b>	<b>23%</b>	<b>6%</b>	<b>65%</b>	<b>1%</b>	<b>5%</b>	<b>0%</b>

(Survey questions R1, R3)

Table 45 shows that most frequently, the respondents who failed to act on the pool and spa recommendations explained that the measures were expensive and that the tips did not apply.

**Table 61: Pool & Spa – Why Didn't You Do The Measure?**

<b>Reason</b>	<b>Install a Timer on Your Pool Filter Pump (N=2)</b>	<b>Replace Your Electric Spa Heater with a Gas Heater (N=12)</b>	<b>Replace Your Pool Pump Motor with an energy efficient motor system (N=31)</b>	<b>Use an Insulated Pool Cover (N=2)</b>	<b>Use an Insulated Spa or Hot Tub Cover when not in use (N=7)</b>	<b>Total (N=54)</b>
Too expensive	50%	42%	39%	0%	14%	35%
Does not apply to me	0%	17%	16%	50%	29%	19%
Will do in future	50%	8%	13%	0%	0%	11%
Too much effort	0%	8%	6%	0%	14%	7%
Lifestyle	0%	8%	3%	0%	0%	4%
Not enough savings	0%	0%	3%	0%	0%	2%
Did not understand how	0%	0%	3%	0%	0%	2%
Forgot about it	0%	0%	0%	0%	0%	0%
Did not have time	0%	0%	0%	0%	0%	0%
Landlord	0%	0%	0%	0%	0%	0%
Don't know	0%	0%	3%	0%	0%	2%
Other	0%	25%	16%	50%	57%	24%

Multiple responses accepted (Survey question R2)

In summary, respondents mostly frequently implement behavioral measures and these rates decrease markedly for recommendations to purchase new equipment (at least in the short run). However, across all measures implemented as a result of the HEES, the majority of respondents are very satisfied with their results. The most common reasons respondents were less than fully satisfied with their measures was because they produced unsatisfactory energy savings, were not applicable to their home situations, lifestyle preferences, and high costs.

### Further Action

Table 62 details further actions taken by the respondents after receiving their HEES reports, broken out by survey mode. Twenty percent of respondents said they visited a utility website to get additional information on energy efficiency programs, and as expected, this was most common for the online survey mode. Moreover, 15 percent called the utility for additional information, and this was lowest for online HEES respondents. Thirteen percent of all respondents called a contractor to learn more about installing energy efficient equipment. Interestingly, the online survey mode had the highest rates of participation in other energy efficiency programs and purchases of energy efficiency equipment, perhaps owing to this group's higher income and education levels.



Overall, 19 percent of respondents participated in another program as result of their HEES reports and 29 percent purchased equipment. The most popular programs to participate in were the SCE Refrigerator/Freezer Recycling program and the SCE Equipment Rebate program (see Table 63).

**Table 62: Action Taken As A Result of HEES**

<b>Action Taken</b>	<b>Mail-in Percent</b>	<b>On-line Percent</b>	<b>In-home Percent</b>	<b>Phone Percent</b>	<b>Total Percent</b>
Visit a utility website to get additional info on energy efficiency programs (N=695)	9%	37%	17%	17%	20%
Call the utility to get additional info on energy efficiency programs (N=694)	18%	11%	15%	17%	15%
Call a contractor to find more about installing energy efficient equipment (N=695)	11%	15%	15%	10%	13%
Participate in any other rebate or energy efficiency programs (N=695)	18%	24%	18%	15%	19%
Purchase any energy efficient equipment (N=695)	28%	35%	28%	23%	29%

(Survey questions F1-F5)

**Table 63: Programs Participated In**

<b>Program</b>	<b>Mail-in Percent (N=33)</b>	<b>On-line Percent (N=46)</b>	<b>In-home Percent (N=36)</b>	<b>Phone Percent (N=17)</b>	<b>Total Percent (N=132)</b>
SCE - Refrigerator/Freezer Recycling Program	33%	28%	28%	29%	30%
SCE - Rebate Program	24%	24%	33%	12%	25%
SCE - Summer Discount Plan	6%	24%	0%	12%	11%
Solar Rebate Program	9%	17%	3%	12%	11%
I received a rebate but don't remember the program name	12%	0%	8%	0%	5%
The Gas Company - Rebate Program	6%	2%	3%	0%	3%
The Gas Company - Home Energy Upgrade Finance Program	6%	2%	0%	6%	3%
GSW or LADWP - Water Utility Rebate Program	0%	0%	3%	6%	2%
SCE Demand Response Program	0%	0%	3%	0%	1%
Other	12%	13%	14%	6%	13%
Don't know	18%	2%	17%	29%	14%

Multiple responses accepted (Survey question F6)

Table 64 shows that of the equipment purchased as a result of the HEES program, the most common choices are refrigerators (30 percent), lighting (28 percent), air conditioners (11 percent), clothes washers (10 percent), and solar heating equipment (10 percent). On the whole,

38 percent of respondents in this group said they received a utility rebate for their purchase, 60 percent did not, and three percent did not know. The right hand column shows the percent of equipment purchases within each category that received a utility rebate. Notably, the sample sizes for many of the equipment categories are quite small.

**Table 64: Equipment Purchased**

<b>Equipment Type</b>	<b>Items Purchased Percent (N=201)</b>	<b>Received Utility Rebate Percent (N varies by equipment category)</b>
Refrigerator	30%	22%
Lighting	28%	7%
Air Conditioner	11%	14%
Clothes Washer	10%	45%
Solar	10%	25%
Dishwasher	7%	28%
Freezer	5%	30%
Water heater	5%	30%
Stove	4%	12%
Clothes dryer	4%	50%
Windows	3%	0%
Furnace	3%	50%
Pool Equipment	2%	75%
Microwave	2%	0%
Insulation	1%	50%
Ceiling fan	1%	50%
Toilet	1%	100%
Whole house fan	1%	0%
Showerhead	1%	0%
Other	11%	23%

Multiple responses accepted (Survey questions F7-F9)

## **Participant Satisfaction**

This section of the report examines the clarity and usefulness of HEES report, as well as participant satisfaction with general program operations.

## Charts in the HEES Report

Table 65 shows how useful respondents found the charts of their energy and water use history. Half of all respondents found the basic usage history to be “very useful,” and at least 77 percent rated the charts as “somewhat useful.” Respondents who synced their gas and/or water account numbers with their survey results found the charts to be more useful than those who did not. Overall, 13 percent of respondents said the charts were “not very” or “not at all useful.”

Respondents who rated their usage history charts as less than “very useful” were asked to explain what would make them more useful. As shown in Table 66, half of the respondents did not know and 17 percent of the respondents offered nonsensical or unrelated comments (these were categorized as “other”). Common justifications were that the charts should be more accurate (10 percent), easier to read (nine percent), and show multiple years (four percent). An additional frequent response was that the charts did not provide the users with any information they did not already know (four percent). Three percent of respondents wanted more specific information, and some explained the details they desired, including: more information about energy and water use for each appliance (3), data on household usage by time of the day (1), more details on days and temperatures (1), and information about how much energy an idle appliance uses when is plugged-in to the wall socket (1). Several respondents also requested that the usage information be available in dollars and that the charts display the difference in energy use if the HEES recommendations were implemented.

**Table 65: Usefulness of HEES Energy and Water Use History**

Usefulness	Entered SoCal Gas and/or GSW Account #s	Did Not/Don't Know	Total
	Percent (N=279)	Percent (N=415)	Percent (N=694)
Very useful	57%	47%	50%
Somewhat useful	30%	26%	27%
Not very useful	9%	7%	8%
Not at all useful	3%	6%	5%
Did not look at the charts at all	5%	8%	7%
Don't know	0%	5%	3%

(Survey question P3)

**Table 66: How Could Charts of Energy & Water Use Be More Useful?**

Response	Mail-in Percent (N=68)	On-line Percent (N=86)	In- home Percent (N=77)	Phone Percent (N=43)	Total Percent (N = 274)
Need to be more accurate	9%	9%	9%	14%	10%
Easier to read	16%	6%	9%	5%	9%
Show multiple years	4%	6%	4%	2%	4%
Did not show anything I did not already know	3%	5%	5%	2%	4%
Provide more details	0%	6%	4%	0%	3%
Show the dollar amounts	0%	2%	1%	0%	1%
Show how usage would change if the recommendations are implemented	1%	0%	0%	2%	1%
Have more explanation	0%	0%	0%	0%	<1%
Other	16%	23%	17%	9%	17%
Don't Know	49%	44%	52%	65%	51%

Multiple Responses Accepted (Survey question P4)

Table 67 provides the same analysis for the charts that compare participant energy and water use with regional averages. The overall ratings for the regional comparison charts are lower than for the bill history charts. On the whole, 43 percent of respondents said the charts were “very useful” and 66 percent found them at least “somewhat useful”. Thirteen percent offered the two lowest ratings. Once again, respondents who integrated their gas and/or water account numbers into their surveys found the comparison more useful than those who did not.

When asked how the energy and water use comparison could be more useful, again about half of respondents did not know. As shown in Table 68, common responses included that it should be more specific to each household (seven percent) and more accurate (seven percent). For the former, some respondents proposed specific criteria, including a smaller region (4), comparable family sizes (3), comparable dwelling types (1), allowing for an all-electric household (1), and displaying air conditioning usage charts (1). Moreover, six percent of respondents suggested that the comparison be in terms of dollar costs of utility bills and four percent said the comparison could be easier to read. The 23 percent of responses categorized as “other” offered neutral, nonsensical, or unrelated remarks.

**Table 67: Usefulness of Comparison with Regional Average**

Usefulness	Entered SoCal Gas and/or GSW Account #s	Did Not/Don't Know	Total
	Percent (N=277)	Percent (N=415)	Percent (N=692)
Very useful	48%	39%	43%
Somewhat useful	25%	22%	23%
Not very useful	9%	9%	9%
Not at all useful	7%	8%	8%
Did not look at the charts at all	9%	12%	11%
Don't know	8%	9%	9%

(Survey question P7)

**Table 68: How Could Comparison With Regional Average Be More Useful?**

Response	Percent (N = 273)
Have more specific criteria to align like households	7%
Needs to be more accurate	7%
Show how the dollar cost of my bills compares to others	6%
Easier to read	4%
Show multiple years	1%
Other	23%
Don't Know	52%

Multiple Responses Accepted (Survey question P8)

Respondents were also asked how influential the two types of charts were on their decisions to implement their HEES recommendations. As shown in Table 69, a greater percent of respondents (80 percent) found the charts of bill history “very” or “somewhat influential” on their decisions, while only 64 percent of respondents found the regional comparison “very” or “somewhat influential.”

**Table 69: Influence of HEES Energy and Water Use Charts**

Level of Influence	Charts of energy and water history	Comparison with regional average
	Percent (N = 645)	Percent (N = 613)
Very Influential	50%	41%
Somewhat Influential	30%	23%
Not Very Influential	7%	14%
Not At All Influential	7%	14%
Don't know	5%	8%

(Survey questions P5, P9)

### Ease of Completing the HEES Survey

As shown in Table 70, 95 percent of respondents found it “somewhat” or “very easy” to complete the survey. Those who said the survey was anything but “very easy” were asked how the survey could be improved, and Table 71 displays these results. Overall, the most frequently mentioned suggestions were to make the survey briefer (18 percent) and less technical (17 percent). Notably, only four percent of the in-home respondents requested a shorter survey. The respondents who advocated for alternate languages spoke Korean (3), Spanish (1), and Vietnamese (1). Most of the “other” responses were unrelated to the question; however, the two relevant remarks for the online mode include “tell people to have bills and info ready when taking survey” and “send us a yearly usage accounting.” One phone respondent said there should be better accommodations for the disabled and an on-site participant suggested more flexible scheduling, such as offering audits on weekends.

**Table 70: Ease of Filling Out Survey**

Level of Ease	Mail-in Percent (N=228)	On-line Percent (N=231)	In-home Percent (N=230)	Phone Percent (N=127)	Total Percent (N=816)
Very Easy	74%	75%	89%	80%	79%
Somewhat Easy	18%	22%	10%	16%	16%
Somewhat Difficult	5%	2%	0%	2%	2%
Very Difficult	0%	0%	0%	2%	1%
Don't Know	3%	2%	0%	1%	2%

(Survey question S1)

**Table 71: What Would Make it Easier?**

<b>Recommendation</b>	<b>Mail-in Percent (N=53)</b>	<b>On-line Percent (N=54)</b>	<b>In-home Percent (N=25)</b>	<b>Phone Percent (N=25)</b>	<b>Total Percent (N=157)</b>
Make it shorter/more concise	26%	19%	4%	12%	18%
Make it less technical	15%	24%	16%	4%	17%
Make it available in more languages	6%	0%	4%	8%	4%
Leave more room on the lines to write-in answers	6%	2%	0%	4%	3%
Make the web portal move faster from page to	0%	4%	4%	0%	2%
Don't know	36%	44%	52%	64%	46%
Other	15%	15%	20%	12%	18%

Multiple Responses Accepted (Survey question S2)

## Satisfaction Ratings

Respondents were also asked to indicate their satisfaction levels with various aspects of the HEES program. As shown in Table 72, the majority of respondents offered favorable reviews of the HEES program; 60 percent or more of respondents were “very satisfied” with every measured aspect of the program. The highest ratings were for the knowledge, professionalism, and enthusiasm of the in-home auditor, while the lowest were for the information provided on other energy efficiency programs. Respondents were asked about their overall satisfaction with the HEES program and 73 percent said that they were very satisfied. Table 73 through Table 76 break out these satisfaction ratings by survey mode. Respondents who received an in-home survey reported the highest overall satisfaction with the program.

**Table 72: Satisfaction with the HEES Tool**

	<b>Very Satisfied</b>	<b>Moderately Satisfied</b>	<b>Slightly Satisfied</b>	<b>Neutral</b>	<b>Slightly Dissatisfied</b>	<b>Moderately or Very Dissatisfied</b>	<b>Don't Know</b>
<b>Program Feature</b>	<b>Percent</b>						
Amount of time it took to complete the survey (N=815)	75%	15%	2%	3%	1%	1%	3%
Clarity of the recommendations provided by the survey (N=693)	76%	15%	2%	2%	1%	<1%	2%
Usefulness of the recommendations provided (N=692)	69%	17%	3%	3%	1%	3%	3%
Information provided on other energy efficiency programs (N=689)	60%	16%	3%	6%	1%	3%	12%
How customized the survey results were to household (N=688)	70%	15%	4%	3%	2%	2%	5%
Knowledge, professionalism, and enthusiasm of in-home consultant (N=228)	88%	6%	0%	1%	<1%	3%	0%
Overall satisfaction with the Home Energy and Water Efficiency Survey (N=812)	73%	18%	2%	2%	<1%	3%	1%

(Survey questions S3, S6, S9, S12, S15, S18, S21)



**Table 73: Satisfaction with the HEES Tool – Mail-In**

	<b>Very Satisfied</b>	<b>Moderately Satisfied</b>	<b>Slightly Satisfied</b>	<b>Neutral</b>	<b>Slightly Dissatisfied</b>	<b>Moderately or Very Dissatisfied</b>	<b>Don't Know</b>
<b>Program Feature</b>	<b>Percent</b>						
Amount of time it took to complete the survey (N=227)	78%	13%	1%	4%	0%	0%	4%
Clarity of the recommendations provided by the survey (N=188)	80%	10%	3%	2%	1%	1%	3%
Usefulness of the recommendations provided (N=188)	74%	15%	3%	3%	1%	1%	3%
Information provided on other energy efficiency programs (N=188)	66%	17%	2%	3%	1%	1%	11%
How customized the survey results were to household (N=187)	75%	16%	3%	1%	2%	1%	3%
Overall satisfaction with the Home Energy and Water Efficiency Survey (N=227)	77%	15%	4%	2%	0%	0%	2%

(Survey questions S3, S6, S9, S12, S15, S18, S21)

**Table 74: Satisfaction with the HEES Tool – On-line**

	<b>Very Satisfied</b>	<b>Moderately Satisfied</b>	<b>Slightly Satisfied</b>	<b>Neutral</b>	<b>Slightly Dissatisfied</b>	<b>Moderately or Very Dissatisfied</b>	<b>Don't Know</b>
<b>Program Feature</b>	<b>Percent</b>						
Amount of time it took to complete the survey (N=231)	68%	18%	3%	5%	3%	0%	3%
Clarity of the recommendations provided by the survey (N=192)	70%	23%	1%	3%	1%	1%	2%
Usefulness of the recommendations provided (N=192)	65%	21%	4%	4%	1%	2%	3%
Information provided on other energy efficiency programs (N=192)	53%	20%	4%	10%	1%	2%	11%
How customized the survey results were to household (N=192)	62%	17%	6%	2%	3%	4%	6%
Overall satisfaction with the Home Energy and Water Efficiency Survey (N=231)	70%	23%	3%	2%	0%	2%	1%

(Survey questions S3, S6, S9, S12, S15, S18, S21)

**Table 75: Satisfaction with the HEES Tool – In-home**

	<b>Very Satisfied</b>	<b>Moderately Satisfied</b>	<b>Slightly Satisfied</b>	<b>Neutral</b>	<b>Slightly Dissatisfied</b>	<b>Moderately or Very Dissatisfied</b>	<b>Don't Know</b>
<b>Program Feature</b>	<b>Percent</b>						
Amount of time it took to complete the survey (N=230)	80%	13%	1%	3%	1%	1%	1%
Clarity of the recommendations provided by the survey (N=198)	78%	15%	1%	4%	1%	1%	1%
Usefulness of the recommendations provided (N=197)	72%	16%	2%	4%	1%	4%	2%
Information provided on other energy efficiency programs (N=196)	60%	14%	3%	6%	2%	3%	12%
How customized the survey results were to household (N=196)	76%	11%	3%	4%	1%	3%	3%
Knowledge, professionalism, and enthusiasm of in-home consultant (N=228)	89%	7%	1%	0%	0%	2%	2%
Overall satisfaction with the Home Energy and Water Efficiency Survey (N=228)	78%	14%	1%	3%	0%	4%	1%

(Survey questions S3, S6, S9, S12, S15, S18, S21)

**Table 76: Satisfaction with the HEES Tool - Phone**

	Very Satisfied	Moderately Satisfied	Slightly Satisfied	Neutral	Slightly Dissatisfied	Moderately or Very Dissatisfied	Don't Know
Program Feature	Percent						
Amount of time it took to complete the survey (N=127)	73%	17%	2%	0%	2%	2%	5%
Clarity of the recommendations provided by the survey (N=115)	77%	13%	3%	1%	0%	2%	4%
Usefulness of the recommendations provided (N=115)	66%	15%	4%	3%	2%	5%	5%
Information provided on other energy efficiency programs (N=113)	65%	11%	4%	7%	0%	2%	12%
How customized the survey results were to household (N=113)	65%	16%	3%	4%	2%	3%	7%
Overall satisfaction with the Home Energy and Water Efficiency Survey (N=126)	70%	19%	2%	2%	1%	3%	3%

(Survey questions S3, S6, S9, S12, S15, S18, S21)

### Reasons for Dissatisfaction

Respondents who rated aspects of the program lower than the highest level in Table 72 were asked to explain why they were not fully satisfied. Table 77 lists the reasons respondents were less than fully satisfied with the time required to complete the survey. The most frequent answer (43 percent of respondents) was that the survey took too long to complete. However, many in-home participants indicated that they wished the in-home auditor could have spent more time at their homes. Fifteen percent were “other” responses that were neutral, unrelated, or nonsensical.

**Table 77: Time to Take Survey – Why Not Fully Satisfied**

<b>Reason</b>	<b>Mail-in Percent (N=42)</b>	<b>On-line Percent (N=67)</b>	<b>In-home Percent (N=43)</b>	<b>Phone Percent (N=28)</b>	<b>Total Percent (N=180)</b>
Took too long	40%	55%	19%	57%	43%
Was too short, not detailed enough	7%	7%	19%	11%	10%
Questions were repetitive	5%	1%	0%	0%	2%
Questions were hard to answer	7%	1%	0%	0%	2%
Don't know	24%	27%	33%	25%	27%
Other	17%	7%	30%	7%	15%

Multiple Responses Accepted (Survey question S4)

Table 78 details reasons why respondents were less than fully satisfied with the clarity of the HEES recommendations they received. The most common answer for all survey modes was that the tips could be more specific (29 percent), and 10 percent said they did not understand some of the recommendations. While the majority of other responses were unrelated, two relevant other responses include: “a real person to talk to about results would be better” and “unable to understand because of language barriers.”

**Table 78: Clarity of Recommendations – Why Not Fully Satisfied**

<b>Reason</b>	<b>Mail-in Percent (N=31)</b>	<b>On-line Percent (N=54)</b>	<b>In-home Percent (N=40)</b>	<b>Phone Percent (N=21)</b>	<b>Total Percent (N=146)</b>
Recommendations were too vague/wanted more specific info	19%	35%	25%	38%	29%
Did not understand some of the recommendations	13%	7%	13%	5%	10%
Was not sure how to join energy efficiency programs mentioned	0%	7%	5%	0%	4%
Could not find information about the rebates/programs	3%	2%	5%	0%	3%
Did not understand ANY of the recommendations	3%	2%	0%	0%	1%
Was not sure how to access rebates mentioned	3%	2%	0%	0%	1%
Too much information	0%	2%	0%	0%	1%
Other	19%	35%	25%	38%	26%
Don't know	39%	19%	28%	43%	29%

Multiple Responses Accepted (Survey question S7)

As shown in Table 79, the top reason respondents were not fully satisfied with the usefulness of their recommendations was that they did not seem customized for their households (23 percent).

Many respondents also explained that the information provided was too basic, that they had already implemented most of the measures prior to program participation (18 percent) or were already knowledgeable about them (17 percent).

**Table 79: Usefulness of Recommendations – Why Not Fully Satisfied**

<b>Reason</b>	<b>Mail-in Percent (N=41)</b>	<b>On-line Percent (N=61)</b>	<b>In-home Percent (N=50)</b>	<b>Phone Percent (N=33)</b>	<b>Total Percent (N=185)</b>
Did not seem customized for my household	17%	26%	20%	30%	23%
Already did most of them	24%	15%	16%	24%	18%
Too basic – already knew about these things	12%	18%	28%	6%	17%
They were too much of a hassle	5%	5%	4%	3%	4%
Wanted information on solar energy	2%	3%	2%	3%	3%
Not enough savings	0%	3%	4%	3%	3%
Not Applicable (as a renter)	2%	3%	2%	0%	2%
Not enough detail/specific information	2%	2%	4%	0%	2%
Too much information	5%	3%	0%	0%	2%
Too costly to implement	2%	3%	0%	0%	2%
Do not cover specific equipment I was interested in	0%	2%	2%	0%	1%
Not willing to do all of it	2%	0%	2%	0%	1%
Confusing/too technical	2%	2%	0%	0%	1%
Not Applicable (generally)	0%	2%	0%	0%	1%
Other	12%	7%	4%	12%	8%
Don't know	22%	16%	26%	24%	22%

Multiple Responses Accepted (Survey question S10)

Many HEES recommendations provide information about rebate and other energy efficiency programs. Table 80 shows the reasons respondents were not fully satisfied with the information about other programs. Most frequently, they did not receive information about other energy efficiency programs (16 percent) or the information was not specific enough (16 percent). Respondents who mentioned that they wanted information about other programs were asked “Which programs?” Relevant responses included: financial assistance, in-home visit, other rebates from manufacturers, water saving information and equipment, and rebates for air conditioners and windows.

**Table 80: Information Provided on Other Programs – Why Not Fully Satisfied**

<b>Reason</b>	<b>Mail-in Percent (N=42)</b>	<b>On-line Percent (N=67)</b>	<b>In-home Percent (N=51)</b>	<b>Phone Percent (N=26)</b>	<b>Total Percent (N=186)</b>
Did not receive info about other energy efficiency programs	19%	12%	18%	19%	16%
Information was not complete/specific enough	29%	9%	8%	23%	16%
Already knew about all these programs	5%	7%	2%	15%	6%
Already have done all these programs	2%	10%	4%	0%	5%
Wanted info on other programs	2%	6%	2%	4%	4%
Programs were not applicable	2%	4%	6%	0%	4%
Wanted info on renewable energies programs	2%	3%	2%	0%	2%
Wanted info on demand response programs for my home	2%	3%	2%	0%	2%
Too much info/simpler info	0%	3%	0%	4%	2%
Wanted info on solar energy equipment for my home	0%	1%	0%	0%	1%
Programs don't provide enough savings	2%	0%	2%	0%	1%
Too costly	0%	1%	0%	4%	1%
Other	10%	19%	22%	12%	17%
Don't know	29%	25%	33%	23%	28%

Multiple Responses Accepted (Survey question S13)

As shown in Table 81, respondents said they were not fully satisfied with how customized their results were to their households because the recommended measures did not apply (18 percent), they had already done most of them (17 percent), or the measures just seemed too generic (17 percent). Relevant “other” responses include the following:

- He did not even take a look at my house
- I have a pool
- I wanted them to check the windows
- Wanted more information for affordable replacements
- Didn't find my specific problem (reason for high bills)
- Would have much preferred an in-home visit
- More details on what we could do to fix up our home

**Table 81: How Customized Results Were to Household – Why Not Fully Satisfied**

<b>Reason</b>	<b>Mail-in Percent (N=39)</b>	<b>On-line Percent (N=62)</b>	<b>In-home Percent (N=41)</b>	<b>Phone Percent (N=31)</b>	<b>Total Percent (N=173)</b>
The recommendations were too generic/not specific enough	15%	24%	15%	19%	19%
Most or all of the recommendations did not apply to my household	5%	24%	22%	19%	18%
I already was doing all or most of the recommendations	18%	21%	15%	13%	17%
Seemed like everyone received the same recommendations	13%	13%	7%	10%	11%
The usage charts did not match my household very well	8%	10%	2%	10%	8%
Other	18%	8%	24%	6%	14%
Don't know	28%	15%	29%	26%	23%

Multiple Responses Accepted (Survey question S16)

While most respondents gave very high ratings for their in-home auditors, the most common negative remarks concerned the knowledge of the auditor and that the free equipment was poorly installed. Other complaints were that the audit was not extensive enough (3), not many suggestions were offered that would make a difference (1), the auditor should have told the respondent to have the property forms ready beforehand (1), the auditor was too business-like/not very enthusiastic (2), the auditor replaced outside lamps with cheaper ones (1), the auditor did not install the six CFLs (1), “I wanted him to check the windows,” and “make sure the consultant gives good information.”

**Table 82: In-Home Auditor – Why Not Fully Satisfied**

<b>Reason</b>	<b>Total Percent (N=24)</b>
Consultant was not very knowledgeable	33%
Consultant installed the free equipment poorly	8%
Other	38%
Don't know	21%

Multiple Responses Accepted (Survey question S19)

Furthermore, respondents who were less than fully satisfied with their overall experience with the HEES program were asked to explain their discontent. This data is summarized in Table 83 and unrelated or neutral comments were excluded. Most frequently, respondents cited the long



length of the survey (17 percent), said the recommendations were too basic (13 percent), or that they already did most of the tips (11 percent).

In addition, this group of respondents was asked what they would recommend for overall improvement. The most common response was that the survey should be more customized (16 respondents), and some of these remarks included:

- “Need more. I was hoping that they would actually look at your appliances and tell you which ones are actually driving your costs.”
- “Need to customize, provide information for local areas.”
- “Should be made more attuned to the particular person's household. People's style of living is different and [they] have a different need.”
- “The results that we [have] may not have been completely accurate compared with other households in similar situations.”
- “They didn't take into account that I have a pool so the results of the test were not accurate.”
- “Increase the options once you've asked the basic questions.”
- “The consultant should turn off all appliances and go to the meter. Then, he should test specific, usual, high drawing appliances such as above ground Jacuzzi, refrigerator in garage, in house refrigerator, and air conditioner.”
- “Make suggestions that can be used for multi-person households.”

Eight respondents commented on how the program delivery could be improved, and the suggestions include: respond to phone calls (2), send the report (2), improve the advertising (1), shorten the wait for in-home appointments (1), have more knowledgeable consultants (1), and do not refer a customer to the program when the issue is about billing (1). Five respondents requested additional services, including: a personal tracker for energy and water use for each household, more information on water leakages, an air conditioner comparison among households, weatherstripping, and window testing.

Other relevant program recommendations consisted of simplifying the survey so it is less technical (7), shortening the survey (6), providing a home visit (5), giving suggestions to lower energy bills (5), offering more and higher rebates (3), presenting case studies/examples of energy savings before and after the program (2), offering the survey in other languages (2), providing more specific information on how to get rebates (2), and presenting information about renewable energy (1).

**Table 83: Overall Satisfaction – Why Not Fully Satisfied**

<b>Reason</b>	<b>Percent (N=200)</b>
Survey took too long	17%
Recommendations were too basic/just seemed like common sense	13%
Already did most/all of the recommendations	11%
Recommendations were not customized to my household	9%
Recommendations were too vague	8%
Did not know how to answer some of the survey questions	6%
Recommendations did not apply to my household	4%
Did the recommendations but not seeing desired energy savings	4%
Survey instrument was not in-depth enough/too short	3%
Inaccurate comparison of my house with other similar households	3%
Recommendations were too expensive to implement	3%
Wanted information on renewable power options	3%
Survey was not appropriate for people who live in apartment	2%
Inaccurate charts about my energy and water bills	2%
Wanted information on solar equipment/financial incentives	2%
Did not understand how to implement the recommendations	2%
Did not get the report	2%
Did not like having to enter in my gas and water account	1%
The internet site was slow/had delays	1%
Recommendations were too much of a hassle to implement	1%
Wanted a more direct link to energy efficiency programs	1%
Wanted more detailed information on rebates	1%
Wanted more information about demand response programs	1%
Does not link to my water utility account history	1%
Want more CFLs	1%
Did not get the Energy Efficiency Starter Kit	1%
Did not solve problem	1%
Already knew the information in the results	1%
Was not in my primary language	1%
Other	7%
Don't Know	25%

Multiple Responses Accepted (Survey question S22)

Finally, Table 84 shows that 43 percent of respondents recommended the HEES program to others. The highest referral rate was with the in-home mode (55 percent).

**Table 84: Recommended HEES to Others**

<b>Recommended?</b>	<b>Mail-in Percent (N=221)</b>	<b>On-line Percent (N=230)</b>	<b>In-home Percent (N=227)</b>	<b>Phone Percent (N=127)</b>	<b>Total Percent (N=806)</b>
Yes	33%	40%	55%	45%	43%
No	67%	59%	44%	54%	56%
Don't know	0%	1%	2%	0%	1%

(Survey question S28)

## Overall Suggestions

All respondents were asked what one thing they would change about the HEES program, and the relevant responses are summarized in Table 85. Twenty-one percent said they would shorten the survey, 13 percent would make the analysis more customized, 11 percent would increase the level of detail provided in the reports, and seven percent would make the survey or report less technical and simpler to understand. Notably, only eight percent of in-home respondents requested a shorter survey, and instead, this group would prefer additional on-site services and more customized analysis. Moreover, mail-in customers commonly desired a survey in another language.

Responses in the “other” category included:

- Customize the survey for renters
- Do a follow-up to remind me of recommendations
- Make it more user-friendly
- Give more information on CFLs
- Do not provide CFLs
- Eliminate requirement to take the survey for a solar rebate
- Provide more information about alternative energy
- Send the incentive gift
- Use multiple years of bill history
- Employ better advertising
- Provide better customer service
- Show the regional comparison in dollars
- Provide more graphs and illustrations
- Sync program with more water and gas providers
- Work directly with apartment managers
- Offer more advanced recommendations

**Table 85: One Thing You Would Change About the Program**

Response	Mail-in Percent (N=65)	On-line Percent (N=88)	In-home Percent (N=60)	Phone Percent (N=28)	Total Percent (N=42)
Shorter Survey	23%	26%	8%	26%	21%
More customized	3%	15%	17%	17%	13%
More detailed/specific	15%	10%	12%	7%	11%
Less technical/simpler	8%	10%	3%	5%	7%
In-language	11%	1%	5%	5%	5%
Higher rebates for equipment	9%	2%	5%	2%	5%
Lower electric or water rates	9%	2%	2%	5%	4%
Provide an in-home consultation	5%	3%	0%	12%	4%
Higher bill savings from recommendations	3%	1%	8%	2%	4%
More free stuff	2%	0%	7%	2%	2%
More information about energy efficiency programs	2%	3%	3%	0%	2%
Provide additional onsite services	0%	0%	10%	0%	2%
Better customer service	0%	0%	3%	10%	2%
Provide account numbers	0%	5%	2%	0%	2%
Customize regional comparison	0%	5%	0%	0%	2%
Receive report	0%	3%	0%	2%	2%
Other	11%	13%	15%	5%	5%

(Survey question S24)

An additional overarching question was “What was the most difficult thing about completing the Home Energy and Water Efficiency Survey?” Respondents reported that the most difficult aspect of the survey was the length (53 respondents), figuring out the answers to the questions (25), and finding account information (15). Other difficulties included:

- It was conducted at an inconvenient time (7)
- Not in my primary language (5)
- Actually doing the recommendations (4)
- Reading the report (4)
- Figuring out what appliances I had (3)
- Guessing on my usage (3)
- The cost of the recommended measures (2)
- The technical terms (2)

Alternatively, respondents were asked what they thought was the most helpful part of the survey. As shown in Table 86, 19 percent of respondents were most pleased with the charts of energy and water use and nine percent most appreciated information about other energy efficiency

programs. Other top-rated elements included the free items (seven percent), lighting recommendations (seven percent), and the regional comparison (five percent).

Relevant responses in the “other category” include:

- Furnace and space heating recommendations (3)
- Pool/spa recommendations (3)
- Reinforces what I already know (3)
- Increases awareness of consumption (3)
- Auditor (3)
- Insulation recommendations (2)
- Air distribution (duct) recommendations (2)
- Refrigerator recommendations (2)
- Dishwasher recommendations (1)
- That it was in-language (1)
- Solar information (1)
- How the auditor showed me how to clean refrigerator coils (1)
- How customized it was (1)
- Step-by-step instructions (1)

**Table 86: Most Helpful Aspect of the Program**

<b>Response</b>	<b>Mail-in Percent (N=224)</b>	<b>On-line Percent (N=231)</b>	<b>In-home Percent (N=227)</b>	<b>Phone Percent (N=127)</b>	<b>Total Percent (N=809)</b>
Charts of energy and water use	19%	19%	16%	20%	19%
Information about energy efficiency programs	9%	9%	6%	11%	9%
The free items (CFIs, low-flow showerheads, aerators)	6%	7%	7%	7%	7%
Lighting recommendations	4%	4%	11%	8%	7%
Regional comparison of energy and water costs	5%	8%	3%	2%	5%
Extra information from the in-home consultant	0%	0%	7%	4%	3%
Information about rebates	3%	3%	2%	2%	3%
Better understanding/awareness of how to save energy	3%	2%	7%	6%	2%
Water heater recommendations	0%	1%	3%	3%	2%
The recommendations in general	0%	3%	3%	3%	2%
Assurance I am on the right track	1%	0%	2%	1%	1%
That it was available on-line	0%	3%	0%	0%	1%
Information about specific appliances	0%	0%	3%	1%	1%
Air conditioning recommendations	1%	2%	0%	0%	1%
Easy, fast format	0%	1%	0%	2%	1%
Clothes washer recommendations	1%	1%	0%	1%	1%
Everything	1%	1%	0%	1%	1%
Better understanding/awareness of how to help environment	0%	0%	1%	0%	<1%
Water usage information and recommendations	1%	0%	1%	0%	<1%
Other	7%	4%	6%	4%	5%
None	9%	6%	8%	6%	7%
Don't Know	29%	25%	13%	18%	22%

(Survey question S26)

In-home respondents were asked what additional services they would like from the auditor. As shown in Table 87, approximately 70 percent said “none” or did not know. However, top suggestions included information about renewable energy (six percent), weatherization services (four percent), and more information about water usage (four percent).

**Table 87: Additional Services Desired From In-Home Auditor**

<b>Service</b>	<b>Total Percent (N=226)</b>
Give me information about renewable energy	6%
Weatherization services	4%
More information on water usage	4%
Blower-door test	2%
More solutions to lower bill	2%
More low-flow showerheads/customized showerheads	2%
Check/test specific equipment	2%
Enroll me in recommended programs	1%
Provide more free CFLs	1%
List of contractors	1%
Incentives	1%
More information about gas usage	<1%
Follow-up	<1%
More info	1%
Other	3%
None	37%
Don't know	32%

(Survey question S27)

### **3.2 REVIEW OF RECOMMENDATIONS FROM THE 2004-2005 STATEWIDE HEES EVALUATION**

An additional evaluation task was reviewing the previous 2004-2005 Statewide HEES Process Evaluation by Opinion Dynamics Corporation and assessing how well these previous process recommendations were integrated into the 2006-2008 SCE HEES program. When appropriate, this section also integrates findings from the current evaluation. Notably, key changes in the 2006-2008 cycle included a new partnership with the SoCal Gas and Golden State Water (GSW) utilities, a marketing campaign that distributed free Energy Efficiency Starter kits to all HEES participants, and standardization of HEES survey questions and recommendations across all delivery modes.

ECONorthwest discussed each of the 2004-2005 process evaluation recommendations with the SCE program manager in August 2008. Out of a total of 15 recommendations identified, 14 have been at least partially applied in the 2006-2008 program cycle. It should be noted that the results of the 04-05 process evaluation were not available until well after the 06-08 HEES program had been filed and implemented, so some of the recommended changes discussed below have been introduced as mid-cycle changes to the program. In addition, HEES program management is

continually looking for ways to refine and improve the program, and some of the changes discussed next were also based on customer feedback and findings from marketing initiatives.

With the above background, the remainder of this section is organized as follows:

- Recommendations that *have been* integrated into the 2006-2008 program cycle
- Recommendations that *have been partially* integrated into the 2006-2008 program cycle
- Recommendations that *have not* been integrated into the 2006-2008 program cycle

## **Recommendations integrated into the program during the 2006-2008 program cycle:**

- 1. Examine the goals of the program by delivery mechanism (how each of the three delivery mechanisms meets different needs and targets different customers).**
- 2. Consider the pros and cons of the in-home audit (which is the most expensive but results in the highest satisfaction) versus the on-line delivery mechanism (which is the least expensive with the lowest satisfaction).**

The 2006-2008 SCE HEES program has four primary delivery mechanisms: on-line, mail-in, in-home and phone, and each has a unique budget and marketing strategy. Program staff has weighed the costs of the various delivery mechanisms with their relative effectiveness, and leveraged program resources accordingly.

In-home audits generate higher savings than other delivery mechanisms, but are the most costly and therefore are targeted to households with the highest demand and in the hottest climate zones, where they are likely to produce the greatest savings (even though the claimed savings per household are independent of the home's location). A new offering in the 2006-2008 cycle is in-home audits available in Chinese, Vietnamese, and Korean, which are even more expensive, but according to the program manager, are "generating genuine results with this education." A contracted marketing team is hired to market the in-language, in-home audit through in-language newspapers and at outreach events such as the Chinese Moon Festival and the Vietnamese Technology Festival.

For the mail-in version, program staff uses historical data to target customer segments with the highest response rates. Notably, response rates for the English mail-in survey are lower than the in-language customers. The lowest cost method is the on-line audit, which is primarily marketed via the SCE website and through e-mail blasts to My Account customers. The on-line audit is available in English, Spanish, Chinese, Vietnamese, and Korean.

The goals for the 2006-2008 program cycle by delivery mechanism were presented in the Program Background.

### **3. Track costs by delivery mechanism.**

Program costs are tracked by delivery mechanism.



**4. Review the list of recommendations made across all channels to ensure that the list of possible recommendations is complete within each channel.**

In the 2006-2008 program cycle, HEES survey questions and recommendations were standardized for all delivery mechanisms. There are slight wording changes in the in-home audit recommendations to account for the direct install component of up to six CFLs, low-flow showerheads, and faucet aerators. Notably, during the 2004-2005 period, the in-home audit was primarily an inspection of the home and did not ask the customer the same questions to develop recommendations as were used for the on-line and mail-in modes.

**5. Continue to market through multiple means, since the variety of marketing methods reaches a wider swath of potential customers.**

The program markets through a variety of channels to reach a diverse set of customers, in part because bill inserts, which were a prominent marketing channel in 04-05, cannot be used regularly with SCE's revised billing statements, which now accommodate only a single printed message on the bill. Alternate methods include direct mail campaigns (mail-in survey is sent directly to the customer with appropriate account numbers pre-printed in barcode form), e-mail blasts, community events, and through other SCE programs. Current evaluation survey results show that participants do access the program via a wide variety of marketing channels. While the most commonly identified entrance points include bill inserts, mailed surveys, the SCE website, and utility account representatives, 30 percent of respondents identified an alternate source.

To improve response, the program has also developed a more colorful direct mail package. In addition, HEES encourages participation in the on-line survey through the provision of the "Energy Efficiency Starter Kit" and sometimes through the use of additional incentives, such as a \$10 Starbucks gift card that generated almost 4,000 audits in a two-week period at the end of 2007. Notably, one-third of respondents surveyed in this evaluation identified the Kit as "very important" and of the respondents who were aware they would receive a Kit, 12 percent would not have taken the survey at about the same time without the Kit, and nine percent did not know.

In addition, a specialized marketing team works directly with in-language customers, who (for the most part) were not surveyed for this evaluation.

**6. Collect complete customer information, as well as information about the recommendations made to these customers.**

The program has two databases, one with the SCE customer contact information (name, address, and phone number), and another, much larger one that records the HEES recommendations received by each customer. The two databases are linked through a customer identification number. A goal of the 2009-2011 program cycle is to integrate data from SoCal Gas and GSW with SCE in order to create one flat file record for each customer. Currently, divergent data storage methods across utilities, as well as small character differences in address, names, and phone numbers complicate this process.

Notably, customer contact information (phone number) was not available for the “Energy 5” version of the on-line HEES for the 2006-2008 evaluation. For this shorter on-line survey, the customer is not required to enter an SCE account number (as is required in the standard length version). Efforts should be made to collect contact information from these participants for future evaluations.

## **7. Identify participants who receive CFLs.**

In-home auditors install up to six CFLs, a low-flow showerhead, and faucet aerators in the customer’s home. The auditor records what items were installed, in which rooms, and what type of equipment was replaced. A promotion starting in April 2007 offered Energy Efficiency Starter Kits to customers who took the HEES through the on-line and mail-in delivery mechanisms. A verification process is in place to determine installation rates of the kits (based on a random sample of two percent of the kits sent out).

This evaluation also measured installation rates. About 80 percent of phone survey respondents remembered receiving a Kit. Of this group, 68 percent installed the CFL, over half installed the low-flow showerhead, while 38 percent installed the kitchen faucet aerator, and 27 percent installed both of the bathroom faucet aerators.

## **Recommendation *partially* integrated into the 2006-2008 program cycle:**

### **1. Find ways to better incorporate customer-specific information.**

Customer-specific billing data is better incorporated in the 2006-2008 program design. During the 2004-2005 program cycle, the customer’s electric billing information was linked to the HEES through his/her SCE account number for the mail-in and on-line HEES. The HEES synced up with this account information to produce charts of the customer’s electric usage by appliance and to show the customer’s electric usage by month over the past year. This account retrieval system was not available for the in-home delivery mechanism.

Now electric account information is linked to all program delivery mechanisms and the 2006-2008 HEES program has partnered with SoCal Gas and GSW to incorporate the customer’s gas and water billing histories across all modes. Mail-in survey forms are now pre-printed with the customer’s SCE account number and the customer is asked to fill in their SoCal Gas and GSW account numbers. The on-line HEES asks the customer to enter in their SCE, SoCal Gas, and GSW account numbers individually (only the SCE account number is required). For the in-home HEES, the auditor contacts the customer prior to arrival to determine the service account numbers or requests that the customer provide utility bills during the visit.

Apart from accessing the customer’s account history, the HEES instrument has not been altered significantly to capture more customer-specific information in the 2006-2008 cycle. The 2004-2005 survey form persists in 2006-2008 with minor changes. In some cases, question structures have been modified, questions are paired with longer lists of answer categories, and a

few questions have been added. Examples of these changes are listed below:

- The 2004-2005 mail-in survey only offered 11 answer categories for the question: “Indicate how many of the following appliances are used in your home,” while the 2006-2008 version offers 18.
- The 2004-2005 mail-in survey asked about indoor and outdoor lighting fixtures in one question (so that indoor types are not distinguished from outdoor types) and only offered seven answer categories. The 2006-2008 version splits up the inside and outdoor sections and also expands the answer categories to nine indoor options and three outdoor options.
- New questions in the 2006-2008 survey ask if various appliances (refrigerators, freezers, dishwashers) are ENERGY STAR qualified models.
- A new question in the water heating section asks: “Does your water heater have an insulation blanket?”
- A new question in the appliance section asks about a home security system.

Moreover, the HEES survey report provides more detail in the 2006-2008 program cycle, but relies on the essential the same database of recommendations. Usage data and charts for water and gas have been added to match the previous electric usage analysis. In addition, a new customer-specific element is a comparison of the customer’s electric, gas, and water usage to other similar households in the area. However, while recommendations have been added to the HEES database for water and gas measures as well as for a demand response program (SCE Summer Discount Program/AC Cycling), the recommendations database remains largely the same in the 2006-2008 program cycle.

On the whole, respondents from the 2006-2008 process evaluation are satisfied with the HEES report, but a consistent request is for increased customization and detail. At the same time, respondents emphasize that the survey instrument is already quite lengthy (with the exception of in-home HEES), and therefore the program should seek ways to increase the personalization of the HEES report without expanding the length of the HEES survey instrument.

**2. Make it clear to participants (particularly on-line participants) that the specificity of the recommendations depends on the level of input.**

The on-line HEES is available in the standard ENERGY 15 format and the abbreviated ENERGY 5 format. Customers who choose the ENERGY 5 format are cautioned about the reduced accuracy of the survey results due to the smaller amount of household information collected. In addition, in the on-line format, if the customer omits the water and gas account numbers or skips large sections of the questionnaire, a message explains that average values are used for the calculations.

This message about the specificity of the HEES results being correlated with the level of information provided is not present in the mail-in mode, and therefore the program may want to consider integrating this message on the printed form.

One factor that increases the personalization of the HEES results is the gas and water account information. Notably, about 70 percent of HEES respondents surveyed in our process evaluation reported that they were a customer of SoCal Gas or GSW, and about half of this group recalled entering in at least one of these additional account numbers. This rate is highest for the on-line mode, for which the respondent already has to retrieve their SCE account number. Automatically linking these additional account numbers to the mandatory SCE account number would decrease the effort required, and increase the customization of the recommendations.

**3. Make customers aware of the various delivery mechanisms since they appear to offer different levels of service to participants.**

The 2006-2008 program cycle did not emphasize cross-promotion of the various delivery mechanisms. Current evaluation results show that most respondents were satisfied with their survey mode, but only 29 percent of respondents were aware of other survey modes, and awareness was highest for those who took the HEES over the phone. The mail-in survey form does not promote the on-line or in-home HEES delivery mechanisms; however, the follow-up post card sent to respondents who received a mailed survey form does promote the on-line option. The on-line survey portal does promote the mail-in HEES option to customers, but does not mention the in-home option. The opening screen has the following text:

**Mail-In Home Energy Survey**

This survey is a paper-based form that you can print out. It provides an easy way for you to walk around your home and "score" your energy consumption. Or, you may call 1-800-278-8585 to have a copy mailed to your home.

Simply mail in the completed form, and we will return to you a customized report identifying opportunities for saving energy and money in your home by increasing your household efficiency. Please include your name, address, and Southern California Edison account number on the form. You may mail your completed survey to:

Home Energy & Water Efficiency Survey  
Profile Processing Center  
492 Ninth Street, Suite 220  
Oakland, CA 94607-4055

Send us YOUR Home Energy Survey today!

**4. Revise the survey to collect additional information and develop even more specific recommendations.**

The basic survey instrument has not been significantly altered from the 2004-2005 period (see #1 above) to the 2006-2008 period to collect additional information on electric usage. However, as SCE has partnered with SoCal Gas and GSW, the questionnaire has been expanded to collect information on gas appliances and water usage. There are plans for the 2009-2011 program to include a separate HEES survey tailored to multi-family residential buildings.

**5. HEES needs to be more linked to other IOU programs so that participants know exactly which programs are available to them, and which programs match the recommendations in the audit.**

When asked about their satisfaction with various aspects of the program, respondents in our evaluation survey were least satisfied with the information provided on other energy efficiency programs.

The 2004-2005 HEES program promoted SCE energy efficiency resource programs in the recommendation text for the SCE Single-Family Rebate and the Refrigerator/Freezer Recycling programs. The appropriate recommendations were paired with weblinks and phone numbers for further information. The 2006-2008 program increased the scope of these promotions to include SCE's Summer Discount Plan and external gas and water utility rebate programs.

However, HEES participants do not have access to the "one-step contact-and-enrollment procedures" recommended by the evaluation. Instead, the weblinks tend to bring the user to a general residential energy efficiency website or just the base sce.com website, from which the customer must search for the appropriate information. An example of a recommendation link to the SCE Refrigeration/Freezer Recycling program is listed below.

Your primary frost-free refrigerator is over ten years old; you may want to replace it soon. Replace it with a new ENERGY STAR® labeled refrigerator. ENERGY STAR® qualified refrigerators require about half as much energy as models manufactured before 1993. Based on available funding, Southern California Edison offers a \$50 rebate for ENERGY STAR® labeled refrigerator. Some retailers offer this rebate on SCE's behalf at the cash register. Rebate may not be available if funds are depleted. To apply and for more information, contact SCE's 24-hour automated line at 1-800-736-4777 or visit [www.sce.com](http://www.sce.com) for a rebate application. Applications are paid on a first-come, first-served basis. Some restrictions apply. SCE is offering an incentive of \$35 when you recycle your old, working cooling refrigerator. You can see if you qualify and schedule a pickup by calling (800) 234-9722 on weekdays between 7 a.m. and 6 p.m. and Saturdays between 7 a.m. and 3:30 p.m. or by visiting our web site at [www.sce.com](http://www.sce.com). Restrictions apply and incentives are limited.

An example of a recommendation linked to SoCal Gas's rebate program is listed below:

Insulation is your primary defense against heat loss through ceilings/attics, floors, walls, and air ducts. Your home may be losing a substantial amount of energy because heat is allowed to flow in and out. By installing proper attic and wall insulation, you can minimize heat loss and heat gain, keeping you warmer in the winter, cooler in the summer, and saving you money all year round. Rebates may be available on insulation that meets energy efficiency requirements. Contact The Gas Company at 1-888-431-2226 or visit [www.socalgas.com/residential/](http://www.socalgas.com/residential/) to verify rebate availability and eligibility requirements before buying or installing qualifying products.

HEES marketing has been connected more closely to other programs in the 2006-2008 cycle. SCE has recently developed an "EE DR Integration Brochure" that promotes the Summer Discount, AC Tune-Up, Single-Family Rebate Program, Refrigerator/Freezer Recycling, and the HEES programs. This brochure is left with customers who receive an in-home audit.

- 6. Consider alternative messaging for the program. The primary marketing message with HEES is "save money." The utilities should also consider messages that indicate to the customer that the HEES is a tool that customers can use annually to save energy.**

The main message of the SCE HEES program throughout the 2006-2008 program cycle has been both to "save money" and to "help the environment." Messages have not been implemented that encourage the customer to repeat the survey on an annual basis, and the website notes that

customers who complete the on-line survey are only eligible for marketing incentives if they have not completed a survey within the past 12 months. The program has promoted Energy Efficiency Starter Kits and Starbucks gift cards as incentives to use the tool. A sampling of marketing messages used in the 2006-2008 period include:

- “Save Energy, Money, and the Environment.”
- “Get a free Energy Efficiency Kit by completing the enclosed survey...Let’s work together to help save California’s energy and water resources.”
- “Lower energy bills plus \$10 gourmet coffee gift card...The perfect blend.”

#### **7. Review the wording of all recommendations to ensure that they are actionable.**

While not all recommendations have been worded in this way, most include a direct call to action as well as an explanation of how to achieve that action. The file of recommendations used in the fall of 2007 to generate HEES reports contained 111 measures, each of which had both an introductory “short text” description (which acts as a headline for the recommendation in the report) and an explanatory “full text” description. Of the short text measure descriptions, 73 consisted of calls to action, such as “lower your water heater setting,” “recycle your freezer,” or “wash laundry in cold water.” The remaining 28 measures had descriptions like “tips about your washer,” “a tip about attic insulation,” or “California alternate rates for energy.” With the addition of SoCal Gas, new recommendations were added related to gas appliances and these gas recommendations were intentionally designed to be informative, rather than imperative. For example:

“Natural Gas Clothes Dryers... a Great Value. Depending on where you live, a gas dryer's operating cost is approximately one-third the cost of electric. Today's gas dryers light automatically without a continuously burning pilot light. And they have much better insulation than older models. All of this adds up to savings on operating costs.”

Examples of more actionable recommendations include the following, where the short text is followed by the more complete description of the measure:

“Raise Your Air Conditioner Thermostat Setting. Raise the thermostat setting of your central air conditioner and save on cooling costs. We suggest that you keep your cooling thermostat set at 78 degrees to achieve the above savings.”

“Recycle Your Secondary Refrigerator. Your spare frost-free refrigerator is over ten years old; you may want to dispose it soon. SCE is offering an incentive of \$35 when you recycle your old, working cooling refrigerator. You can see if you qualify and schedule a pickup by calling (800) 234-9722 on weekdays between 7 a.m. and 6 p.m. and Saturdays between 7 a.m. and 3:30 p.m. or by visiting [our web site](http://www.sce.com/RebatesandSavings/Residential/EnergyStarRefrigerator/). Restrictions apply and incentives are limited.”

#### **Recommendation *not* integrated into the 2006-2008 program cycle:**

- 8. Coordinate with other energy efficiency programs and follow up with customers based on the information that the customer provides in the HEES program survey.**

This is not currently being done, but is a goal for the 2009-2011 program period. The information gathered on HEES participants can potentially serve as an important information source to target other SCE energy efficiency services to customers.

#### 4. HEES PROGRAM KEY FINDINGS AND RECOMMENDATIONS

The HEES program theory expects that the survey will encourage participants to adopt more energy efficient behaviors, install more energy efficient equipment, and participate in other energy efficiency programs. A primary goal of this evaluation was to determine if the HEES program was effectively motivating these actions. The following are some of the key findings of this program evaluation:

1. **Overall, 14 percent of the 3,409 tips reviewed in this evaluation were implemented as a result of the HEES program.** Respondents were asked about a random sample of five recommendations they received in their HEES reports. The HEES program spurred action at the highest rates in the water heating/water usage and lighting measure categories. Overall, behavioral tips were implemented at much higher rates than recommendations to purchase new equipment. Relatively high implementation rates as a result of the HEES program are associated with the following measures:<sup>10</sup>

- Lower your hot water heater setting to 120 degrees F
- Install low-flow showerheads and faucet aerators/ Install low-flow showerheads
- Replace your incandescents with CFLs
- Raise your air conditioner setpoint to 78 degrees F
- Wash laundry in cold water
- Seal leaky air ducts
- Unplug or recycle your spare freezer
- Recycle your secondary refrigerator
- Replace your old stand alone freezer or unplug it if it is not absolutely necessary

2. **Participants are generally satisfied with results of the tips that they implement.** For 72 percent of the tips executed as a result of the program, respondents were “very satisfied” with the results. Respondents were only dissatisfied with three percent of the tips implemented. Most often, respondents who were less than fully satisfied explained that they expected higher energy savings associated with the measure. Insufficient energy savings were a source of dissatisfaction particularly for the following measures:

- Install low-flow showerheads and faucet aerators
- Clean your air conditioner filter monthly

---

<sup>10</sup> N > 10 and at least 15 percent of respondents who received the tip did this as a result of the HEES program.

- Add motion sensors, a photoelectric cell, or a simple timer to your security lighting
- Wash your clothes in cold water and wash full loads
- Add caulk around the house where two outside materials meet
- Seal leaky air ducts
- Clean and change your furnace filters according to manufacturer recommendations

**3. Forty-four percent of the tips reviewed had already been implemented prior to program participation.** This was most prominent within the washing/drying clothes and space heating recommendation categories. The rate at which respondents are receiving tips they have already implemented prior to program participation is one indicator of how well the recommendations algorithm is calibrated with the survey responses. If respondents indicate that a measure has already been implemented within the questionnaire and are still getting that same recommendation in their survey reports, this may indicate a calibration problem with the tool.

The list below shows measures that exhibit this trend most often.<sup>11</sup> The label in parentheses indicates if a question from the HEES tool can be directly linked to the recommendation (*e.g.*, for the refrigerator measure, “(Yes)” indicates the survey tool asks if you have an ENERGY STAR refrigerator). Notably, the evaluation team identified direct HEES questions for all of these equipment replacement measures and only for a few of the behavioral tips. For tips tied to HEES questions, the program designers may wish to re-examine the coding that generates the HEES reports to confirm that the tool is not systematically providing participants with inappropriate recommendations. Other potential explanations for these results are that respondents did not complete the HEES very accurately or they had a poor recollection of their behaviors when interviewed for our evaluation survey.

- Replace your incandescent lights with ENERGY STAR labeled CFLs (*Yes*)
- Lower your heating thermostat to at least 68 degrees F at day and 55 degrees or off at night (*Yes*)
- Raise your air conditioner’s temperature to 78 degrees F (*Yes*)
- Replace your primary refrigerator with an ENERGY STAR labeled model (*Yes*)
- Lower your hot water heater setting to 120 degrees (*Yes*)
- Install Low Flow Shower Heads and Faucet Aerators (*Yes*)
- Wash your clothes in cold water and wash full loads (*Partially, asks about water temperature*)
- Dry full loads in your dryer (*No*)
- Wash full loads in your dishwasher (*No*)
- Clean and change your furnace filters according to manufacturer recommendations (*No*)

---

<sup>11</sup> Where N > 10.



- Clean your air conditioner filter monthly (*No*)
- Cover room air conditioners in the winter (*No*)
- Seal leaky air ducts (*No*)

**4. In general, respondents disregarded recommendations they received because they did not apply, did not fit with their lifestyles, or were too costly.** The frequency at which respondents said that the measure did not apply raises the same question about the HEES algorithm. There may be ways to increase the customization of the tool so that respondents receive only relevant recommendations. Tips for which at least 20 percent of respondents who disregarded the measure did so because it “did not apply” include:<sup>12</sup>

- Lower your hot water heater setting to 120 degrees (*Yes*)
- Install a whole house fan (*Yes*)
- Replace your old evaporative cooler with an energy efficient model (*Yes*)
- Raise your air conditioner’s temperature to 78 degrees F (*Yes*)
- Add motion sensors, a photoelectric cell, or a simple timer to your security lighting (*Yes*)
- Lower your heating thermostat to at least 68 degrees F and 55 degrees F or off at night (*Yes*)
- Unplug or recycle your spare freezer (*Yes*)
- Replace your cooking range with a new pilotless gas range (*Yes*)
- Dry full loads in your dryer (*No*)
- Cover room air conditioners in the winter (*No*)
- Add caulk around the house where two outside materials meet (*No*)
- Seal leaky air ducts (*No*)

**5. The HEES program is channeling participants to access further SCE resources, but there is room for improvement.** As a result of the HEES program, only 20 percent of respondents said they visited a utility website to get additional information on energy efficiency programs and 15 percent of respondents called the utility for additional information. Nineteen percent of respondents joined another energy efficiency program. Most frequently, these respondents participated in the SCE Refrigerator/Freezer Recycling program and the SCE Single Family Rebate program. A higher share, 29 percent of respondents, purchased energy-efficient equipment as a result of the HEES program, most frequently refrigerators, lighting, and air conditioning equipment. Over one-third of this group said that they received a utility rebate for their purchases.

**6. Increasing the frequency and detail of information on other energy efficiency programs in the HEES report may enhance customer satisfaction with the program.** Only 60 percent of respondents were “very satisfied” with the information provided on

---

<sup>12</sup> Where N > 10

other energy efficiency programs, which is the lowest satisfaction rating of the measured program elements. Respondents were less than fully satisfied primarily because they did not receive any information or it was not specific enough. However, when asked about the most helpful part of the program, the second most popular answer was “information about energy efficiency programs” (nine percent of respondents).

- 7. Once the electric, gas, and water account numbers are automatically linked, the energy and water use analysis, as well as the regional comparison, may be more useful and convincing information sources.** While the majority of respondents found the usage charts to be “very” or “somewhat useful,” respondents who synced their gas and/or water account numbers with their survey results found the charts to more useful than those who did not. Notably, when asked about the most difficult part of the survey, a frequent response was that locating the account numbers was the toughest task. In addition, only half the respondents who are customers of Southern California Gas or Golden State Water integrated either their gas or water account numbers into the survey algorithm. Thus, a mechanism that automatically links all three account numbers together, as well as additional partnerships with other utilities, may increase the usefulness of the charts as well as overall customer satisfaction with the HEES program.
- 8. Overall, satisfaction levels with the HEES program are high.** The majority (79 percent) of respondents found the HEES tool very easy to use and 43 percent of respondents reported that they encouraged others to participate in the future.
  - **While the majority of respondents are “very satisfied” with their HEES reports, many would like it to be more customized to their homes.** The top reason respondents were not fully satisfied with the usefulness of the HEES recommendations was that the tips did not seem customized for their households (23 percent). Many respondents also explained that the information provided was too basic, that they had already implemented most of the measures prior to program participation (18 percent) or were already knowledgeable about them (17 percent). Moreover, when asked about one thing they would change about the program, the second most popular answer was to make the report more customized. However, the most common answer to this question was to “make the survey shorter,” and thus efforts to develop a more personalized report should be wary of increased survey length.
  - **On the whole, respondents were “very satisfied” with the clarity of the recommendations, but many requested more specifics.** Seventy-six percent of respondents were “very satisfied,” but of those who were not, 29 percent wanted more specific information. Similarly, increased level of detail in the reports was one of the top three things respondents said they would change about the HEES program (11 percent of respondents). This must be weighed against the seven percent of respondents who said they would make the survey or report less technical and simpler to understand.
  - **The most difficult things about the survey are its long length and figuring out how to answer the questions.**

- 9. Bill inserts, the SCE website, mailed surveys, and SCE Account Representatives are the most effective marketing channels for the HEES program.** Mail-in respondents most frequently first received the HEES paper form in the mail and on-line respondents most commonly learned about the program through the SCE website. In-home respondents identified bill inserts as their initial information source and phone respondents said they heard about the program from a SCE representative. Referrals from friends and family are most prevalent for the in-home mode.
- 10. The key marketing messages are resonating with customers.** In addition to being colorful and attractive, the redesigned marketing materials effectively and consistently offer a benefits-oriented message of “save energy, money and the environment.” This message appears to resonate with customers, since saving energy on the energy bill was cited as a very important reason for participating by 88 percent of respondents, while saving the environment was cited by 69 percent as very important.
- 11. The Energy Efficiency Starter Kit is a key participation driver for some respondents.** Of those who expected a Kit, 12 percent of respondents would not have participated in the HEES program at about the same time without it, and nine percent did not know. About one-third of respondents said the Kit (and the additional free CFLs for the in-home mode) was very important in their decision to take the survey and 18 percent did not realize they would receive the free items. The CFL is reported to be the most valuable item in the kit.
- 12. The program has limited cross-promotion among survey modes.** The on-line survey version allows the customer to print out a mail-in survey form, and customers who are mailed a survey form are also mailed a follow-up post card that mentions the on-line mode. Overall, only 29 percent of respondents were aware of other HEES modes, and awareness was higher among phone participants (44 percent were aware of another mode). Of those who were aware of another mode, most chose their particular mode because it was easiest, the most convenient, or the fastest. Most respondents, 78 percent, were “very satisfied” with their survey mode and less than three percent were dissatisfied.
- 13. Respondents place a high value on the in-home mode.** In-home HEES respondents read their HEES reports more thoroughly than respondents in the other modes. While many respondents repeatedly mentioned that they wished the survey was shorter, in-home respondents consistently asked for a more in-depth, longer consultation. The leading additional services requested by in-home HEES respondents included: information about renewable energy, weatherization services, and more information about water usage. Eighty-eight percent of respondents were “very satisfied” with the knowledge, professionalism, and enthusiasm of their in-home auditor, which is the highest satisfaction rating among the program elements assessed.
- 14. On the whole, respondents identified the energy and water usage analysis as the most valuable part of the HEES program.** When asked to identify the most helpful part of the survey, most frequently (19 percent) respondents mentioned the energy and water use charts that break down their usage by month and by appliance.

Based on these and other findings presented in this evaluation, we make the following recommendations:

- 10. Review the HEES algorithm to reduce the amount of recommendations delivered in the report that the customer has already executed or do not apply to the customer's household.** When participants receive recommendations to adopt energy efficiency measures they have already carried out or that do not apply to their households, the report appears less personalized and is also less useful.

Currently, the recommendations database congratulates respondents for two measures they already installed: energy efficient clothes washers and low-flow showerheads. The program may wish to consider a separate section of the report that highlights energy efficiency measures that the participant is already doing. This information would create a more personalized feel to the survey, serve as a “reality check” (prompting the customer to enter more accurate information later if needed), and reinforce positive energy efficiency behaviors.

- 11. Heighten focus on other electric, water, and utility resources in the HEES marketing materials and reports.** Many respondents do not recall receiving any information on other programs, or they desired more specific information. In addition, interest in finding out about other SCE energy efficiency programs was cited by over half of respondents as a very important reason for participating. This benefit was not used at all in the headlines or taglines of marketing materials that we reviewed, and thus we recommend that SCE evaluate the effectiveness of using this benefit as a marketing message. The program could also increase both participant satisfaction and the rate at which participants implement equipment upgrade recommendations by more aggressively advertising other utility energy efficiency programs on the results pages. New program partnerships might include the California Solar Initiative and Cool Roofs. The HEES report would also benefit from providing more detail about the program requirements and procedures. The large equipment measures with the highest implementation rates were the refrigerator and freezer recycling measures, which were paired with detailed text about the SCE Refrigerator/Freezer Recycling program.

It would also be helpful to provide more specific weblinks to the appropriate rebate or other program in order to make the measures more actionable. For many of the recommendations, the links are only to the general utility websites. Notably, of the four modes, on-line HEES respondents visited utility program websites as a result of their HEES report at the highest rates. Therefore improvements to the information provided on other energy efficiency programs should also increase the effectiveness of the on-line survey mode.

- 12. Update the recommendations database.** The general recommendations database has remained essentially the same since 2004 and should be updated to provide more customized and useful results for each user.

- **Include more advanced recommendations.** Customers who have already implemented most of the basic energy efficiency measures would benefit from information about more advanced information, such as tips about solar energy and incentive opportunities through the California Solar Initiative, cool roofs, LED lights, and renewable energy. New advanced offerings could also be effective marketing messages that encourage past participants to re-take the survey.
- **Tailor the electric recommendations to match the detailed household information collected in the survey.** The recommendations database has been revised to include gas and water recommendations in the 2006-2008 program cycle. The survey instrument has also been updated over the years to capture greater detail about the participant's behaviors and electric equipment holdings, while the electric recommendations database has not. The program managers should consider how the recommendations database can be expanded to provide more specific electric recommendations analogous to the higher level of detail collected on each household.
- **Expand the recommendations text for sophisticated measures.** A consistent comment was that the HEES report was too technical or that respondents wanted more specific information about the recommended measures. For the more technical measures or more obscure equipment such as whole house fans, the program should provide greater detail in the recommendation text (or a link to supplementary information in the on-line report) so that the customer has a better understanding of the measure and is more confident about implementation.
- **Proceed with plans to create a separate survey instrument and recommendations for renters.** While the survey instrument does have appropriate options and filters for renters, the general recommendations database is the same for all participants. Surveyed respondents consistently commented on the importance of a customized report, and a separate tool geared toward renters may increase satisfaction and behavioral impacts from the program. Another viable option is to simply create more tailored recommendations for renters, populated by the current tool.

**13. Make the bill history automation project a key priority.** A tool that automatically accesses the customer's billing information from their gas and water utilities, keyed off of their SCE account numbers, will increase user-friendliness of the tool, as well as the usefulness of the energy and water analysis.

**14. Integrate additional services into the in-home HEES mode to reap additional savings.** Respondents are very satisfied with their in-home auditors and commonly ask for a more in-depth audit. The in-home HEES mode is also the most expensive to provide. The HEES program should consider offering cost-effective additional services such as weather-stripping and blower door tests to increase the savings benefits associated with these consultations.

- 15. Increase cross-promotion of alternative HEES modes, and briefly describe each mode's advantages so that customers can make informed choices.** The majority of respondents were unaware of other HEES modes. Higher awareness of other options may increase customer participation and satisfaction, as participants can self-select the mode that works best for them. The various language offerings should also be clear across all modes. Currently, respondents who receive the survey form in the mail in English may not be aware that they could participate in another language.
- 16. Provide more assistance to on-line users in completing the survey.** The most difficult parts of the HEES program are reported to be the survey length and figuring out how to answer the questions. Thus, prompts that assist participants with potentially difficult questions may increase the user-friendliness of the survey and persuade customers to carefully complete the lengthy questionnaire. Such assistance might include pop-ups that define various heating and cooling equipment, so users can determine what kind of system is installed in their homes, or tips that help them determine the type of defrost system their refrigerators have.
- 17. Continue to use carefully designed incentives (for example, with a limited time frame) to encourage participation.** The availability of incentives appears to have played a secondary role in encouraging participation; nevertheless, about 12 percent of all participants who received an Energy Efficiency Starter Kit said they would not have participated otherwise.<sup>13</sup>
- 18. Continue using targeted in-language marketing.** Asian language marketing to previously underserved communities has been effective in encouraging these customers to participate in the mail-in HEES, with higher response rates than those achieved by English/Spanish language mailers.

---

<sup>13</sup> The role of the Starbucks Card incentive was not assessed in the evaluation phone survey.

## 5. APPENDIX: HEES EVALUATION SURVEY INSTRUMENT

ST (Survey Type is a CMDI)

Mail = 1

Web = 2

Onsite = 3

Telephone = 4

Hello, my name is \_\_\_\_\_ and I'm calling from Freeman & Sullivan, an independent research firm. We are conducting research on behalf of Southern California Edison to improve the energy efficiency programs they offer to help customers save energy, money, and help the environment.

According to our records, you completed Southern California Edison's Home Energy and Water Efficiency Survey in **SHOW MONTH** of **SHOW YEAR**. Based on your responses, you received a personalized report showing what you can do to save energy in your home.

I would like to go through a brief survey to learn about your experience and it should only take about 15 minutes to complete.

A1. May I proceed?

1. Yes
2. No

A2. I would like to verify that you are at least 18 years old.

1. Yes
2. No – ask for adult or set callback for adult

### **SCREEN0**

According to our records, you completed the Home Energy and Water Efficiency Survey \_\_\_\_\_.

**IF ST = 1 (Mail) SHOW “on paper and mailed it in”**

**IF ST = 2 (Web), SHOW “on-line through the SCE website”**

**IF ST = 3 (Onsite), SHOW “through an in-home visit”**

**IF ST = 4 (Telephone), SHOW “over-the-phone”**

Is that correct?

1. Yes
2. No - Terminate

### **1. SURVEY PROCESS**

Q1. First, how did you first learn about the Home Energy and Water Efficiency Survey? [DO NOT READ] *Single choice*

1. E-mail
2. Bill insert
3. Survey was mailed to me
4. Post card in the mail
5. Flyer or brochure
6. Contractor
7. Community event
8. Workshop/conference
9. SCE website
10. Utility representative
11. Newsletter
12. Newspaper ad
13. Letter from utility

- 14. Friend/family (Q1\_14. What did they tell you about it? \_\_\_\_\_)
- 15. Other (Q1oth: \_\_\_\_\_)
- 88. Refused
- 99. Don't know

**QAL Statement**

Q1A. About how long after you first learned about the Home Energy and Water Efficiency Survey did you complete the survey? Would you say... *Single choice*

- 1. Immediately
- 2. Less than one month
- 3. 1-6 months
- 4. 6 months to a year
- 5. More than a year
- 88. Refused
- 99. Don't know

Q1B. And what information source did you find most useful in helping you decide to complete the Home Energy and Water Efficiency Survey? [DO NOT READ] *Single choice*

- 1. E-mail
- 2. Bill insert
- 3. Survey was mailed to me
- 4. Post card in the mail
- 5. Flyer or brochure
- 6. Contractor
- 7. Community event
- 8. Workshop/conference
- 9. SCE website
- 10. Utility representative
- 11. Newsletter
- 12. Newspaper ad
- 13. Letter from utility
- 14. Friend/family (Q1B\_14: How did they help you decide to complete the survey? \_\_\_\_\_)
- 15. Other (Q1Both: \_\_\_\_\_)
- 16. Did not seek additional information to help make decision
- 88. Refused
- 99. Don't know

**In Q2 below:**

**SHOW1**

**IF QUOTA = 1 (Mail) SHOW "on paper and mailed it in"**

**IF QUOTA = 215 or 205 (Web), SHOW "on-line through the SCE website"**

**IF QUOTA = 3 (Onsite), SHOW "through an in-home visit"**

**IF QUOTA = 4 (Telephone), SHOW "over-the-phone"**

**SHOW2**

**IF QUOTA = 1 (Mail) SHOW "paper version"**

**IF QUOTA = 215 or 205 (Web), SHOW "on-line version"**

**IF QUOTA = 3 (Onsite), SHOW "in-home version"**

**IF QUOTA = 4 (Telephone), SHOW "phone version"**

Q2. You took your survey SHOW1 \_\_\_\_\_? The Survey is available in four modes: a mail-in paper version, an on-line electronic version, through an in-home visit, and over-the-phone. Were you aware of ANY of the other modes besides the SHOW2 \_\_\_\_\_?

- 1. Yes
- 2. No [Skip to Q5]
- 88. Refused [Skip to Q5]



99. Don't know [**Skip to Q5**]

Q3. Which ones? *Multiple choice*

1. Mail-in (paper version)
2. On-line
3. Home visit
4. Over the phone
88. Refused
99. Don't know

Q4. Why did you choose your specific survey mode over the others? [DO NOT READ] *Multiple choice*

1. Was the most convenient/easiest/fastest
2. Would provide the most helpful/accurate information
3. Needed survey in my language
4. Not comfortable with computers/internet
5. Did not have internet access
6. Wanted the free energy efficiency starter kit (CFL, low-flow showerhead, and 3 aerators)
7. Fastest mode to get the free energy efficiency starter kit
8. Was the only mode that was offered to me
9. Other (Q4oth: \_\_\_\_\_)
88. Refused
99. Don't know

Q5. How satisfied were you with your survey mode, that is, taking the survey SHOW \_\_\_\_\_?

IF QUOTA = 1 (Mail) SHOW "on paper and mailing it in"

IF QUOTA = 215 or 205 (Web), SHOW "using the on-line portal"

IF QUOTA = 3 (Onsite), SHOW "through a consultant who came to your home"

IF QUOTA = 4 (Telephone), SHOW "with a staff member over the phone]"

Were you ...

1. Very satisfied
2. Moderately satisfied
3. Slightly satisfied
4. Neutral
5. Slightly dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied
88. Refused
99. Don't know

**IF Q5=1, 88 or 99 SKP Q7**

Q6. In what ways were you not completely satisfied with your survey mode? [DO NOT READ] *Multiple choice*

1. Website survey portal had errors
2. Website survey portal was slow
3. Website survey portal was hard to use
4. Was annoying/difficult to enter in my account number(s)
5. Too much work to handwrite all the answers in
6. Font size of survey was too small
7. Took too long to receive survey report
8. Never received my report
9. Questions did not have enough answer choices
10. Too impersonal
11. Took too long to complete survey
12. Was too complicated
13. Questions were too technical

- 14. Not comprehensive enough
- 15. Did not have questions that applied to my household
- 16. Auditor gave bad advice
- 17. Auditor was late
- 18. Auditor was rude/unprofessional
- 19. Auditor was too slow
- 20. Other (Q6oth)\_\_\_\_\_
- 88. Refused
- 99. Don't Know

Q7. Prior to taking the Home Energy and Water Efficiency Survey, how knowledgeable did you feel about opportunities for improving the energy efficiency of your home?

- 1. Very Knowledgeable
- 2. Somewhat Knowledgeable
- 3. Not Very Knowledgeable
- 4. Not at all Knowledgeable
- 88. Refused
- 99. Don't Know

Q8. Prior to taking the Home Energy and Water Efficiency Survey, how knowledgeable did you feel about energy efficiency program offerings that are available for your home?

- 1. Very Knowledgeable
- 2. Somewhat Knowledgeable
- 3. Not Very Knowledgeable
- 4. Not at all Knowledgeable
- 88. Refused
- 99. Don't Know

**I'll read a list of factors. For each, please tell me if the factor was a very important, somewhat important, not very important, or not at all important to your decision to take the Home Energy and Water Efficiency Survey.**

Q9. Wanted to reduce the cost of my energy bill

- 1. Very Important
- 2. Somewhat Important
- 3. Not Very Important
- 4. Not at all Important
- 88. Refused
- 99. Don't Know

Q10. Concern about the environment

- 1. Very Important
- 2. Somewhat Important
- 3. Not Very Important
- 4. Not at all Important
- 88. Refused
- 99. Don't Know

Q11. Desire to find information on energy efficiency programs I could participate in

- 1. Very Important
- 2. Somewhat Important
- 3. Not Very Important
- 4. Not at all Important
- 88. Refused
- 99. Don't Know

Q12. How long did it take you to complete the Home Energy and Water Efficiency Survey?

1. Less than 5 minutes
2. 5 to 10 minutes
3. 10 to 15 minutes
4. More than 15 minutes
88. Refused
99. Don't Know

Q13. Your Survey Results broke down your energy costs by appliance, showed your monthly energy and water usage, compared your energy use to your regional average, and recommended energy and water savings measures for your home. How thoroughly did you read the report? Would you say you:

1. Read the report thoroughly [**SKIP TO E1**]
2. Read some portions of the report [**SKIP TO E1**]
3. Just glanced through it [**SKIP TO E1**]
4. Did not read the report at all [**GO TO Q14**]
5. Do not recall receiving the report [**SKIP TO E1**]
88. Refused [**SKIP TO E1**]
99. Don't Know [**SKIP TO E1**]

**IF Q13=4 SKP Q14, ELSE SKP E1**

Q14. Why did you not read the report? [DO NOT READ] *Single choice*

1. Will read soon
2. Didn't have time
3. Not presented well/Not inviting
4. Overwhelmed by all the information in the report
5. Did not seem customized/Personalized, too cookie-cutter
6. Wasn't interested
7. Received too long after I sent the survey in, lost interest
8. Other (Q14oth) \_\_\_\_\_
88. Refused
99. Don't Know

### **ENERGY EFFICIENCY STARTER KIT**

**IF QUOTA = 3 SKP E3**

**[Ask if Survey Type does not equal "onsite"]**

E1. Did you receive an Energy Efficiency Starter Kit (including 1 CFL, 1 Low-Flow Showerhead, 1 Kitchen Sink Aerator, and 2 Bathroom Sink Aerators) as a free gift for taking the Survey?

1. Yes
2. No [**SKIP TO E4**]
88. Refused [**SKIP TO E4**]
99. Don't Know [**SKIP TO E4**]

**[Ask if Survey Type does not equal "onsite"]**

E2. Which items did you install? *Multiple choice*

1. CFL
2. Low-Flow Showerhead
3. Kitchen Sink Aerator
4. One of the Bathroom Sink Aerators
5. Both of the Bathroom Sink Aerators
6. Did not install ANY
88. Refused
99. Don't Know

**IF QUOTA <> 3 SKP E4**

**[Ask if Survey Type = onsite]**

E3. When the in-home consultant came to your home, he/she offered to install up to 6 CFLs. In addition, you received a free Energy Efficiency Starter kit that included another CFL, a Low-Flow Showerhead, a Kitchen Sink Aerator, and 2 bathroom sink aerators. On request, the consultant may have installed the showerhead and aerators in your home. Which items did the in-home consultant install in your home?

1. CFL(s)
2. Low-Flow Showerhead
3. Kitchen Sink Aerator
4. One of the Bathroom Sink Aerators or
5. Both of the Bathroom Sink Aerators
6. Did not install ANY of them
7. Was not offered ANYTHING
8. Did not know consultant would install
88. Refused
99. Don't Know

**IF E3>1 SKP E3B**

E3A. How many CFLs did the consultant install in your home?

Enter Number \_\_\_\_\_ (Accept 1 to 6)

(88=Refused, 99=Don't know)

**[Ask if Survey Type = onsite]**

**IF E3=7 SKP E4**

E3B. Since then, have you installed any of the items in your Energy Efficiency Starter Kit?

1. Yes
2. No
3. Did not receive an Energy Efficiency Starter Kit **[DO NOT READ]**
88. Refused
99. Don't know

**[Ask if E3B=1 (Yes)]**

E3C. Which items? *Multiple choice*

1. 1 CFL
2. Low-Flow Showerhead **[Do not read if E3=2]**
3. Kitchen Sink Aerator **[Do not read if E3=3]**
4. One of the Bathroom Sink Aerators **[Do not read if E3=5]**
5. Both of the Bathroom Sink Aerators **[Do not read if E3=5]**
88. Refused
99. Don't Know

E4. How important were the free items in your decision to take the Survey?

1. Very Important
2. Somewhat Important
3. Not Very Important
4. Not At All Important
5. Did not know I would get free items **[Skip to E6]**
88. Refused
99. Don't Know

E5. Would you have taken the Survey at about the same time if the free items were not offered?

1. Yes
2. No
88. Refused
99. Don't Know

**[Do not ask if E1=2, 88, or 99, or E3B>2 (Did not receive an EE Starter Kit) or E3=7 (was not offered EE Starter Kit)]**

E6. Which of the items do you find the most valuable? *Single choice*

1. CFL(s)
2. Low-Flow Showerhead
3. Kitchen Sink Aerator
4. Bathroom Aerators
5. None of them is valuable
88. Refused
99. Don't Know

**[IF Q13 = 4 or 5, Skip to S1 (Satisfaction Questions)]**

**IF Q13 > 3 SKP S1**

## **2. SURVEY RECOMMENDATIONS**

### **INTRO 2**

Now, I will ask you about the energy and water efficiency measures that Home Energy and Water Efficiency Survey recommended for your home. We would like to know if you have implemented any of the recommendations. We are going to quickly go through no more than 5 of the recommendations that were given to you in the Survey Results.

**[RANDOMLY SELECT 5 TIPS THAT CUSTOMER RECEIVED]**

R1. Your Survey Results recommended that you [Tip #1]. Are you doing/Have you done this?

1. Yes **[SKIP TO R3]**
2. No **[ASK R2]**
3. Do not recall receiving recommendation **[DO NOT READ] [SKIP TO NEXT TIP]**
88. Refused **[DO NOT READ] [SKIP TO NEXT TIP]**
99. Don't Know **[DO NOT READ] [SKIP TO NEXT TIP]**

**IF R1=1 SKP R3**

**IF R1>2 SKP TO NEXT TIP**

R2. What stopped you? **[DO NOT READ]** *Multiple choice*

1. Does not apply to me
2. Read recommendation, but forgot to actually do it
3. Too expensive
4. Would not provide enough savings
5. Required too much effort/Hassle/Too difficult
6. Did not understand how to do it
7. Did not have the time
8. Did not match my lifestyle
9. Needed permission from my landlord
10. Am planning to do it in the future
11. Other (R2oth) \_\_\_\_\_
88. Refused
99. Don't Know

**[If Answered R2, SKP TO NEXT TIP]**

R3. Were you already doing this before you took the Survey or are you doing it as a result of the Survey?

1. Already doing it **[SKIP TO NEXT TIP]**
2. Did as result of survey **[ASK R4]**
3. Did it as a result of the Survey, but was already thinking about doing it before I took the Survey **[DO NOT READ] [ASK R4]**
4. Was already doing it, but doing it more as a result of the survey **[DO NOT READ] [SKIP TO NEXT TIP]**
88. Refused **[SKIP TO NEXT TIP]**
99. Don't Know **[SKIP TO NEXT TIP]**

**IF R3=1, 4, 88 or 99 SKP TO NEXT TIP**

R4. How soon after the Survey did you do this?

1. Immediately
2. Within the first month
3. Within the first 3 months
4. Within the first 6 months
5. Within the first Year
6. More than a year after
88. Refused
99. Don't Know

R5. How satisfied are you with the results of the change you made due to the recommendation?

1. Very Satisfied
2. Moderately Satisfied
3. Slightly Satisfied
4. Neutral
5. Slightly Dissatisfied
6. Moderately Dissatisfied
7. Very Dissatisfied
88. Refused
99. Don't Know

**IF R5>1 SKP TO NEXT TIP or SKP TO F1 (IF LAST TIP)**

R6. In what ways were you not completely satisfied? [DO NOT READ] *Multiple choice*

1. Not getting ENOUGH energy savings
2. Not getting ANY energy savings
3. Is a hassle
4. Hard to remember to keep doing it
5. Equipment is ugly
6. Equipment is noisy
7. Equipment was not worth the money
8. Equipment already is broken
9. Other (R6oth) \_\_\_\_\_
88. Refused
99. Don't Know

**SKP TO NEXT TIP or SKP TO F1 (IF LAST TIP)**

**FURTHER ACTIONS**

Your Home Energy and Water Efficiency Survey report provided phone numbers to call and websites to visit that link the recommendations directly to other energy efficiency programs, products, and rebates.

**AS A RESULT OF READING** the Home Energy and Water Efficiency Survey **REPORT**, did you do any of the following?

	1. Yes	2. No	88. REF	99. DK
F1. Visit a utility website to get additional information on energy efficiency programs?				
F2. Call the utility to get additional information on energy efficiency programs?				
F3. Call a contractor to find out more about installing energy efficiency equipment?				
F4. Participate in any rebate or other energy efficiency programs?				

Please do not include programs you joined before taking the Survey or that you joined primarily due to other influences.				
<p>F5. Purchase any energy efficient equipment? Again, please do not include energy efficient equipment you were planning on buying before taking the Survey or that you bought primarily due to other influences.</p> <p>IF F4=1: Please DO include equipment you purchased through utility programs that you joined as a result of the Survey</p>				

**IF F4>1 SKP F7**

F6. What programs did you participate in? [DO NOT READ] *Multiple choice*

1. SCE - Rebate Program (for electric appliances, heating and cooling, pool equipment)
2. SCE - Summer Discount Plan (air conditioning cycling)
3. SCE - Refrigerator/Freezer Recycling Program
4. SCE Demand Response Program
5. Solar Rebate Program (California Solar Initiative)
6. The Gas Company - Rebate Program (gas appliances, insulation)
7. The Gas Company - Home Energy Upgrade Finance Program
8. GSW or LADWP - Water Utility Rebate Program
9. I received a rebate but don't remember the program name
10. Other (F5oth) \_\_\_\_\_
88. Refused
99. Don't know

**IF F5>1 SKP P1**

F7. What energy efficient equipment did you purchase? [DO NOT READ] *Multiple choice*

1. Lighting
2. Insulation
3. Windows
4. Air Conditioner
5. Furnace
6. Clothes Washer
7. Refrigerator
8. Freezer
9. Dishwasher
10. Water Heater
11. Pool Equipment
12. Solar
13. Other 1 (F7\_oth1) \_\_\_\_\_
14. Other 2 (F7\_oth2) \_\_\_\_\_
15. Other 3 (F7\_oth3) \_\_\_\_\_
88. Refused
99. Don't know

F8. Did you receive a UTILITY rebate to offset the cost of your equipment purchase(s)? (Note: Rebate may have been subtracted from your price at the time of purchase OR you may have received a rebate check in the mail.)

1. Yes
2. No [**SKIP TO P1**]
88. Refused [**SKIP TO P1**]
99. Don't know [**SKIP TO P1**]

F9. Please indicate those equipment options where you received a rebate. *Multiple choice [DIPSLAY ONLY]*  
**OPTIONS CHOSEN IN F7]**

1. Lighting
2. Insulation
3. Windows
4. Air Conditioner
5. Furnace
6. Clothes Washer
7. Refrigerator
8. Freezer
9. Dishwasher
10. Water Heater
11. Pool Equipment
12. Solar
13. SHOW F7\_oth1
14. SHOW F7\_oth2
15. SHOW F7\_oth3
88. Refused
99. Don't know

### **ENERGY PROFILE**

P1. Are you a customer of SOUTHERN CALIFORNIA GAS (gas utility) or THE GOLDEN STATE WATER COMPANY (water utility)?

1. Yes
2. Not a customer of either company [**SKIP TO P3**]
88. Refused [**SKIP TO P3**]
99. Don't know [**SKIP TO P3**]

P2. The Survey asked for your gas utility and your water utility ACCOUNT NUMBERS so it could more accurately analyze your energy and water usage. This option was available for Southern California Gas and Golden State Water customers only.

IF QUOTA = 1, 215 or 4, SHOW -- Which account numbers, if any, did you PROVIDE?

IF QUOTA = 3, SHOW -- Which account numbers did your in-home consultant enter in?

*Multiple choice*

1. Southern California Gas (Gas Power) Account Number
2. Golden State Water Company (Water) Account Number
3. Did not type in any account number
4. Not Applicable - Not A Customer Of SCE
5. Not Applicable - Not A Customer Of GSW
88. Refused
99. Don't Know

P3. The Home Energy and Water Efficiency Survey results synced up with your bill history to provide charts of how your home uses energy and water. This estimated the share of your energy and water bills that each of your big appliances uses and also how your energy and water use (consumption and bill amount) fluctuated each month. How USEFUL was this information about your energy and water usage?

1. Very Useful
2. Somewhat Useful
3. Not Very Useful
4. Not At All Useful
5. Did not look at the charts at all
88. Refused
99. Don't Know



**[ASK IF P3 = SOMEWHAT USEFUL, NOT VERY USEFUL, OR NOT AT ALL USEFUL]**

**IF P3=1, 88 or 99 SKP P5**

**IF P3=5 SKP P7**

P4. How could the CHARTS be more USEFUL? [DO NOT READ] *Multiple choice*

1. Need to be more accurate
2. Easier to read
3. Show multiple years
4. Other (P4oth)\_\_\_\_\_
88. Refused
99. Don't know

P5. How INFLUENTIAL was this information on your decision to implement the Home Energy and Water Efficiency Survey recommendations?

1. Very Influential
2. Somewhat Influential
3. Not Very Influential
4. Not At All Influential
88. Refused
99. Don't Know

**[ASK IF P5 = SOMEWHAT INFLUENTIAL, NOT VERY INFLUENTIAL, OR NOT AT ALL INFLUENTIAL]**

**IF P5=1, 88 or 99 SKP P7**

P6. How could the CHARTS be more INFLUENTIAL? [DO NOT READ] *Multiple choice*

1. Need to be more accurate
2. Easier to read
3. Show multiple years
4. Other (P6oth)\_\_\_\_\_
88. Refused
99. Don't know

P7. The Home Energy and Water Efficiency Survey report also COMPARED your annual energy and water consumption with the REGIONAL AVERAGE. How USEFUL was this comparison?

1. Very Useful
2. Somewhat Useful
3. Not Very Useful
4. Not At All Useful
5. Did not read the comparisons
88. Refused
99. Don't Know

**[ASK IF P7 = SOMEWHAT USEFUL, NOT VERY USEFUL, OR NOT AT ALL USEFUL]**

**IF P7=1, 88 or 99 SKP P9**

**IF P7=5 SKP S1**

P8. How could the COMPARISON be more USEFUL? [DO NOT READ] *Multiple choice*

1. Show how the dollar cost of my bills compares to others (currently just shows consumption)
2. Need to be more accurate
3. Easier to read
4. Show multiple years
5. Other (P8oth)\_\_\_\_\_
88. Refused
99. Don't know

P9. How INFLUENTIAL was this REGIONAL COMPARISON on your decision to implement the Home Energy and Water Efficiency Survey recommendations?

1. Very Influential

2. Somewhat Influential
3. Not Very Influential
4. Not At All Influential
88. Refused
99. Don't Know

**[ASK IF P9 = SOMEWHAT INFLUENTIAL, NOT VERY INFLUENTIAL, OR NOT AT ALL INFLUENTIAL]**

**IF P9=1, 88 or 99 SKP 3. SATISFACTION**

P10. How could the COMPARISON be more INFLUENTIAL? [DO NOT READ] *Multiple choice*

1. Show how the dollar cost of my bills compare (currently just shows consumption)
2. Need to be more accurate
3. Easier to read
4. Show multiple years
5. Other (P10oth) \_\_\_\_\_
88. Refused
99. Don't know

### **3. SATISFACTION**

This part of the survey asks about your satisfaction with the Home Energy and Water Efficiency Survey.

S1. How easy was it to complete the Home Energy and Water Efficiency Survey? Was it ...

1. Very Easy
2. Somewhat Easy
3. Somewhat Difficult
4. Very Difficult
88. Refused
99. Don't Know

**[ASK S2 If previous response was NOT = "Very Easy. ELSE SKIP TO S3]**

**IF S1=1, 88 or 99 SKP S3**

S2. What would you recommend for improvement? [DO NOT READ] *Multiple choice*

1. Make it less technical
2. Make it shorter/more concise
3. Make it available in more languages (S2\_3: What language? \_\_\_\_\_)
4. Make the web portal move faster from page to page
5. Leave more room on the lines to write-in answers
6. Other (S2oth) \_\_\_\_\_
88. Refused
99. Don't know

S3. How satisfied were you with the AMOUNT OF TIME it took to complete the survey?

1. Very Satisfied
2. Moderately Satisfied
3. Slightly Satisfied
4. Neutral
5. Slightly Dissatisfied
6. Moderately Dissatisfied
7. Very Dissatisfied
88. Refused
99. Don't Know

**[ASK S4 and S5 If previous response was NOT = "Very Satisfied. ELSE SKIP TO S6]**

**IF S3=1, 88 or 99 SKP S6**

S4. In what ways were you not completely satisfied? [DO NOT READ] *Multiple choice*

1. Took too long
2. Was too short, not detailed enough
3. Other (S4oth)\_\_\_\_\_
88. Refused
99. Don't know

S5. What would you recommend for improvement?

[Open-end]

**[IF Q13 = “Did not read the report” or “Did not receive the report,” skip to S18, else ask S6]**

**IF Q13 > 3 SKP S18**

S6. How satisfied were you with the CLARITY of the recommendations provided by the survey?

1. Very Satisfied
2. Moderately Satisfied
3. Slightly Satisfied
4. Neutral
5. Slightly Dissatisfied
6. Moderately Dissatisfied
7. Very Dissatisfied
88. Refused
99. Don't Know

**[ASK S7 and S8 If previous response was NOT = “Very Satisfied. ELSE SKIP TO S9]**

**IF S7=1, 88 or 99 SKP S9**

S7. In what ways were you not completely satisfied? [DO NOT READ] *Multiple choice*

1. Did not understand SOME of the recommendations
2. Did not understand ANY of the recommendations
3. Recommendations were too vague/Wanted more specific information
4. Was not sure how to access rebates mentioned
5. Could not find information about the rebates/programs on the websites listed
6. Was not sure how to join energy efficiency programs mentioned
7. Other (S7oth)\_\_\_\_\_
88. Refused
99. Don't know

S8. What would you recommend for improvement?

[Open-end]

S9. How satisfied were you with the USEFULNESS of the recommendations provided?

1. Very Satisfied
2. Moderately Satisfied
3. Slightly Satisfied
4. Neutral
5. Slightly Dissatisfied
6. Moderately Dissatisfied
7. Very Dissatisfied
88. Refused
99. Don't Know

**[ASK S10 and S11 If previous response was NOT = “Very Satisfied. ELSE SKIP TO S12]**

**IF S9=1, 88 or 99 SKP S12**

S10. In what ways were you not completely satisfied? [DO NOT READ] *Multiple choice*

1. Already did most of them
2. Too basic – already knew about these things
3. Did not seem customized for my household
4. They were too much of a hassle

5. Wanted information on solar energy
6. Other (S10oth)\_\_\_\_\_
88. Refused
99. Don't know

S11. What would you recommend for improvement?  
[Open-end]

S12. How satisfied were you with the INFORMATION provided on other energy efficiency programs?

1. Very Satisfied
2. Moderately Satisfied
3. Slightly Satisfied
4. Neutral
5. Slightly Dissatisfied
6. Moderately Dissatisfied
7. Very Dissatisfied
88. Refused
99. Don't Know

**[ASK S13 and S14 If previous response was NOT = "Very Satisfied. ELSE SKIP TO S15]  
IF S12=1, 88 or 99 SKP S15**

S13. In what ways were you not completely satisfied? [DO NOT READ] *Multiple choice*

1. Did not receive info about other energy efficiency programs
2. Information was not complete/specific enough
3. Already have done all these programs
4. Already knew about all these programs
5. Wanted info on renewable energies programs (sun, wind, etc)
6. Wanted info on solar energy equipment for my home
7. Wanted info on demand response programs for my home
8. Wanted info on other programs (S13\_8oth)\_\_\_\_\_
9. Other (S13\_9oth)\_\_\_\_\_
88. Refused
99. Don't know

S14. What would you recommend for improvement?  
[Open-end]

S15. How satisfied were you with how CUSTOMIZED the survey results were to your household?

1. Very Satisfied
2. Moderately Satisfied
3. Slightly Satisfied
4. Neutral
5. Slightly Dissatisfied
6. Moderately Dissatisfied
7. Very Dissatisfied
88. Refused
99. Don't Know

**[ASK S16 and S17 If previous response was NOT = "Very Satisfied. ELSE SKIP TO S18]  
IF S15=1, 88 or 99 SKP S18**

S16. In what ways were you not completely satisfied? [DO NOT READ] *Multiple choice*

1. Seemed like everyone received the same recommendations
2. I already was doing all or most of the recommendations
3. Most or all of the recommendations did not apply to my household
4. The recommendations were too generic/not specific enough
5. The usage charts did not match my household very well
6. Other (S16oth)\_\_\_\_\_

- 88. Refused
- 99. Don't Know

S17. What would you recommend for improvement?  
[Open-end]

**[ASK IF Survey Type = Onsite, else SKIP TO S21]  
IF SURVEY TYPE<>3 SKP S21**

S18. How satisfied were you with the knowledge, professionalism, and enthusiasm of your in-home consultant?

- 1. Very Satisfied
- 2. Moderately Satisfied
- 3. Slightly Satisfied
- 4. Neutral
- 5. Slightly Dissatisfied
- 6. Moderately Dissatisfied
- 7. Very Dissatisfied
- 88. Refused
- 99. Don't Know

**[ASK S19 and S20 If previous response was NOT = "Very Satisfied. ELSE SKIP TO S21]  
IF S18=1, 88 or 99 SKP S21**

S19. In what ways were you not completely satisfied? [DO NOT READ] *Multiple choice*

- 1. Consultant was late
- 2. Consultant was rude/unprofessional
- 3. Consultant was not very knowledgeable
- 4. Consultant installed the free equipment poorly (CFLs, aerators, showerhead)
- 5. Consultant was not very enthusiastic about the recommendations
- 6. Other (S19oth)\_\_\_\_\_
- 88. Refused
- 99. Don't Know

S20. What would you recommend for improvement? [Open-end]

S21. OVERALL, how satisfied were you with the Home Energy and Water Efficiency Survey?

- 1. Very Satisfied
- 2. Moderately Satisfied
- 3. Slightly Satisfied
- 4. Neutral
- 5. Slightly Dissatisfied
- 6. Moderately Dissatisfied
- 7. Very Dissatisfied
- 88. Refused
- 99. Don't Know

**[ASK S22 and S23 If previous response was NOT = "Very Satisfied. ELSE SKIP TO S24]  
IF S22=1, 88 or 99 SKP S24**

S22. In what ways were you not completely satisfied? [DO NOT READ] *Multiple choice*

- 1. Survey took too long
- 2. Did not like having to enter in my gas and water account numbers
- 3. Survey instrument was not in-depth enough/too short/not detailed enough
- 4. Did not know how to answer some of the survey questions/too technical
- 5. The internet site was slow/had delays
- 6. Survey was not appropriate for people who live in apartments/multifamily complexes (Follow-up: How so?)
- 7. Inaccurate charts about my appliances
- 8. Inaccurate charts about my energy and water bills

9. Inaccurate comparison of my house with other similar households
10. Recommendations were too basic/Just seemed like common sense
11. Already did most/all of the recommendations
12. Recommendations were too vague
13. Did not understand how to implement the recommendation(s)
14. Recommendations were not customized to my household/Felt like everyone got the same thing
15. Recommendations did not apply to my household
16. Recommendations were too much of a hassle to implement
17. Recommendations were too expensive to implement
18. Did the recommendations but not seeing desired energy savings
19. Wanted a more direct link to energy efficiency and other rebate programs from the Survey Report
20. Wanted information on solar equipment/financial incentives for solar equipment
21. Wanted more detailed information on rebates (Follow-up: For what equipment?)
22. Wanted information on renewable power options (Follow-up: What type of renewable energy (wind, solar, wave, water, etc))
23. Wanted more information about demand response programs
24. Does not link to my gas utility's account history (Follow-up: What is your gas utility?)
25. Does not link to my water utility's account history (Follow-up: What is your water utility?)
26. Was not in my primary language (Follow-up: What is your primary language?)
88. Refused
99. Don't Know

**IF S22\_6 is selected**

S22\_6. In what ways is the survey not appropriate for apartments/multifamily complexes dwellers?

**IF S22\_21 is selected**

S22\_21. For what equipment would you like to have more rebate information on? [DO NOT READ]

1. Lighting
2. Insulation
3. Windows
4. Air Conditioner
5. Furnace
6. Clothes Washer
7. Refrigerator
8. Freezer
9. Dishwasher
10. Water Heater
11. Pool Equipment
12. Solar
13. Dryer
14. Other (S22\_21oth \_\_\_\_\_)
88. Refused
99. Don't Know

**IF S22\_22 is selected**

S22\_22. What type of renewable energy would you like more information on? [DO NOT READ]

1. Wind
2. Solar
3. Wave
4. Water
5. Other (S22\_22oth \_\_\_\_\_)
88. Refused
99. Don't Know

**IF S22\_24 is selected**

S22\_24. What is your gas utility?

**IF S22\_25 is selected**

S22\_25. What is your water utility?

**IF S22\_26 is selected**

S22\_26. What is your primary language?

S23. What would you recommend for improvement?  
(Open-End)

S24. If you could change one thing about the Home Energy and Water Efficiency Survey, what would that be?  
[Open-end]

S25. What was the most difficult thing about completing the Home Energy and Water Efficiency Survey?  
[Open-end]

S26. What was the most helpful part of the Home Energy and Water Efficiency Survey? [DO NOT READ] *Single choice*

1. Charts of energy and water use
2. Regional comparison of energy and water costs
3. Information about rebates
4. Information about energy efficiency programs
5. Insulation recommendations
6. Air conditioning recommendations
7. Furnace and space heating recommendations
8. Air distribution (duct) recommendations
9. Water heater recommendations
10. Pool/spa recommendations
11. Dishwasher recommendations
12. Clothes washer recommendations
13. Lighting recommendations
14. Extra information from the in-home consultant
15. Other (S26oth) \_\_\_\_\_
16. None
17. The Free EE Starter Kit
88. Refused
99. Don't know

**[ASK IF Survey Type = Onsite, else SKIP TO S28]**

**IF SURVEY TYPE<=3 SKP S28**

S27. What additional services would you like the in-home consultant to provide? [DO NOT READ] *Multiple choice*

1. Weatherization Services
2. Blower-Door Test
3. Test my ducts for leakage
4. Enroll me in the programs he/she recommends
5. Give me information about renewable energy (wind, solar, water, wave, etc)
6. Provide more free CFLs
7. Other (S27oth) \_\_\_\_\_
88. Refused
99. Don't know

S28. Have you recommended Home Energy and Water Efficiency Survey to others?

1. Yes
2. No
88. Refused
99. Don't know

#### **4. DEMOGRAPHIC QUESTIONS**

This final part of the survey asks about general demographic information.

D1. Do you currently own or rent your home?

1. Own
2. Rent
88. Refused
99. Don't know

D2. What type of home do you currently live in?

1. Single-Family Detached Home
2. Condo
3. Townhouse
4. Mobile Home / Manufactured Home
5. Duplex
6. Apartment
7. Other (D2oth)\_\_\_\_\_
88. Refused
99. Don't Know

D3. Including all adults AND children, how many people are in your household?

Enter Number \_\_\_\_\_

(88=Refused, 99=Don't know)

D4. Which of the following best describes your age category?

1. Under 25 Years
2. 25 To 34 Years
3. 35 To 44 Years
4. 45 To 54 Years
5. 55 To 59 Years
6. 60 To 64 Years
7. 65 Years Or Older
88. Refused
99. Don't Know

D5. What is the highest level of education you have completed?

1. High School Diploma Or Less
2. Some College
3. Associates Degree
4. Bachelors Degree
5. Graduate Or Professional Degree
88. Refused
99. Don't Know

D6. To help us understand how this program affects different types of families, we ask one income question. Which of the following categories best describes your total annual household income?

1. Less than \$20,000
2. \$20,000 to \$40,000
3. \$40,001 to \$60,000
4. \$60,001 to \$80,000
5. \$80,001 to \$100,000
6. \$100,001 to \$150,000
7. More than \$150,000
88. Refused
99. Don't Know



D7. What other programs or offerings could the utility provide to help you reduce the energy your household uses?  
[DO NOT READ]

1. In-home energy audit services
2. Weatherization services
3. Blower Door Tests
4. More rebates for energy efficient equipment (D7\_4: For what type of equipment? \_\_\_\_\_)
5. More information about demand response programs
6. More information on renewable energy options
7. More information on solar energy systems
8. Information in other languages (D7\_8: What language? \_\_\_\_\_)
9. Other (D7oth) \_\_\_\_\_)
88. Refused
99. Don't Know

D8. May I please have your first name?  
Open-end \_\_\_\_\_

**Those are all the questions I have. Thank you very much for your help.**

D9. Indicate respondent's gender?  
1. Male  
2. Female

D10. Enter interviewer name \_\_\_\_\_

**Programmer, record System date, System time and Interview length**

**TERM 1**

Thank you for your time.