

Process Evaluation of the SDG&E 2006- 08 Residential Customer Programs

Final Report

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ECONorthwest

ECONOMICS • FINANCE • PLANNING

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Acknowledgements

This report was prepared by ECONorthwest's Portland office for San Diego Gas and Electric under the supervision of Rob Rubin. 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 or by phoning the Portland office at (503) 222-6060.

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EXECUTIVE SUMMARY

This report presents the process evaluation results for the San Diego Gas and Electric California Gas (SDG&E) 2006-08 residential energy efficiency programs. The evaluation began in April 2007 and concluded in Jan 2008 for the following programs:

- Single Family Rebate Program
- Multi-Family Rebate program
- Upstream Lighting Program
- Lighting Exchange and Education
- 3rd Party Mobile Home
- 3rd Party Appliance Recycling
- Residential Customer Education and Information (HEES/HECT)
- 3rd Party Time of Sale Energy Efficiency Check Up
- 3rd Party Advance Home Renovations Program
- 3rd Party K-12 Energy Efficiency Education Program

This evaluation is the work of multiple firms listed below. The individual programs that each firm researched are listed in parenthesis. Evaluation team members include:

- ECONorthwest (HEES/HECT, Advanced Home Renovations)
- Wirtshafter Associates (Single Family, Lighting Exchanged and Education)
- Research Into Action (Mobile Home, Upstream Lighting)
- EMI (Multi-family, Appliance Recycling)
- Phil Willems / PWP, Inc (Time of Sale Efficiency Check Up)
- Freeman Sullivan (Phone surveys)
- John Stevenson (Survey design)
- Marnie McPhee (Technical editor)

The evaluation tasks are generally the same for each program and are discussed in each of the individual program chapters. Major evaluation tasks included:

- *Logic model and program theory.* A logic model and program theory for each program established a starting point for all evaluation activities. The structure of the logic model that 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, program implementers, and other key staff members in May and June of 2007. Program staff members helped to gauge program progress, provided valuable insight into daily operations, and proposed research topics to be addressed by the evaluation.
- *Participant surveys.* The primary data collection instrument for all residential programs was participant surveys, fielded over the phone or on-line. The surveys explored the participant experience with program services and addressed the research issues identified

by the logic model and in-depth interviews.

- *Additional program-specific data collection.* Other key evaluation activities included a review of all available program documents and marketing materials, ride-alongs, attending lighting turn-in events, interviews with trade allies, and on-site visits with retailers.

PROGRAM SPENDING AND PROGRESS TOWARD GOALS

Figure ES-1 through ES-3 show the current progress toward energy savings goals for the SDG&E resource acquisition programs. All data for these charts are taken from the SDG&E quarterly reports and reflect spending and accomplishments from Q1 2006 through Q3 2007. In these and all other graphs in this report, the information on savings goals is shown as the entire 3-year goal for the 2006-08 program cycle. Given the program achievement data through Q3 2007, we would expect that each program would be at about 60 percent of its savings goal in order to be on track for the entire 2006-08 program cycle.

The vast majority of the kWh and kW savings are expected from the Upstream Lighting program, with smaller contributions also coming from the Single Family and Appliance Recycling programs. (These three programs account for over 90 percent of the savings goals for the residential portfolio). For therm savings, the Multi-Family program accounts for 75 percent of the savings goal, with the remainder coming from the Mobile Home and Single Family programs.

At the time of this report, the residential program portfolio was lagging in meeting its kWh goal and falling well short of its goals for kW and therm savings.

Figure ES-1: Progress Toward kWh Savings Goals (Q1 2006 – Q3 2007)

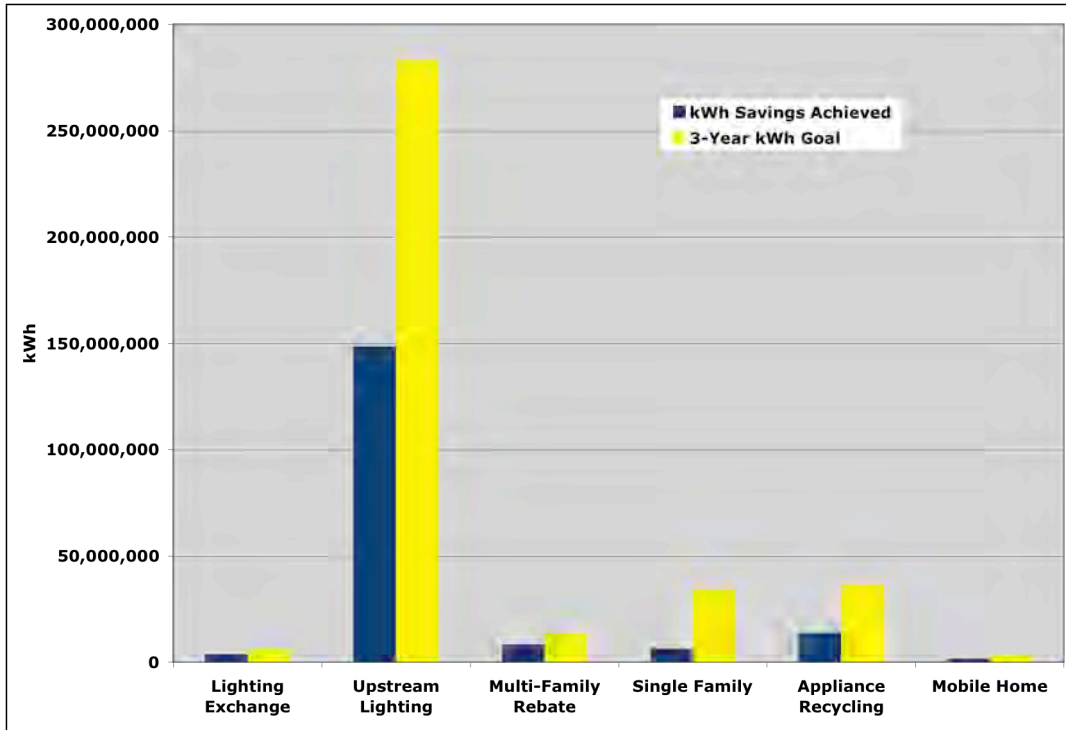


Figure ES-2: Progress Toward kW Savings Goals (Q1 2006 – Q3 2007)

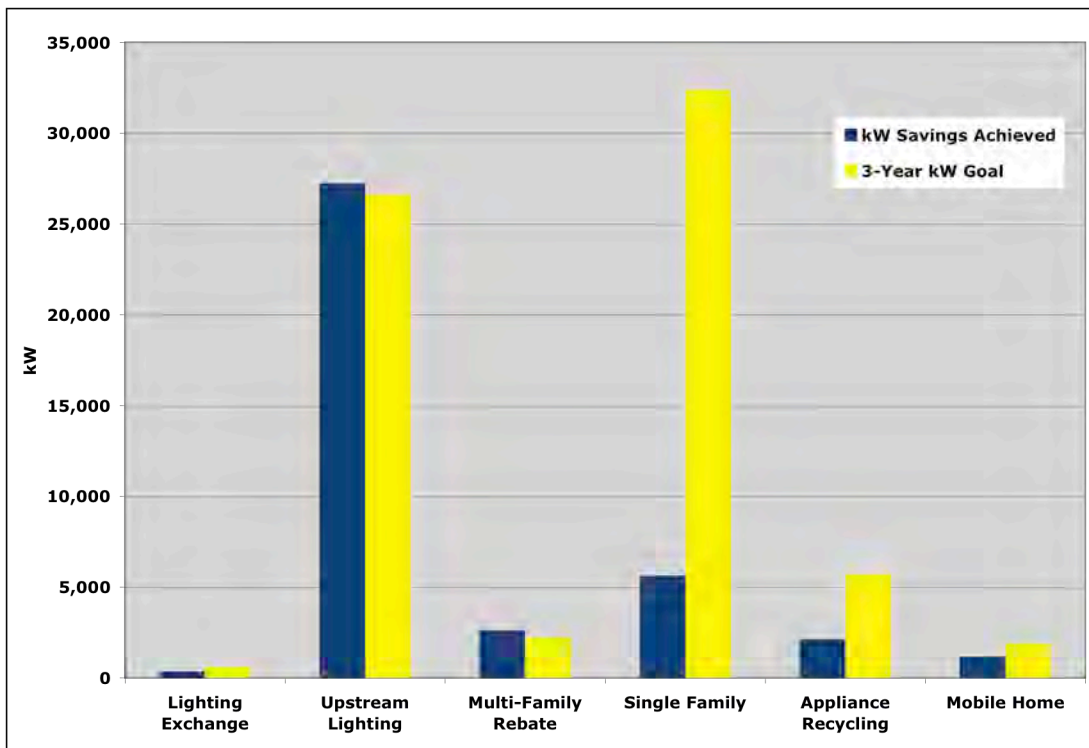


Figure ES-3: Progress Toward Therm Savings Goals (Q1 2006 – Q3 2007)

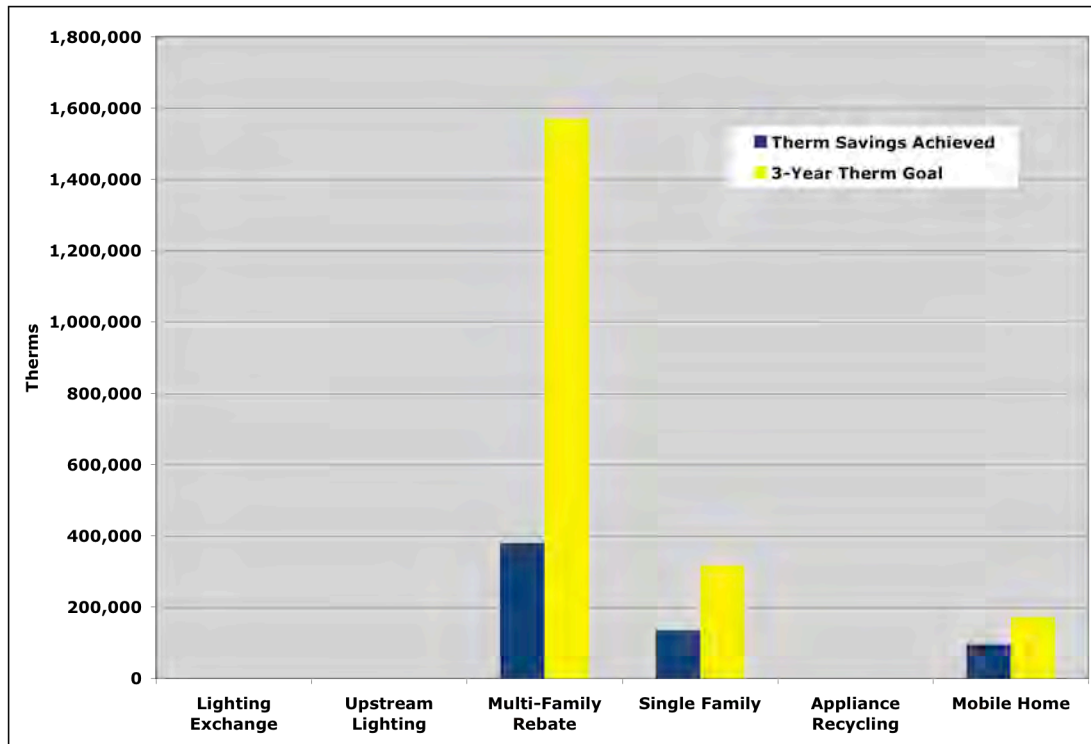
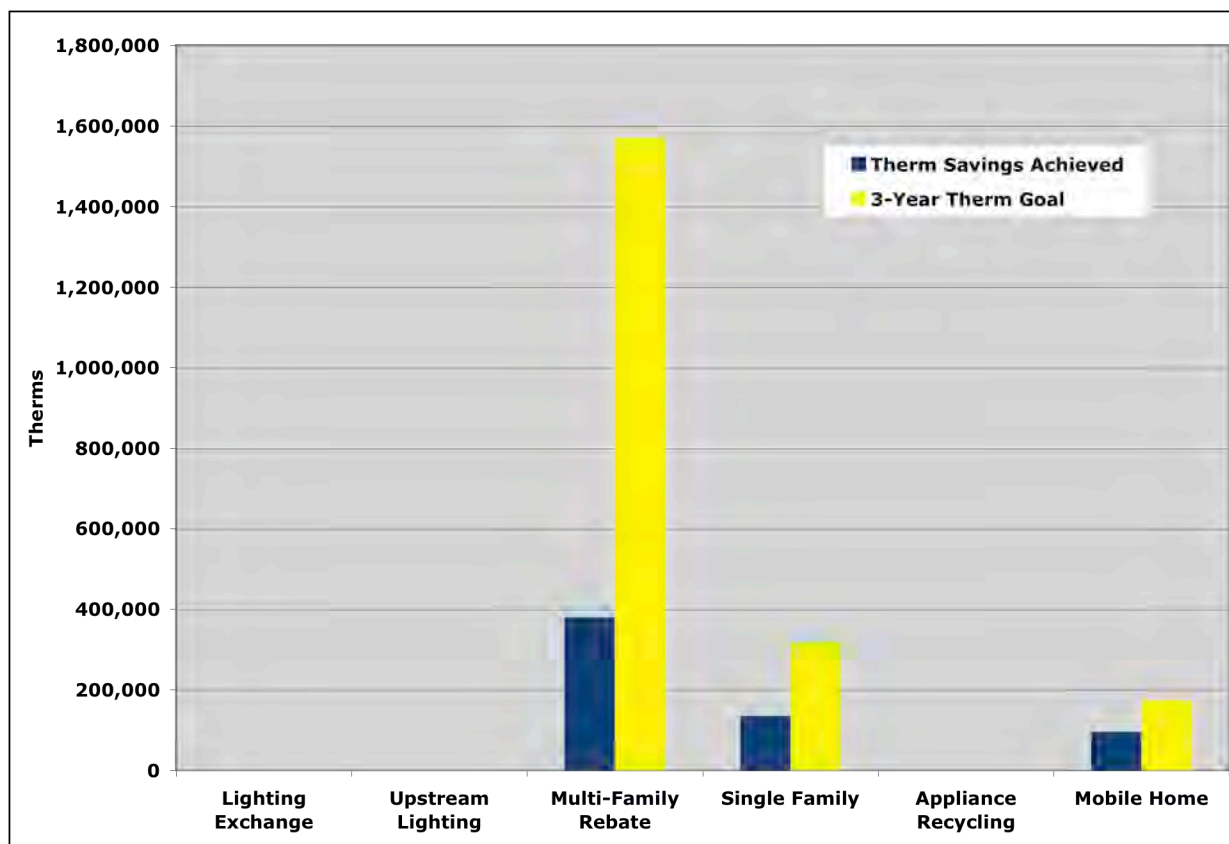


Figure ES-4 shows how program expenditures compare with progress toward savings goals. At this point in the program cycle, we would expect to have at least 50 percent of the program budget spent given that we are over half way through the 2006-08 program cycle. As shown in this graph, the Lighting Exchange, Multi-Family Rebate, Home Efficiency Rebate, and Mobile Home programs are currently above the 50 percent mark for spending. However, for the Home Efficiency Rebate program, spending is outpacing progress toward energy savings goals by a wide margin. In contrast, the Upstream Lighting and the Appliance Recycling programs have spent less than half of their total three-year operating budgets.

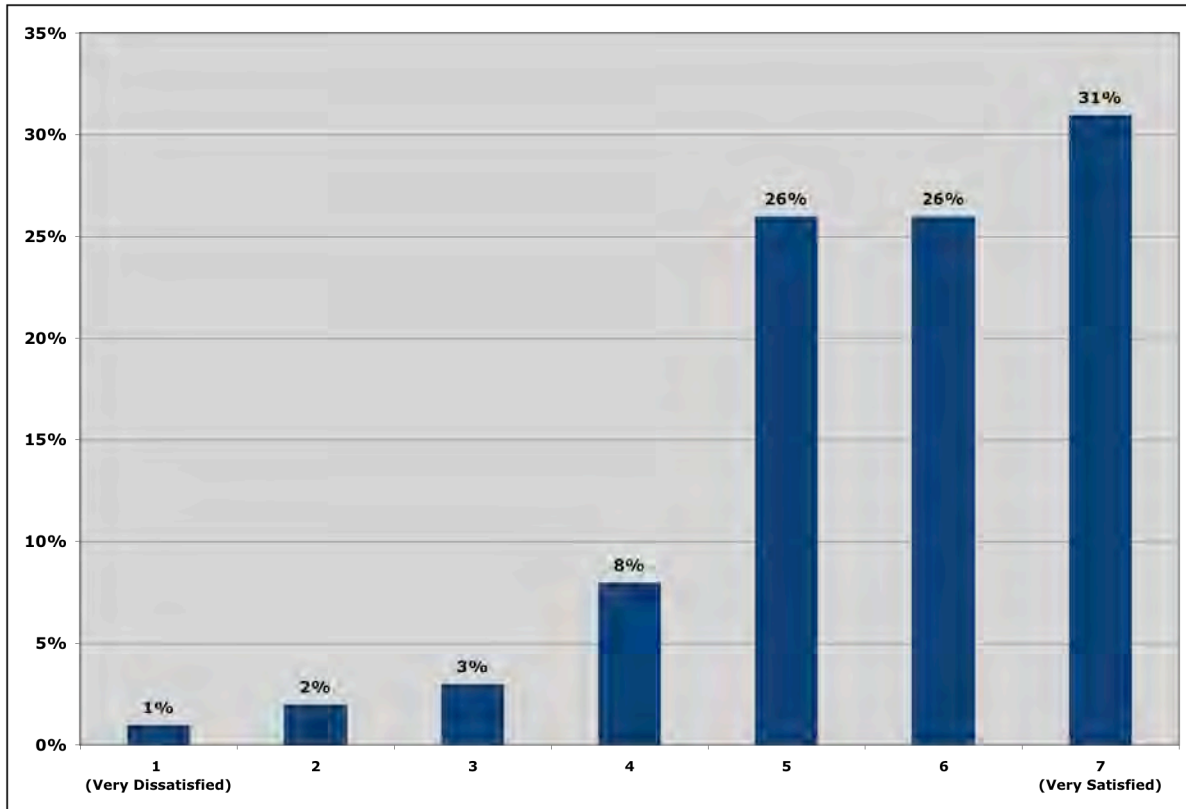
Figure ES-4: Program Expenditures and Progress Toward Goals (Q1 2006 – Q3 2007)



CUSTOMER SATISFACTION WITH SDG&E

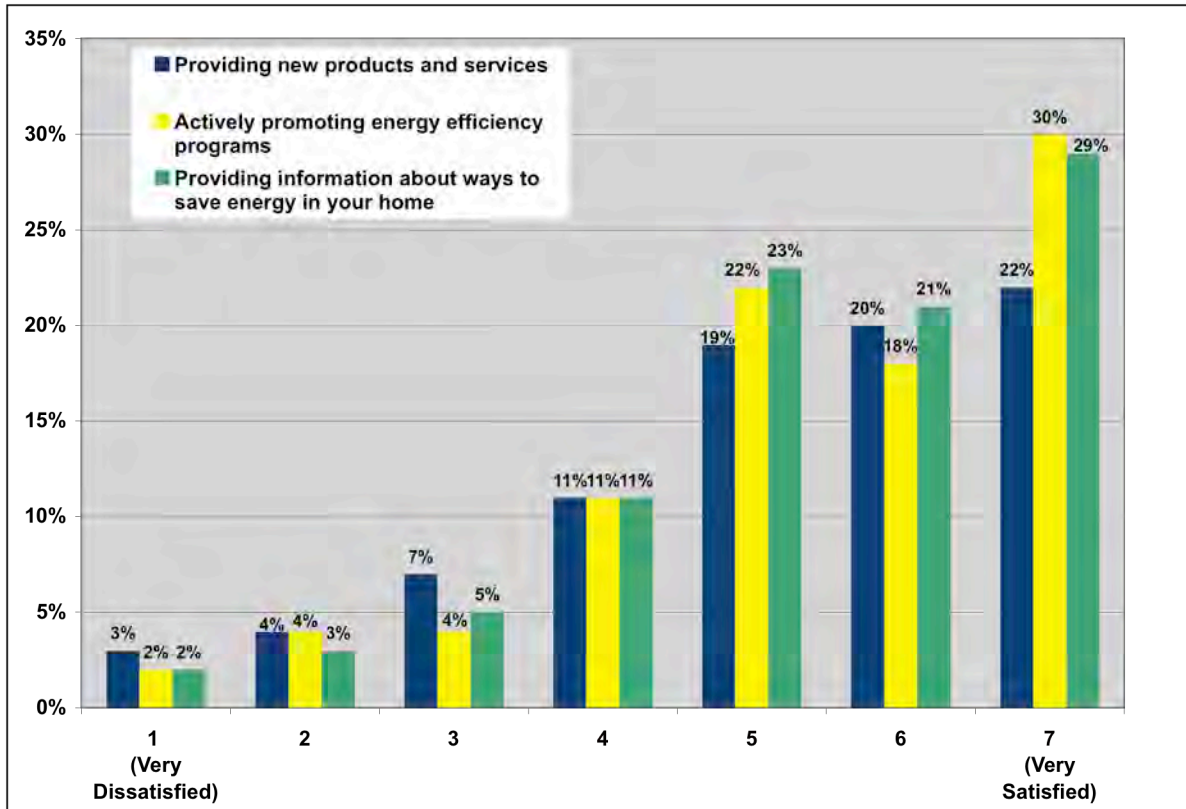
The following graphs show overall customer satisfaction with SDG&E. Figure ES-5 shows customer satisfaction with SDG&E in general based on a 7-point scale where 1 indicates “very dissatisfied” and 7 indicates “very satisfied”. Based on this question, customers are generally satisfied with SDG&E, 31 percent of respondents giving SDG&E the highest rating (average rating was 5.5).

Figure ES-5: Customer Rating of SDG&E



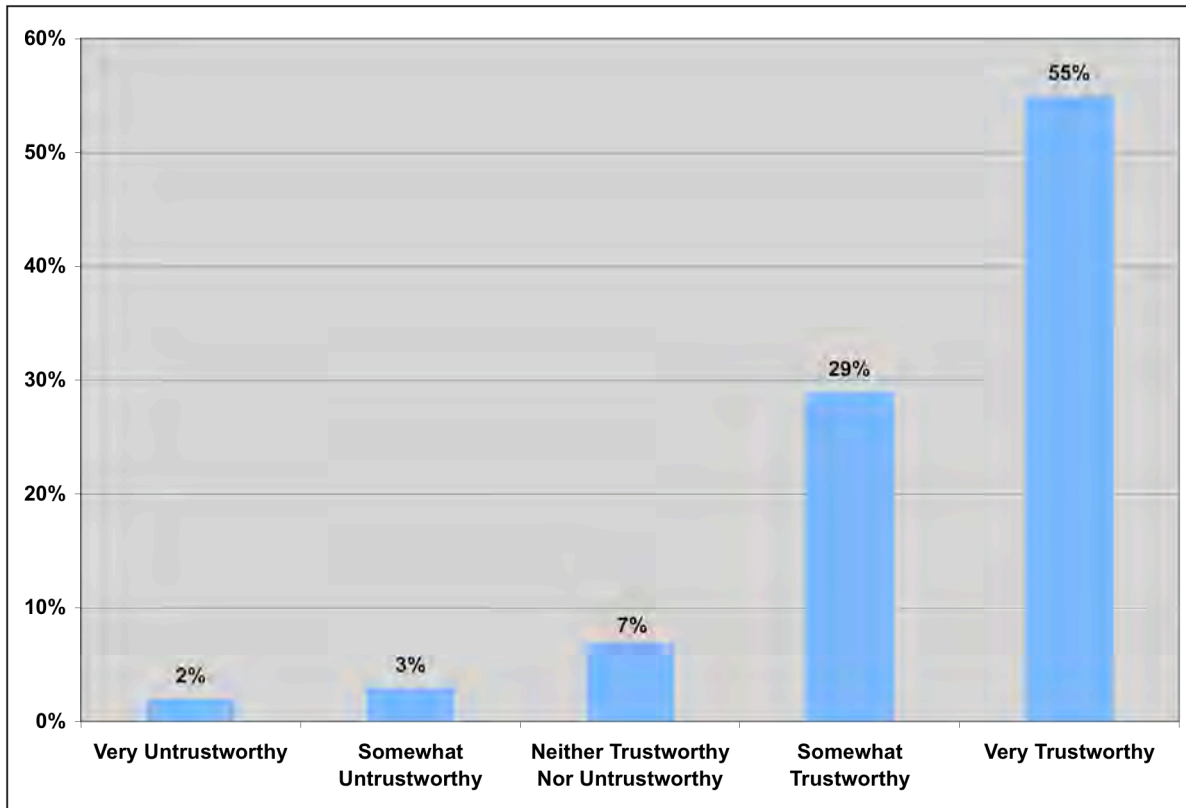
Additional questions were asked regarding satisfaction with specific elements relating to energy efficiency using the same 7-point scale, and these results are shown in Figure ES-6. As before, customers were generally satisfied with information and services provided. In terms of providing new products and services, 42 percent provided a rating of 6 or higher with an average rating of 4.4. Similarly, satisfaction with SDG&E’s promotion of energy efficiency programs received a 6 or 7 rating from 48 percent of respondents and had an average rating of 5.0. Satisfaction with information provided by SDG&E on ways to save energy received a rating of 6 or higher from 50 percent of respondents with an average rating of 5.1.

Figure ES-6: Customer Satisfaction with SDG&E Services



In a related question, customers were also asked about their perception of SDG&E’s trustworthiness for providing information on energy savings. Customers generally trust information received from SDG&E, as shown in Figure ES-7, with over half of the customers considering them “very trustworthy”.

Figure ES-7: Customer Perception of SDG&E Trustworthiness in Providing Energy Savings Information



Customers were also asked if they had visited the SDG&E website. As shown in Figure ES-8 most respondents (46 percent) used the website to find billing and other service information. However, a significant portion of the general population had used the SDG&E website to find information about energy efficiency. Figure ES-9 shows that of those respondents who had visited the SDG&E website, 72 percent were either moderately or very satisfied with what they found, and only two percent were either moderately or very dissatisfied with the website.

Figure ES-8: Reasons for Visiting SDG&E Website

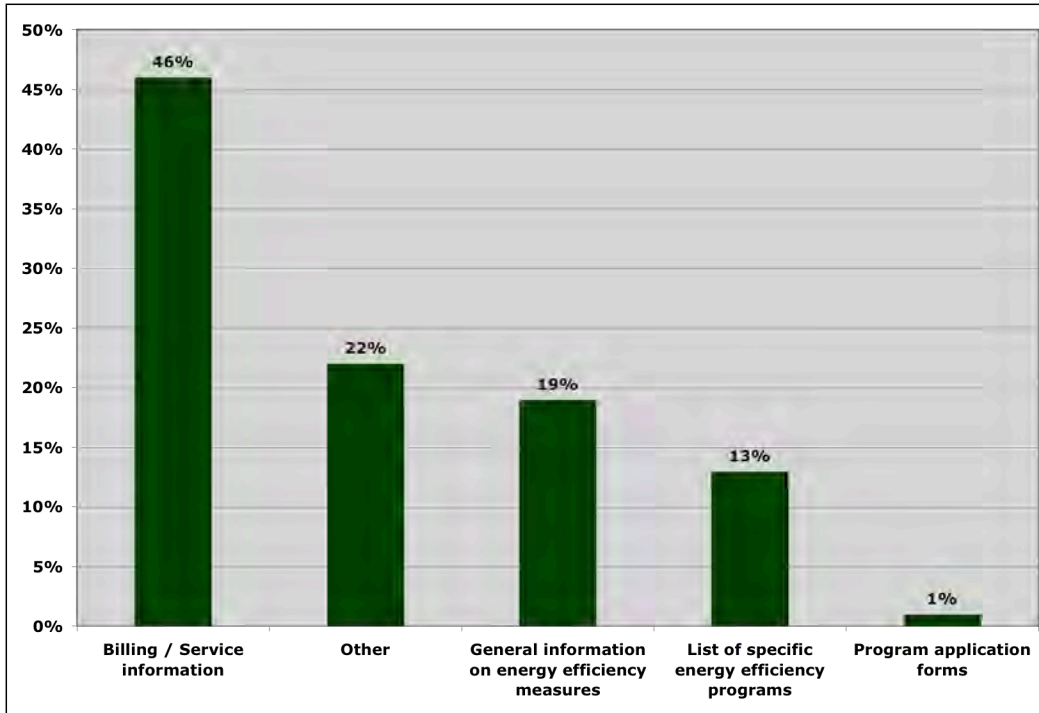
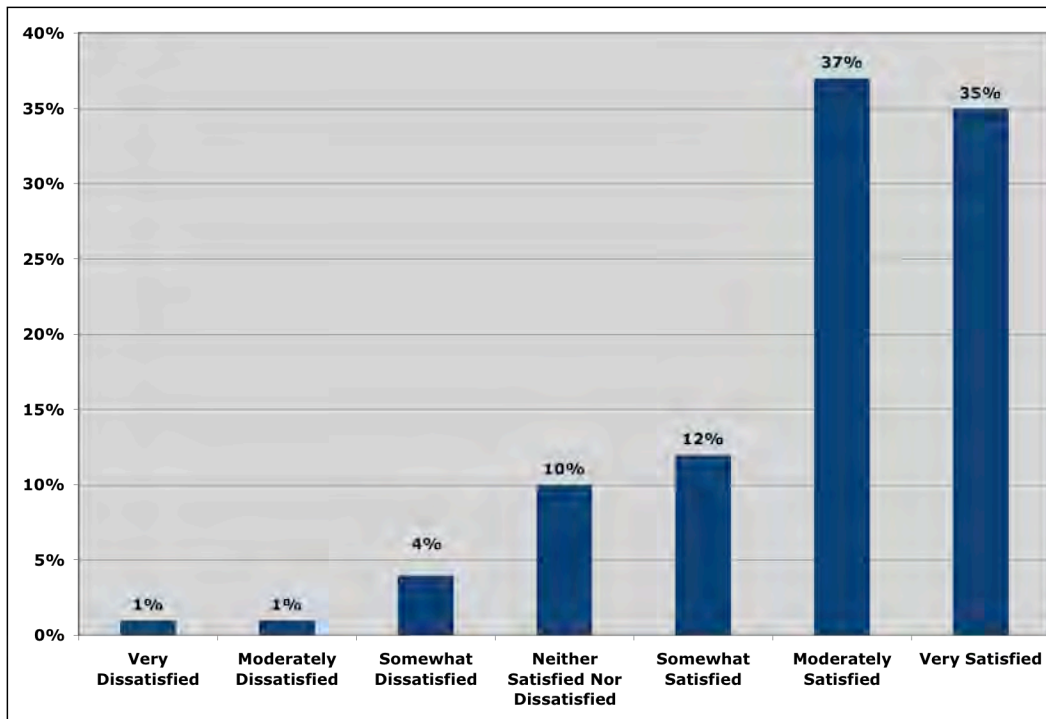


Figure ES-9: Satisfaction with SDG&E Website



Finally, all customers surveyed were asked to provide suggestions for new programs or services they would like to see offered by SDG&E. The vast majority of customers surveyed did not have any suggestions for additional program offerings and seemed to be satisfied with the services

SDG&E currently provides. Others offered general requests for more programs, higher rebates, and reduced prices. The few specific requests include the following:

- Provide information on saving energy for apartment dwellers
- More energy audits and inspection services
- Incentives for customers that save energy
- Rebates for solar panels/solar energy
- Provide list of energy efficient appliances and their ratings
- More general information on ways to save energy

ASSESSMENT OF BEST PRACTICES

This section of the report compares the implementation and performance of the programs with selected best practices that have been established for similar efficiency programs. The California Best Practices Study, which was designed specifically for this purpose, was used as a reference in selecting key indicators or benchmarks to comment upon (numeric scores or ratings for each benchmark were not developed). More detailed information pertaining to these findings are included in the program-specific chapters that follow this section.

Single-Family Comprehensive Programs

The Single Family Rebate Program is consistent with best practices in several areas. Importantly, the program provides rebates for a range of energy efficient appliances and home improvements that are attractive to customers, including a good list of eligible pool pump equipment. In addition, the target marketing tactics are consistent with program strategies. Customer-driven program tactics (bill inserts, direct mailings, community outreach) are successfully getting participants for the program. The Single Family program also coordinates with other program campaigns (e.g., Flex Your Power) to further increase participation. Lastly, while manufacturers, retailers and circuit-rider contractors are largely responsible for creating participation in the program, in-house oversight of program has been retained, and program staff are actively involved in developing and distributing marketing and rebate materials and educating contractors and retail sales staff on equipment features and energy efficiency benefits.

In theory it should be easy for customers to participate, as only a few participation options are available – point of sale rebates and rebate applications that are available on the utility website. However, the program does not have a good system in place to expedite rebate processing. It is taking four to eight weeks to process applications, which is negatively affecting program participation. Program participation has also been reduced because the applications are lengthy and cannot actually be filled out on-line; they must be printed out, filled in, and then returned as hard copy. Regarding pool pump equipment, it is hard for customers to correctly identify the model number of their new equipment and then find the model number on the program list. Lastly, there is evidence that the incentive levels for single speed and multispeed pool pumps have been set too low, which has significantly dampened market interest.

The Comprehensive Mobile Homes Program is generally adhering to best practices. The expectations of the contractor, Synergy, are clearly established and there is no evidence of implementation ambiguity or conflicts. This is likely because the experienced implementer is skilled at writing contracts that work well for them. Target marketing tactics are consistent with the overall program strategies. For example, areas with warmer climates are targeted to drive AC improvements, and local referrals (within the mobile home parks) are emphasized to enhance customer trust and build participation. The program has also tried to benefit from other local programs and campaigns (e.g., energy fairs, other mobile home audits) and SDG&E generally tries to leverage other programs as much as they can, acknowledging that the mobile homes market is very unique.

The one-stop-shop design makes it easy for customers to participate, and customer satisfaction is being tracked by the program. The package of measures and services is attractive to customers, and is adjusted as needed to improve customer satisfaction and meet SDG&E savings goals. Popular measures are packaged with equipment and services that otherwise would not be requested or self-installed. The program also provides ongoing training of contractor technicians, recognizing that there have been staffing deficits in the past.

Program improvements may be needed in other areas, however. The marketing materials/messages do not explicitly equate greater energy efficiency with home improvement, although they do promote the results as making the home less costly to operate. While Synergy obtains comprehensive and real-time data that could be used for systematic analysis, we did not confirm what data SDG&E receives or how it is used. Lastly, the PM function has largely been outsourced to the contractor. Although this is often not advisable, in this case it seems to be a good thing as Synergy is very experienced and has a strong track record of delivering savings and running their programs well. That said, it would be good for SDG&E staff to increase its involvement by visiting with Synergy staff more and doing some field visits with them.

Multi-Family Comprehensive Programs

The Multi-family Rebate Program offers a range of eligible measures that collectively support a whole-building approach to (potentially) achieve maximum energy savings. In addition, gas measures are required to be installed with other measures, so that energy savings are maximized through both high profile measures and less popular measures.

In accordance with best practices, the Multi-family program does collect information on many aspects of multi-family buildings (complex and unit level data, units treated, measures information) via the rebate application forms, although this collection process – a 16-page application – has also stifled participation (discussed subsequently). The program has also successfully built relationships built with contractors responsible for equipment installations, operations and maintenance. The program is primarily driven by a few contractors, who often initiate contact with property owners and managers. Program contractors communicate fairly regularly with utility staff and also other contractors to stay informed about the rebate program.

In other areas the Multi-family program is not adhering to best practices. For instance, the program has no formal strategic marketing plan, which is particularly important for reaching a market characterized by many different decision-makers. Marketing for the program is limited to

the program's web page, which includes program information and a PDF of the rebate application. Because there is very little staff communication with property owners and managers, the program is largely unaware of their project and business objectives, which makes it difficult to fine-tune program services and benefits. This evaluation determined that there is a desire for more mailed communications to participant and non-participant off-site property managers (who often do not see energy bills or work on-site themselves) so at least they have the same or better information than the contractors.

In addition, many property owners and managers feel the rebate applications forms are too long and complex. They often require assistance to complete the forms, and most seek help from contractors. Many would like to contact a utility representative for this assistance, but the assistance provided by SDG&E staff often has not been helpful. Additional help from SDG&E staff to answer questions would help increase program participation.

Residential Lighting Programs

SDG&E staff roles and responsibilities in the Upstream Lighting program are clear and well-defined, and the program requirements of lighting manufacturers and retailers are clear in the RFPs that are issued and contracts that are signed. It is easy for manufacturers, retailers, and customers to participate in the program. Program funding is leveraged from manufacturers and retailers, who provide all the product advertising, and the program works with the lighting retailers to ensure product is stocked, the displays are high-quality, and point-of-purchase materials are clear. Lastly, the program has well-designed data capture to measure the program's success.

The Upstream Lighting program may not be sufficiently flexible to quickly integrate design changes if needed to meet changing market demand; the lag time between the RFP and implementation was more than six months. Whether or not the program's savings are based on accurate algorithms and assumptions will be determined by the CPUC's impact studies. There is some evidence, however, that the rate of free-ridership is relatively high in big box stores and lower in smaller non-chain stores.

Program management and staff roles and responsibilities in the Lighting Exchange and Education and Program are also clear and well defined. SDG&E staff does not have any difficulty delivering this program. The program tries to serve multiple customer types, including hard-to-reach customers, by marketing through mass mailings. It is easy for customers to participate in the program (i.e., exchanges); they just come with their torchieres and/or incandescent bulbs and fill out a simple application while waiting in line. Bilingual staff are on-hand to give assistance if needed.

To better follow best practices, however, alternative marketing approaches need to be explored further along with different types of trade-in events and equipment. The program has relied primarily on mailings as the main marketing approach. In comparison, SCE's program does not do any mailings but attracts ten times as much traffic, in part because the implementer is able to successfully publicize events to nearby neighborhoods using other media. The SCE events are also held over two days, done in conjunction with retailers (e.g., Wal-Mart) and distribute more types of lamps. SDG&E plans to expand its program along these lines (it is flexible enough to

accommodate design changes), but may need to utilize a different contractor depending on available budget.

Residential Audit Programs

The RCEI program consists of two energy efficiency audit tools, the Home Energy Efficiency Survey (HEES) and the Home Energy Comparison Tool (HECT).

Some of the aspects of the RCEI program are consistent with best practices. Both audit tools span a wide variety of appliances and package popular behavioral tips along with less-common measures, such as replacing large appliances with energy efficient models.

However, program improvements are needed in other areas. The HEES and HECT audit results could flow more seamlessly into the adoption of recommended measures. Currently, there is no direct link from the HECT energy savings tips to other SDG&E program offerings. HEES energy efficiency recommendations are paired with only the generic www.sdge.com website and the SDG&E customer service phone. To prompt action, a better design for both audit tools would match energy efficiency tips with up-to-date information about appropriate rebate opportunities and launch participants directly to specific energy efficiency program websites.

In addition, the RCEI program does not track customer satisfaction, what measures the participant has implemented as a result of the survey, or what other energy efficiency programs the participant has joined as a result of the audits. A follow-up call system is not in place to verify what measures have been installed. Without a comprehensive tracking database, it is difficult to assess if the program is effective and what can be done to improve the audit design.

The Time-of-Sale EnergyCheckUp (Time of Sale) program has a single implementer and SDG&E point of contact (Geopraxis), which greatly simplifies program delivery and reporting. In addition, customer participation is linked to an existing routine transaction (home purchases/sales), which creates natural opportunities for customers to opt for audits. On other key benchmarks, however, the Time of Sale program is not adhering to best practices. There really is no mass marketing to customers; instead it is almost exclusively driven by home inspectors, with the hope that it will also become realtor-driven. Although Spanish language audits are offered, there is no strategic or direct targeting of hard-to-reach customers. The program does offer incentives for market actors (inspectors, realtors) to participate. However, participating and non-participating inspectors indicate that their financial incentives are too low to stimulate broad participation, and the one-time incentives for realtors to participate (free training and a package of low-cost measures) may also prove to be too low to stimulate participation and audit referrals.

On the customer side, the process flow from the audit to customer understanding to subsequent measures adoption is cumbersome. Customers must use the Internet to look up the results of their audit and learn about available SDG&E programs, steps that are often not taken during the busy and stressful home buying/selling period. Instantaneous and direct information through inspector discussions and hard-copy materials would be more useful to many customers.

Lastly, data on customers audit recommendations and expected savings are not systematically integrated or shared with other SDG&E programs. Geopraxis does have the results of every

EnergyCheckup available but there is no systematic analysis of the types of recommendations and associated costs and savings. SDG&E gets the audit results for program monitoring purposes, but the data are not integrated with their own tracking system in any way, and no one does follow-up with the audit customers to encourage them to act upon the recommendations.

RESIDENTIAL PORTFOLIO-LEVEL OBSERVATIONS AND RECOMMENDATIONS

Based on the combined evaluation of the SDG&E residential programs, we offer the following recommendations for the overall portfolio. Additional program-specific recommendations are provided in the individual program evaluation chapters.

- **There does not appear to be a large savings potential remaining in the residential sector.** Due in part to the aggressive promotion of conservation by SDG&E and other utilities, customers have already achieved a significant amount of savings. While examining savings potential was not a primary focus for this evaluation, the customer surveys indicate that most of the appliances are relatively new (less than 10 years old) and therefore have less potential than older appliance vintages. The number of days that air conditioners and furnaces are being used is also relatively low.
- **Simplify rebate application process.** As discussed for the Single Family and Multi-family programs, the current rebate form is too long and complicated, which will discourage customers from participating. The length of time and processing costs for the rebate applications are also issues that are hampering the success of these programs. SDG&E should continue to recruit stores to participate in the point-of-sale rebate process. Furthermore, SDG&E should develop a method for completing the rebate form on-line using a simpler form that is less demanding on the applicant.
- **Increase the use of the SDG&E website to promote programs and simplify the application process.** Customers that visit the SDG&E website are often looking for information on the efficiency programs and/or accessing rebate application forms. Customers also view SDG&E as a trustworthy source of information regarding energy conservation and are generally satisfied with the utility and its efforts to promote energy conservation information and programs. Increasing reliance on the website could ultimately reduce the costs of implementing these programs, particularly if the rebate application process is automated and available on-line through the SDG&E website.
- **Improve tracking of audit programs.** SDG&E could potentially claim savings for its audit programs (such as HEES/HECT) if activities are tracked more thoroughly and the utility follows up with HEES participants on actions taken as a result of the audit. Increased tracking and documentation of conservation actions that are a *direct* result of the audit could ultimately be included in SDG&E's savings claim for the residential portfolio. (The lack of tracking and documentation for these programs currently prohibits claiming savings for the HEES/HECT.)

1. INTRODUCTION

1.1 EVALUATION OVERVIEW

This report presents the process evaluation results for the San Diego Gas and Electric California Gas (SDG&E) 2006-08 residential energy efficiency programs. This evaluation covers the following programs:

- Single Family Rebate Program
- Multi-Family Rebate program
- Upstream Lighting Program
- Lighting Exchange and Education
- 3rd Party Mobile Home
- 3rd Party Appliance Recycling
- Residential Customer Education and Information (HEES/HECT)
- 3rd Party Time of Sale Energy Efficiency Check Up
- 3rd Party Advance Home Renovations Program
- 3rd Party K-12 Energy Efficiency Education Program

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The evaluation tasks are generally the same for each program and are discussed in each of the individual program chapters. Major evaluation tasks included:

- *Logic model and program theory.* A logic model and program theory for each program established a starting point for all evaluation activities. The structure of the logic model that 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, program implementers, and other key staff members in May and June of 2007. Program staff members helped to gauge program progress, provided valuable insight into daily operations, and proposed research topics to be addressed by the evaluation.

- *Participant surveys.* The primary data collection instrument for all residential programs was participant surveys, fielded over the phone or on-line. The surveys explored the participant experience with program services and addressed the research issues identified by the logic model and in-depth interviews.
- *Additional program-specific data collection.* Other key evaluation activities included a review of all available program documents and marketing materials, ride-alongs, attending lighting turn-in events, interviews with trade allies, and on-site visits with retailers.

The remainder of this report is organized as follows. The following section presents a discussion of evaluation issues and findings that relate to the entire SDG&E residential program portfolio. Following this are separate chapters that present detailed evaluation results for each of the residential programs covered in this evaluation. An appendix contains the data collection instruments employed for each program. Note that two programs (Advanced Home Renovation and K-12 Energy Efficiency Education) did not have significant program activity that could be studied during the evaluation period. As a result, these chapters are limited to presenting the program logic and theory and suggesting research issues that might be addressed in future evaluations.

2. PORTFOLIO ANALYSIS

This section of the report discusses over-arching evaluation issues that cut across all of the residential programs. As part of this portfolio analysis, we first examined program expenditures and progress toward savings goals for the resource acquisition programs. Survey results that relate to residential market potential and provide insights into program opportunities are presented next. The results of all these factors are synthesized into several recommendations for SDG&E's residential programs at the portfolio level.

2.1 PROGRAM SPENDING AND PROGRESS TOWARD GOALS

Figure 1, Figure 2, and Figure 3 show the current progress toward energy savings goals for the SDG&E resource acquisition programs. All data for these charts are taken from the SDG&E quarterly reports and reflect spending and accomplishments from Q1 2006 through Q3 2007. In these and all other graphs in this report, the information on savings goals is shown as the entire 3-year goal for the 2006-08 program cycle. Given the program achievement data through Q3 2007, we would expect that each program would be at about 60 percent of its savings goal in order to be on track for the entire 2006-08 program cycle.

The vast majority of the kWh and kW savings are expected from the Upstream Lighting program, with smaller contributions also coming from the Single Family and Appliance Recycling programs. (These three programs account for over 90 percent of the savings goals for the residential portfolio). For therm savings, the Multi-Family program accounts for 75 percent of the savings goal, with the remainder coming from the Mobile Home and Single Family programs.

At the time of this report, the residential program portfolio was lagging in meeting its kWh goal and falling well short of its goals for kW and therm savings.

Figure 1: Progress Toward kWh Savings Goals (Q1 2006 – Q3 2007)

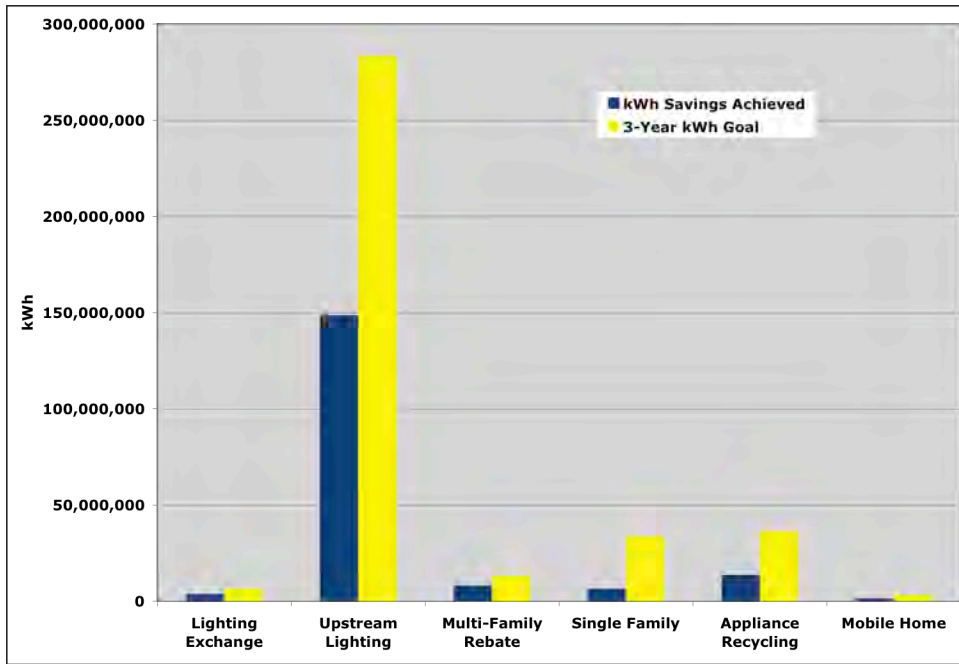


Figure 2: Progress Toward kW Savings Goals (Q1 2006 – Q3 2007)

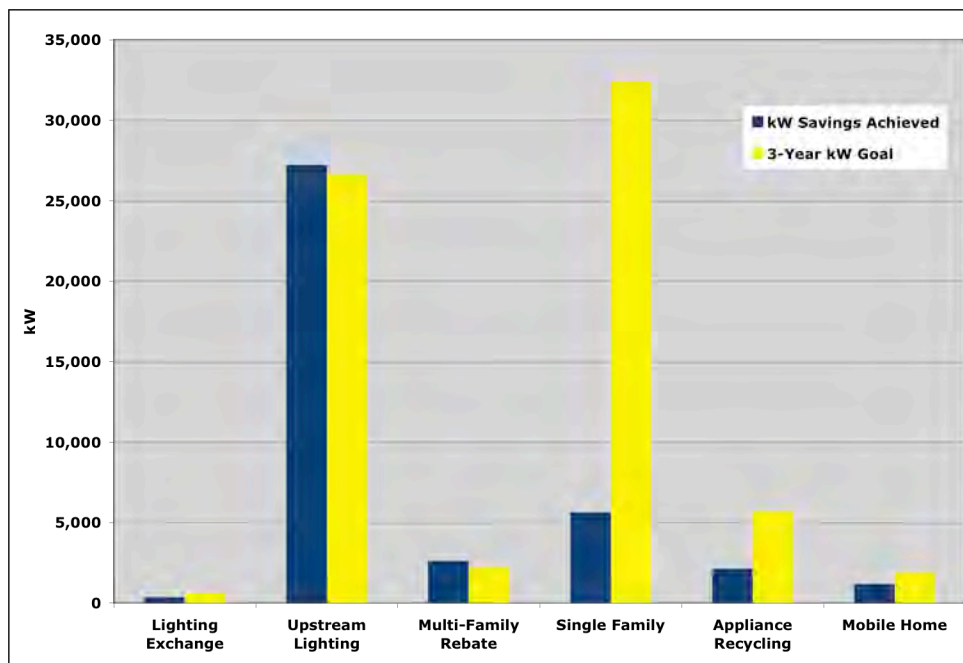


Figure 3: Progress Toward Therm Savings Goals (Q1 2006 – Q3 2007)

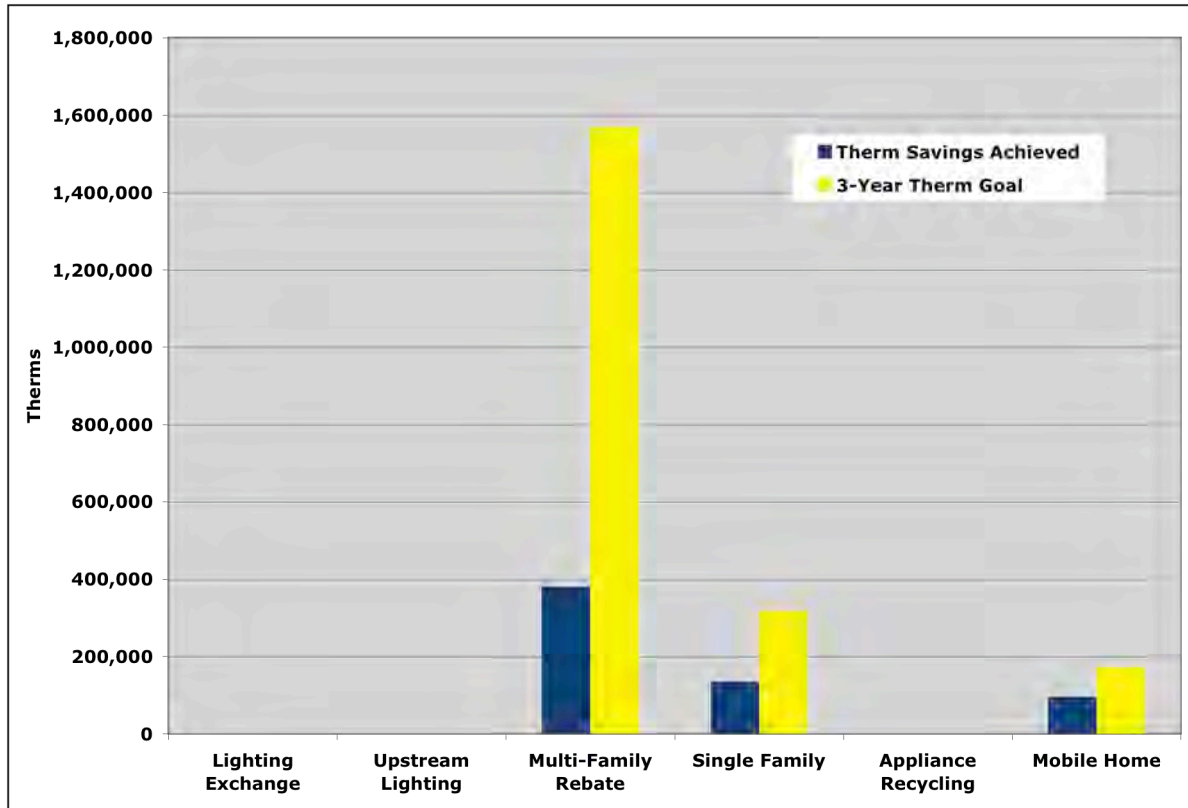
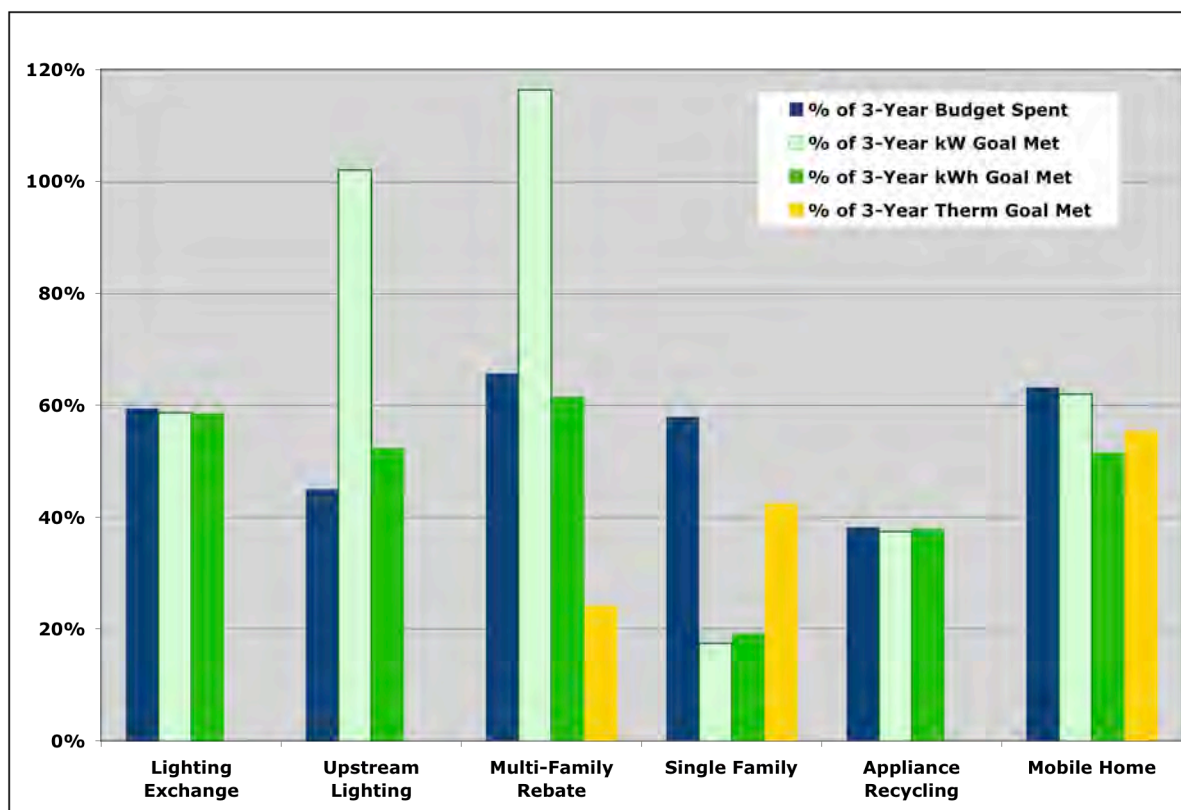


Figure 4 shows how program expenditures compare with progress toward savings goals. At this point in the program cycle, we would expect to have at least 50 percent of the program budget spent given that we are over half way through the 2006-08 program cycle. As shown in this graph, the Lighting Exchange, Multi-Family Rebate, Home Efficiency Rebate, and Mobile Home programs are currently above the 50 percent mark for spending. However, for the Home Efficiency Rebate program, spending is outpacing progress toward energy savings goals by a wide margin. In contrast, the Upstream Lighting and the Appliance Recycling programs have spent less than half of their total three-year operating budgets.

Figure 4: Program Expenditures and Progress Toward Goals (Q1 2006 – Q3 2007)



2.2 ENERGY SAVINGS POTENTIAL AND CUSTOMER SATISFACTION WITH SDG&E

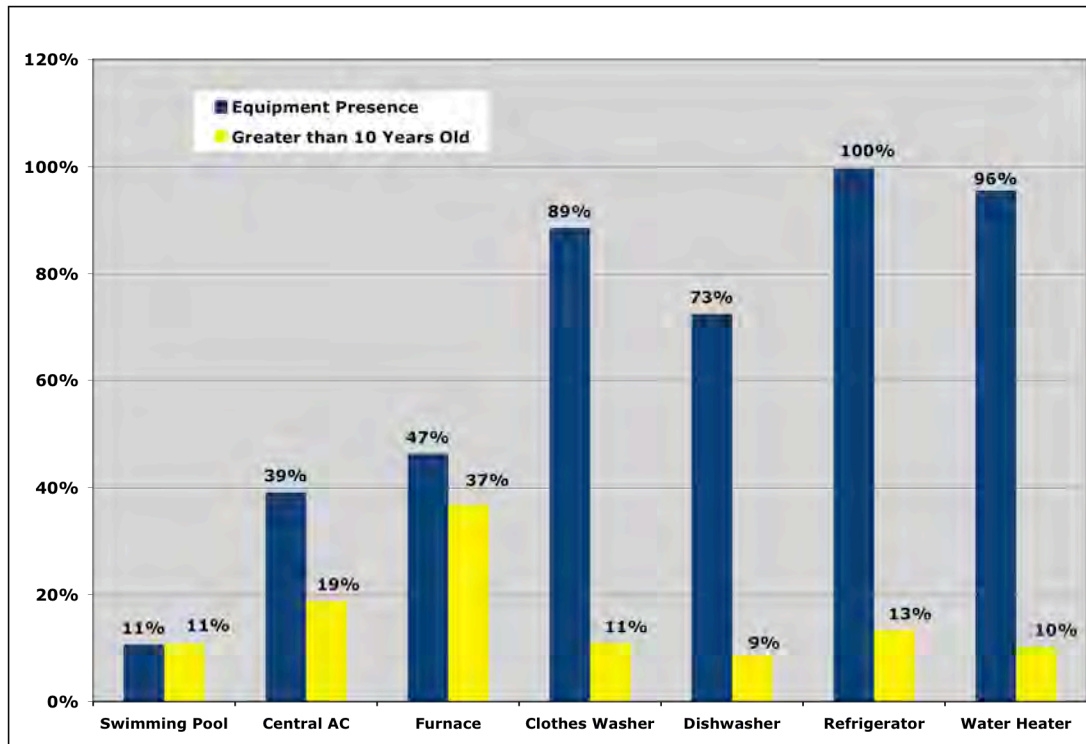
Energy Savings Potential

In all the phone surveys conducted for this evaluation (involving both program participants and nonparticipants) a battery of questions were asked to help identify possible areas where additional saving might be obtained. Note that these questions were only asked to provide very general information on appliance holdings to identify any remaining potential areas for energy savings that are being missed by the current programs. As this is a process evaluation (and not an impact evaluation), we did not conduct an in-depth analysis of savings potential.

Figure 5 shows the percentage of respondents that have various equipment holdings that are potential areas for energy savings. While the majority of SDG&E customers have clothes washers, dishwashers, refrigerators, and water heaters (as shown by the blue bar), few customers own models that are greater than 10 years old (shown in the yellow bar). For example, 11 percent of respondents own a pool and 11 percent of these respondents indicated

that their pool was over 10 years old. Since most of these appliances are relatively new, they are less likely to present large, untapped opportunities for energy savings.¹

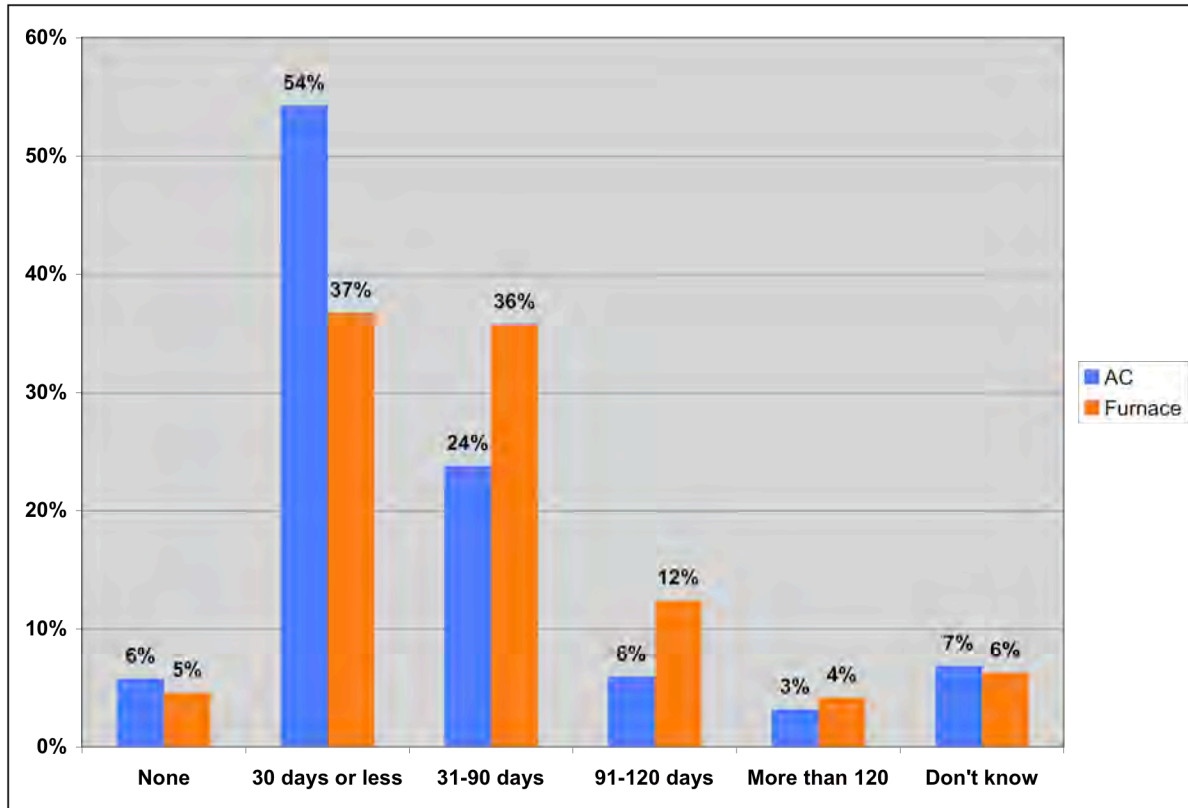
Figure 5: Equipment Holdings and Age



Customers were also asked how many days they used their air conditioners and furnaces, and these responses are shown in Figure 6. The use of both of these measures appears relatively low, with 60 percent using their air conditioners 30 days or less and 42 percent using their furnaces 30 days or less. (Recall from Figure 5 that only 39 percent of customers even have central air conditioning and only 47 percent have a furnace.) This information combined with the data on appliance age shown above in Figure 5 also suggests that additional savings opportunities for these measures are relatively low.

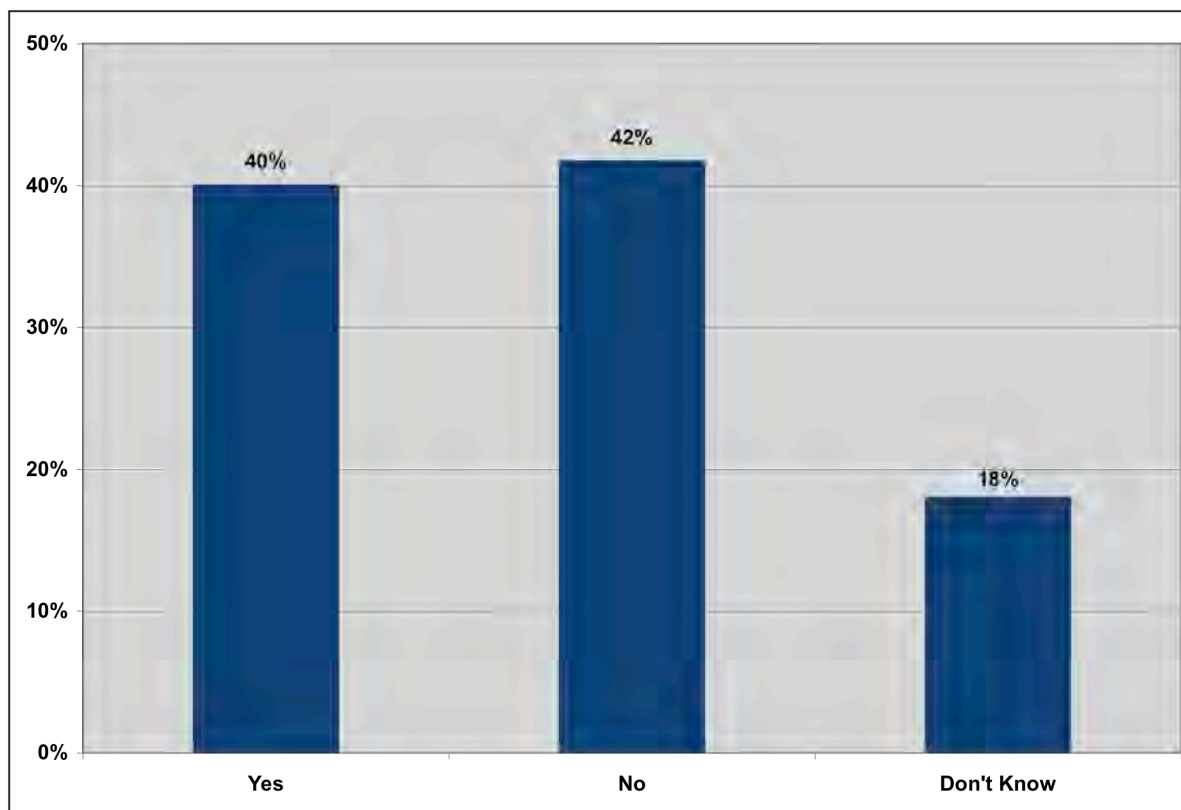
¹ Of course, some energy savings can always be achieved if customers can be convinced to replace their appliances (even newer ones) with more efficient models.

Figure 6: AC Use (Summer Months) and Furnace Use (Winter Months)



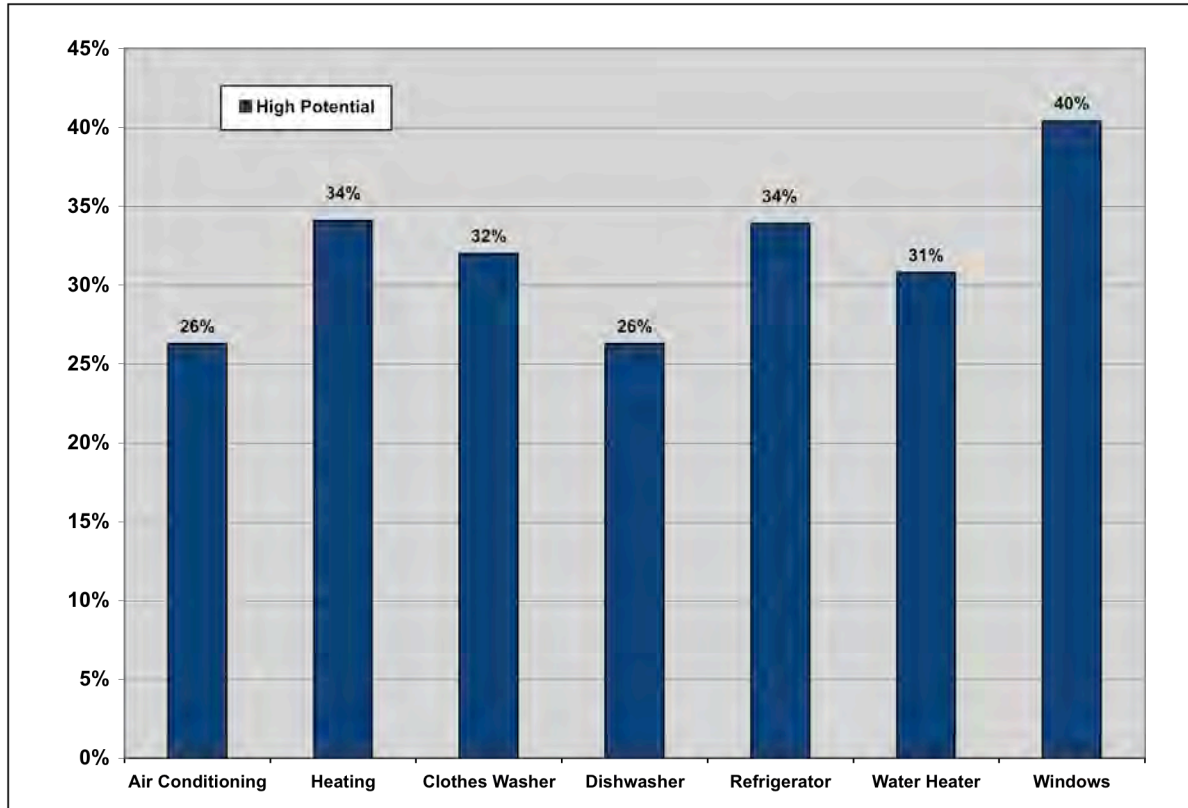
Those customers with central air conditioning were asked about their willingness to have their cooling equipment cycled on and off during peak periods. Figure 7 shows these responses, with 40 percent indicating that would consider this option. This does present an opportunity for some kW savings if SDG&E decides to target these customers for a load control program.

Figure 7: Willingness to Have AC Cycled



Customers were also asked to provide their own opinion on whether their appliances presented an opportunity for energy savings. As shown in Figure 8, about a third of respondents in each case felt that there was a “high” level of opportunity for savings for these appliances. Among these appliances, windows were considered to have the greatest potential for savings, with 40 percent rating their windows with a high energy savings potential. Heating was rated with the second highest potential for savings at 34 percent.

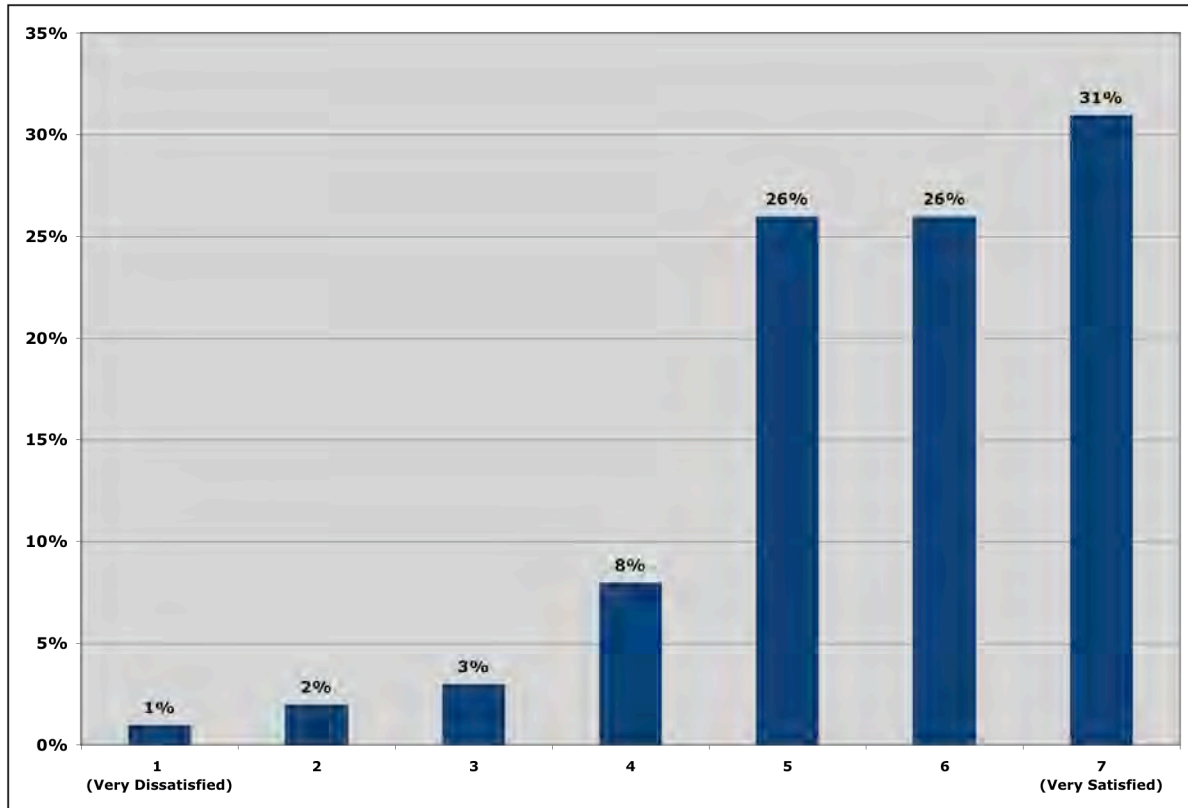
Figure 8: Energy Savings Potential by Appliance (As Reported by Respondent)



Customer Satisfaction with SDG&E

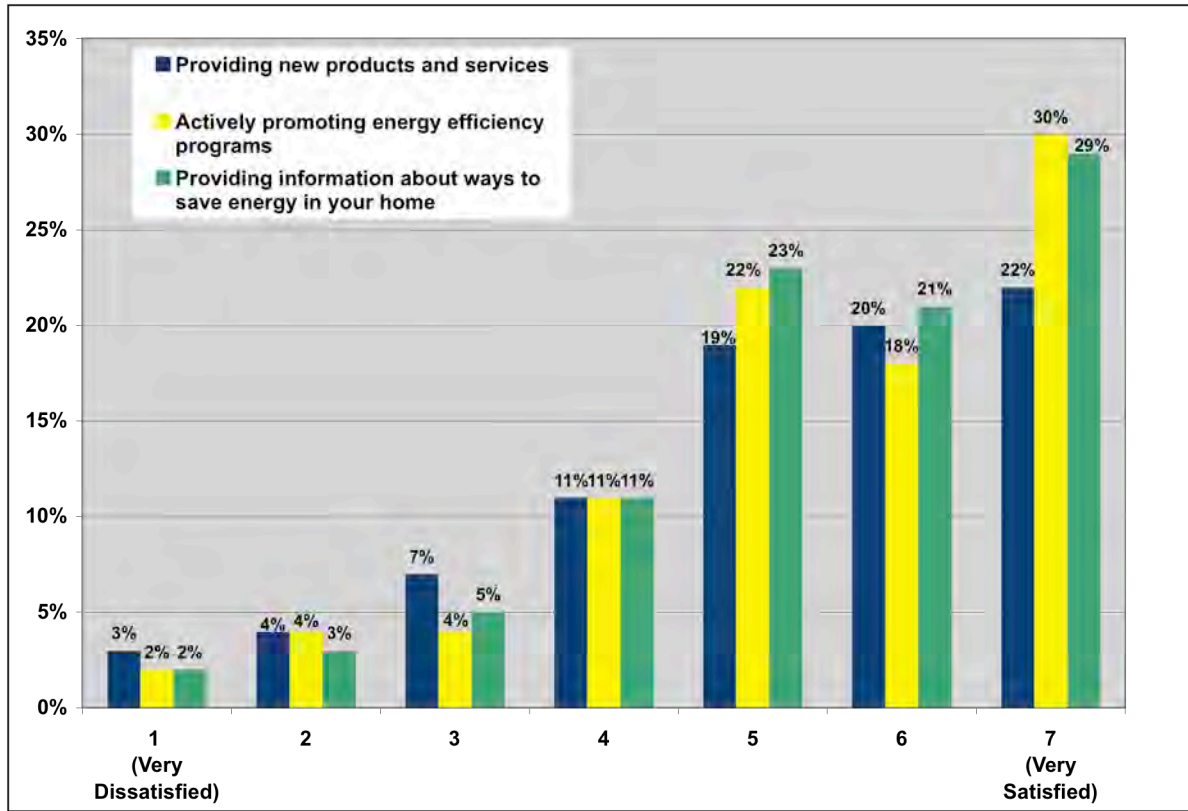
The following graphs show overall customer satisfaction with SDG&E. Figure 9 shows customer satisfaction with SDG&E in general based on a 7-point scale where 1 indicates “very dissatisfied” and 7 indicates “very satisfied”. Based on this question, customers are generally satisfied with SDG&E, 31 percent of respondents giving SDG&E the highest rating (average rating was 5.5).

Figure 9: Customer Rating of SDG&E



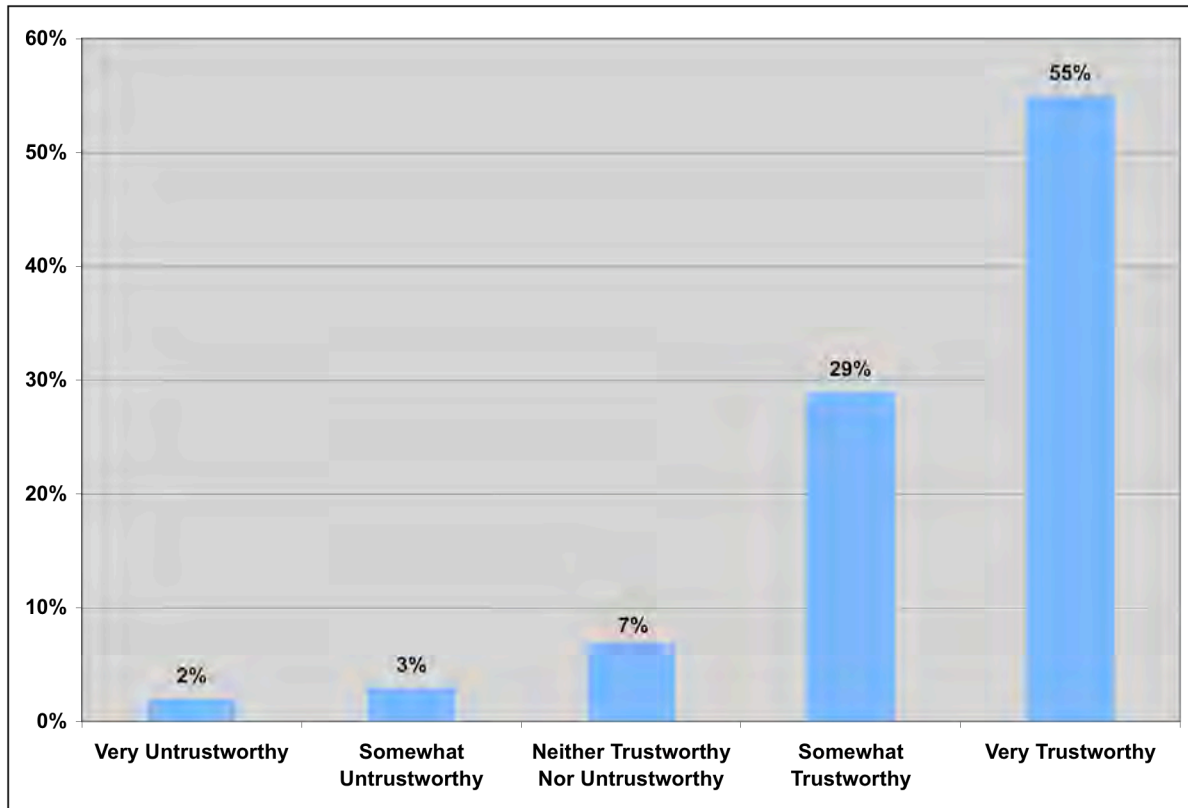
Additional questions were asked regarding satisfaction with specific elements relating to energy efficiency using the same 7-point scale, and these results are shown in Figure 10. As before, customers were generally satisfied with information and services provided. In terms of providing new products and services, 42 percent provided a rating of 6 or higher with an average rating of 4.4. Similarly, satisfaction with SDG&E’s promotion of energy efficiency programs received a 6 or 7 rating from 48 percent of respondents and had an average rating of 5.0. Satisfaction with information provided by SDG&E on ways to save energy received a rating of 6 or higher from 50 percent of respondents with an average rating of 5.1.

Figure 10: Customer Satisfaction with SDG&E Services



In a related question, customers were also asked about their perception of SDG&E’s trustworthiness for providing information on energy savings. Customers generally trust information received from SDG&E, as shown in Figure 11, with over half of the customers considering them “very trustworthy”.

Figure 11: Customer Perception of SDG&E Trustworthiness in Providing Energy Savings Information



Customers were also asked if they had visited the SDG&E website. As shown in Figure 12 most respondents (46 percent) used the website to find billing and other service information. However, a significant portion of the general population had used the SDG&E website to find information about energy efficiency. Figure 13 shows that of those respondents who had visited the SDG&E website, 72 percent were either moderately or very satisfied with what they found, and only two percent were either moderately or very dissatisfied with the website.

Figure 12: Reasons for Visiting SDG&E Website

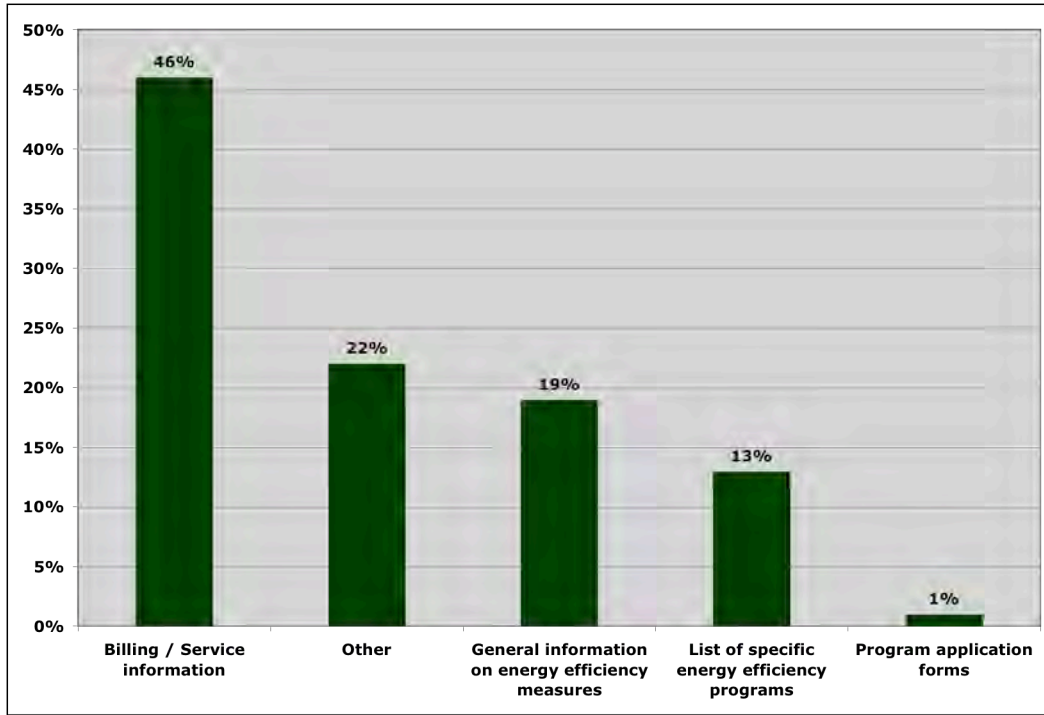
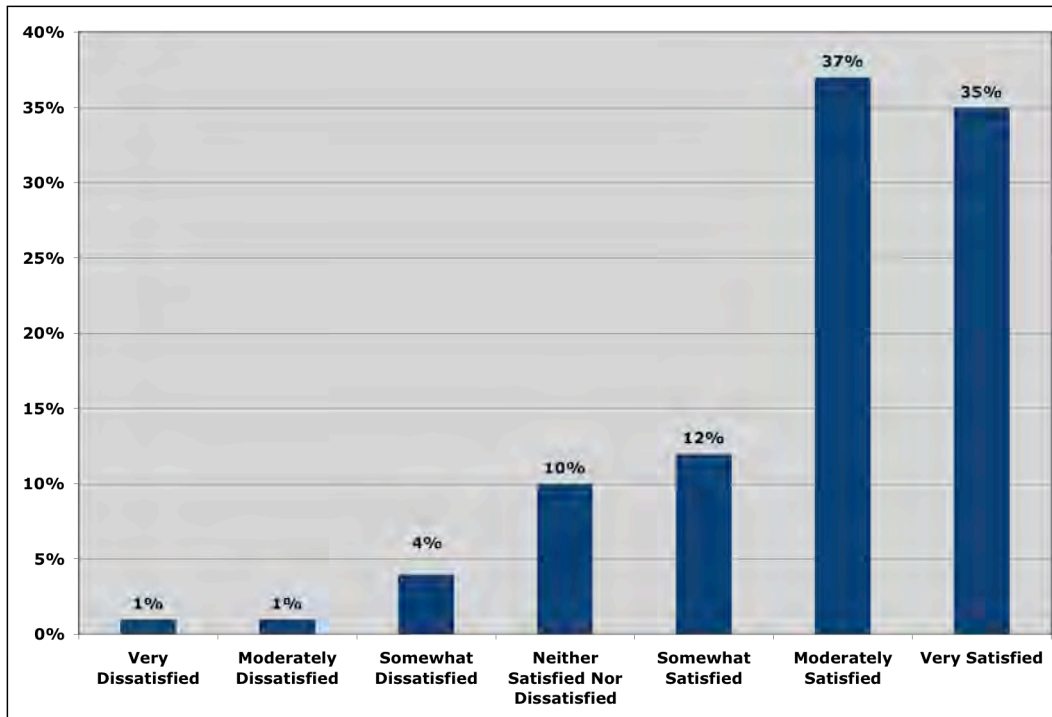


Figure 13: Satisfaction with SDG&E Website



Finally, all customers surveyed were asked to provide suggestions for new programs or services they would like to see offered by SDG&E. The vast majority of customers surveyed did not have any suggestions for additional program offerings and seemed to be satisfied with the services SDG&E currently provides. Others offered general requests for more programs, higher rebates, and reduced prices. The few specific requests include the following:

- Provide information on saving energy for apartment dwellers
- More energy audits and inspection services
- Incentives for customers that save energy
- Rebates for solar panels/solar energy
- Provide list of energy efficient appliances and their ratings
- More general information on ways to save energy

2.3 RESIDENTIAL PORTFOLIO-LEVEL OBSERVATIONS AND RECOMMENDATIONS

Based on the combined evaluation of the SDG&E residential programs, we offer the following recommendations for the overall portfolio. Additional program-specific recommendations are provided in the individual program evaluation chapters.

- **There does not appear to be a large savings potential remaining in the residential sector.** Due in part to the aggressive promotion of conservation by SDG&E and other utilities, customers have already achieved a significant amount of savings. While examining savings potential was not a primary focus for this evaluation, the customer surveys indicate that most of the appliances are relatively new (less than 10 years old) and therefore have less potential than older appliance vintages. The number of days that air conditioners and furnaces are being used is also relatively low.
- **Simplify rebate application process.** As discussed for the Single Family and Multi-family programs, the current rebate form is too long and complicated, which will discourage customers from participating. The length of time and processing costs for the rebate applications are also issues that are hampering the success of these programs. SDG&E should continue to recruit stores to participate in the point-of-sale rebate process. Furthermore, SDG&E should develop a method for completing the rebate form on-line using a simpler form that is less demanding on the applicant.
- **Increase the use of the SDG&E website to promote programs and simplify the application process.** Customers that visit the SDG&E website are often looking for information on the efficiency programs and/or accessing rebate application forms.

Customers also view SDG&E as a trustworthy source of information regarding energy conservation and are generally satisfied with the utility and its efforts to promote energy conservation information and programs. Increasing reliance on the website could ultimately reduce the costs of implementing these programs, particularly if the rebate application process is automated and available on-line through the SDG&E website.

- **Improve tracking of audit programs.** SDG&E could potentially claim savings for its audit programs (such as HEES/HECT) if activities are tracked more thoroughly and the utility follows up with HEES participants on actions taken as a result of the audit. Increased tracking and documentation of conservation actions that are a *direct* result of the audit could ultimately be included in SDG&E's savings claim for the residential portfolio. (The lack of tracking and documentation for these programs currently prohibits claiming savings for the HEES/HECT.)

The remainder of this report provides program-specific evaluation findings. At the end of each chapter, we discuss how each residential program is doing relative to industry best practices as described in the California Best Practices Study.²

² Practices for Energy Efficiency Programs “Best Practices Self-Benchmarking Tool” (<http://www.eebestpractices.com/>)

3. SINGLE FAMILY REBATE PROGRAM

3.1 SINGLE FAMILY PROGRAM BACKGROUND

The Single Family Rebate program (Single Family) offers rebates on energy efficient appliances and home improvements, including refrigerators, dishwashers, water heaters, gas furnaces, room air conditioners, whole-house fans, insulation, and pool pumps and timers; which have been purchased at retail stores or installed by contractors. In most cases, the customer must submit a rebate application to SDG&E. The statewide program has had a coordinated effort to convince large stores to offer instant point-of-sale (POS) rebates. Over the past few months, the program has increased the number of participating stores, which now includes 12 chains and single stores, particularly Home Depot, Costco and Dewey's.

Manufacturers, retailers and contractors largely are responsible for driving participation in the Single Family program, so a key activity is to establish partnerships with these entities. Specifically, Single Family program staff assists retailers and manufacturers with in-store marketing materials and POS rebates and incentives for certain energy efficiency equipment. In addition, the program educates sales personnel about Single Family program resources. The program also teaches contractors about using the incentives as a sales tool.

Single Family program staff develops and distributes marketing materials aimed at increasing homeowners' and renters' awareness of the program. Marketing efforts include bill inserts, community outreach and direct mailings. The program also coordinates marketing efforts with manufacturers, distributors and contractors to provide POS signs. In addition, Single Family program may coordinate with other energy efficiency programs and marketing campaigns, such as Flex Your Power, to promote the program.

Figure 14 shows the Single Family program progress toward 2006-08 goals and budget expenditures as of Q3 2007. At the time of this report, the Single Family program has met less than 20 percent of its electric savings goals and 43 percent of its gas energy savings goals and has spent over half of its three-year budget.

Figure 14: Single Family Program Progress Toward Goals and Expenditures (Q1 2006 - Q3 2007)

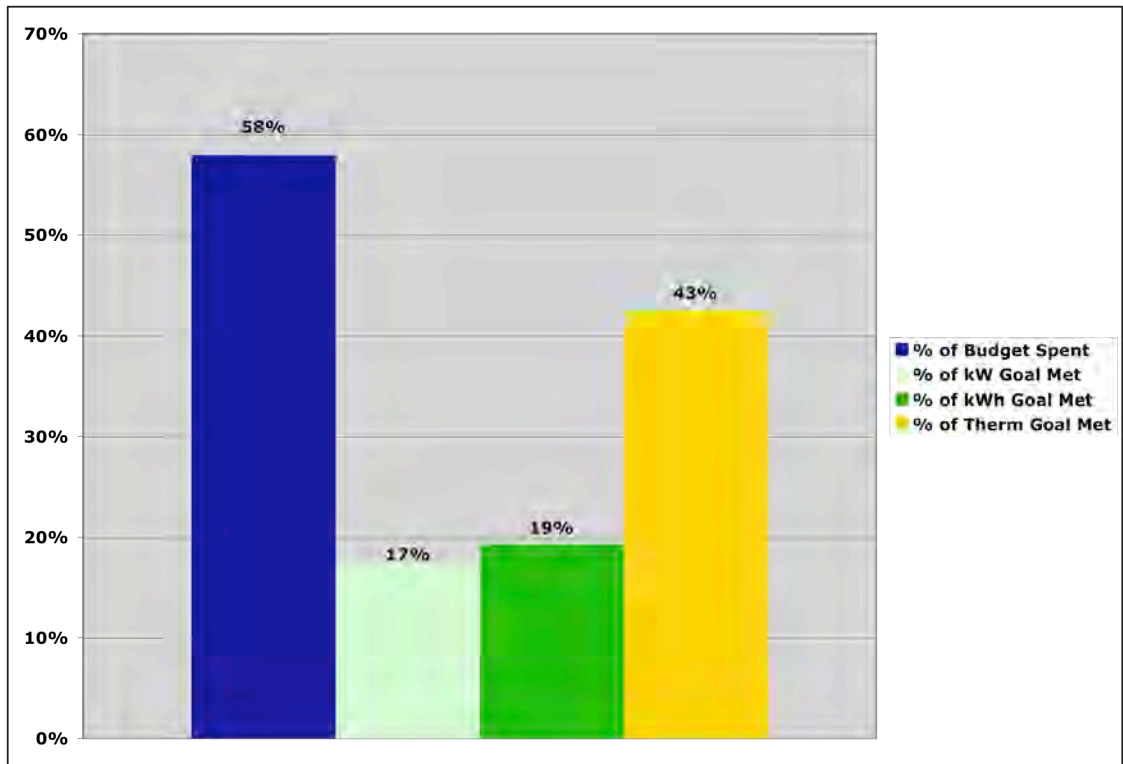
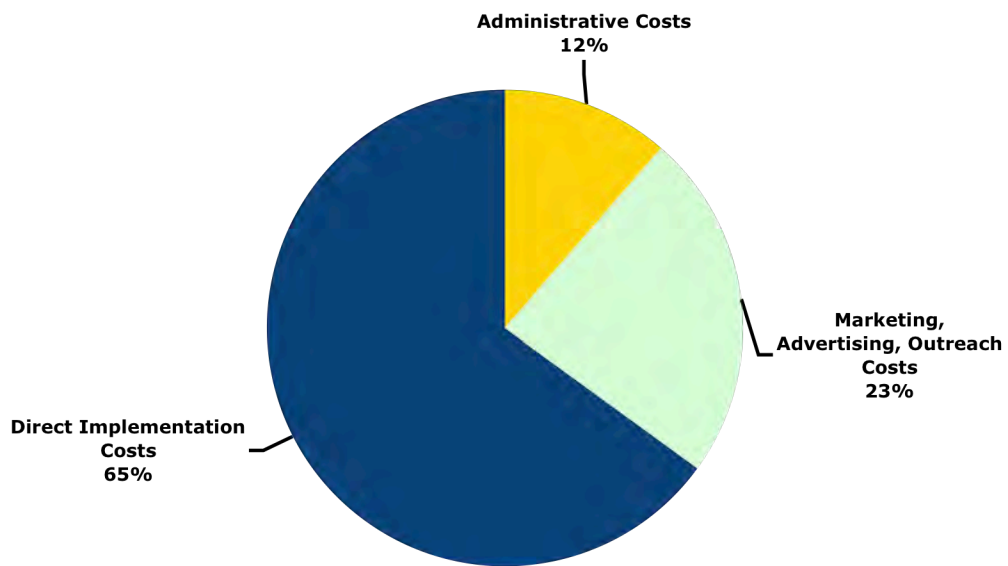


Figure 15: Single Family Expenditures by Category (Q1 2006 – Q3 2007)



3.2 SINGLE FAMILY 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 Single Family program. The structure of the logic model that links activities and outcomes is a useful instrument for identifying specific program assumptions that could be tested using survey or other primary data collection activities.

The following program theory for Single Family program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. (The logic model diagram follows the discussion of program theory.)

Activities

Program support for retail stores

Retailers participating in the program receive program materials and employee training to implement the program.

Marketing and outreach to trade allies

Manufacturers, retailers and contractors are largely responsible for driving participation in the Single Family program, and a key program activity is to establish partnerships with these entities. The Single Family program works with manufacturers, retailers and contractors to find ways that they can leverage the program. Specifically, the Single Family program works with retailers and manufacturers to provide in store marketing materials and point-of-sale (POS) rebates and incentives for certain energy efficiency equipment. In addition, the program educates sales personnel about the program resources and benefits. The program also works to educate contractors so that they can use the incentives as a sales tool.

Customer education and outreach

The Single Family program develops and distributes marketing materials aimed at increasing awareness among homeowners and renters. Marketing efforts include bill inserts, community outreach, and direct mailings. The program also coordinates marketing efforts with manufacturers, distributors, and contractors to provide POS signs. In addition, the Single Family program may coordinate with other energy efficiency programs and marketing campaigns, such as Flex Your Power, to promote the program.

Customer rebates

The Single Family program provides rebates to offset the incremental cost of purchasing energy efficiency equipment rather than standard equipment. The Single Family program provides a variety of ways that customers can claim incentives. One method of providing rebates to customers is to provide POS rebates at participating retailers, distributors, and manufactures. Compared to rebate applications, these rebates have the advantage of making it easier for customer to receive their incentive. They also reduce the amount of processing

required since retailers provide a single invoice for all POS rebates. For stores where POS rebates are not offered, rebates are available via hard-copy applications.

Coordination with the Appliance Recycling Program

The Single Family program coordinates with the Appliance Recycling program to provide collaborative marketing and implementation efforts. This partnership helps to inform customers who purchase qualifying appliances about rebates available to recycle their replaced units.

Short Term Outcomes

Rebates available at retailers and from contractors

As a result of outreach and marketing activities, retailers, manufacturers, and distributors partner with the Single Family program and offer POS rebates and other program promotional materials in their stores. Retail staff are trained to communicate benefits of energy efficiency equipment to customers and understand the function of the Single Family program.

Customers aware of the Single Family program and energy saving opportunities

Customers are made aware of the Single Family program and available rebates through various marketing materials and in-store promotions such as direct mailings, bill inserts, announcements on SDG&E's website, and emails. Customers may also learn about the Single Family program through collaborative marketing efforts with other EE programs and marketing campaigns such as the statewide Flex Your Power campaign. The program also works with trade allies to help them promote energy efficient equipment and other available efficiency programs.

Customers purchase energy efficiency equipment

After becoming aware of the opportunities offered by the Single Family program, customers purchase energy efficient equipment either through contractors or directly from vendors. Qualifying equipment includes, but is not limited to:

- High efficiency water heaters, room air conditioners, and refrigerators
- High efficiency pool pumps
- Attic insulation, and
- High efficiency lighting.

Customers recycle replaced units

Customers who purchase qualifying energy efficiency appliances are linked to the Appliance

Recycling program and elect to have their replaced appliance recycled, thus guaranteeing that the older, less efficient equipment will no longer be used.

kWh, kW, and therm savings and energy bill reductions

Energy savings are achieved as a result of customers' decision to purchase energy efficiency equipment and recycle old equipment.

Mid Term Outcomes

Participants more knowledgeable about energy efficiency and recognize the benefits of energy efficiency investments

Customers who participated in the Single Family program gain a better understanding about the benefits of purchasing energy efficient equipment. They also recognize the performance benefits of purchasing energy efficiency equipment.

Demand for energy efficient equipment increases

Customers who install energy efficient equipment and recognize the performance benefits begin to incorporate energy efficiency as part of their standard purchase decisions, resulting in increased demand for EE equipment.

Market participants view energy efficiency programs as a business opportunity and actively promote energy efficiency

Retailers, manufacturers, and distributors recognize the growing demand for energy efficient equipment. As a result, they increasingly view energy efficiency programs as a business opportunity and look for more opportunities to leverage programs and promote energy efficiency.

Long Term Outcomes

Increased availability of energy efficient equipment

Due to a sustained demand for energy efficient equipment and increased understanding of its benefits, energy efficient products become more widely available.

Market actors incorporate energy efficient products and services as standard business practices

Due to their first-hand experience the equipment, energy efficient measures become standard practice for market actors. This includes homeowners looking to replace older equipment in the future and retailers and contractors involved with the sale and installation of these measures.

Sustained energy savings

Due to the increase in supply and demand for energy efficient measures and a permanent change in customer and contractor attitudes, sustained energy savings are achieved in the single family retrofit market sector.

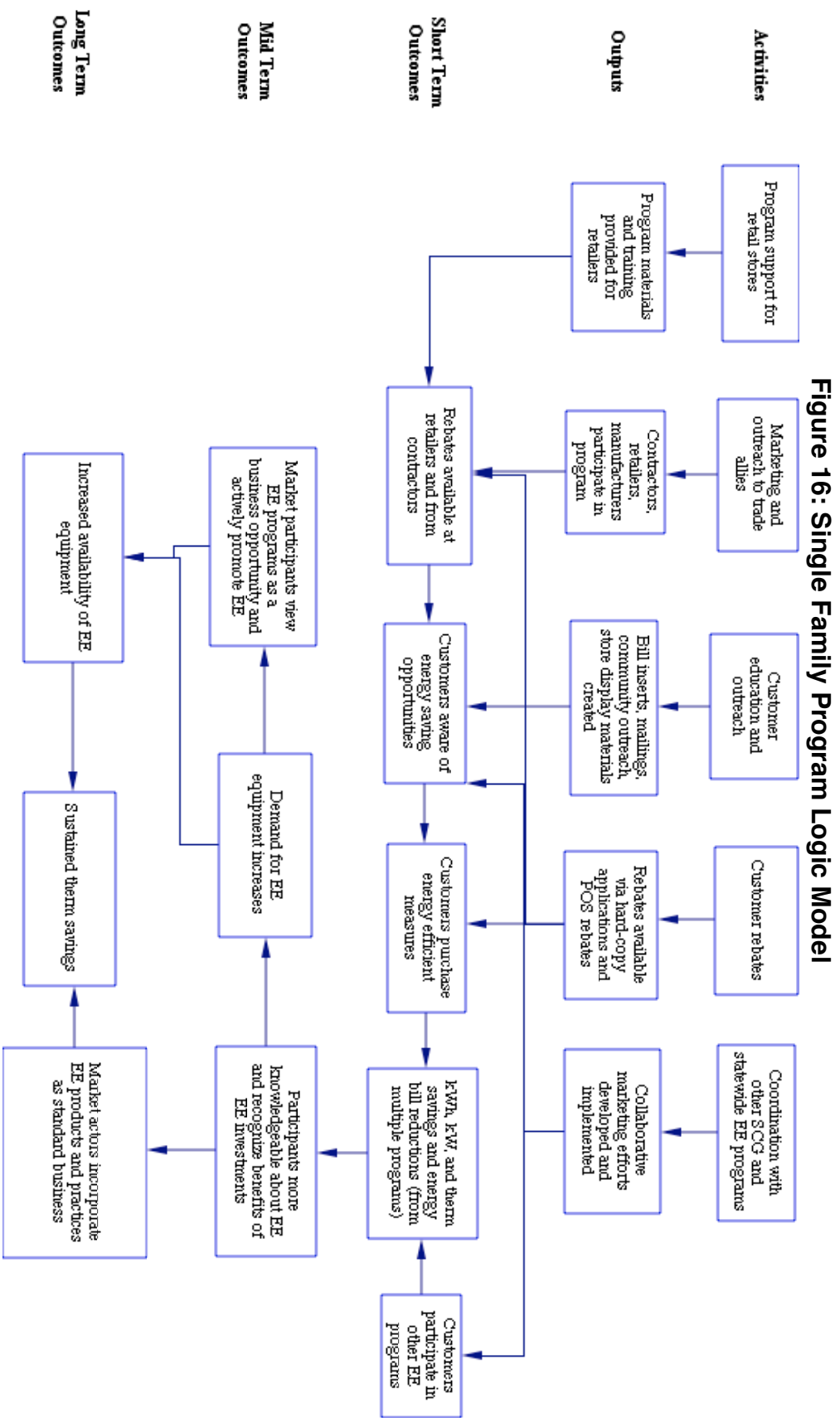


Figure 16: Single Family Program Logic Model

3.3 SINGLE FAMILY PROGRAM EVALUATION OVERVIEW

Based on in-depth interviews with Single Family program staff conducted at the beginning of the evaluation, several key research issues were identified that provided the focus of the evaluation activities. Additional research issues were identified as the program logic model and program theory were developed. The major evaluation research issues for the Single Family program are described below.

Single Family Program Research Issues

Identifying Set of Measures that Are Cost-Effective to Promote

One of the challenges faced by the Single Family program is the limited availability of technologies with quickly exploitable potential to integrate into the program's rebate options, and the problem is even more acute for gas savings. There may be some opportunities for expansion in the program's mobile home and multi-family efforts, though it is not clear that these will be cost effective.

Developing Strategy for Promoting Pool Pumps

The Single Family program has the potential to capture significant efficiency gains through re-strategizing their pool pump rebates. There are 80,000 pools in the SDG&E service territory and energy efficient pool pumps save approximately 1900 kWh/yr. SDG&E has conducted focus groups with pool pump contractors that concluded that the current rebate incentives are not high enough and that only variable speed pumps are worth installing. SDG&E is working with contractors to develop a rebate relationship that will work, and the evaluators should be able to assess the effectiveness of this process.

Managing Processing of Rebates

An additional research issue is the accessibility of the rebate application process. Notably, the on-line rebate form is 12 pages in length and there is no on-line submission.³ Moreover, application processing requires about eight weeks and results in very high rejection rates. There is a need to develop both an on-line form and a processing strategy that does not depend on the physical transfer of paper forms from one stage to the next.

Furthermore, it currently costs the Single Family Rebate program \$14 to process each rebate application, a procedure that screens each application through numerous steps. However, SDG&E has recently signed a contract with a private firm to process rebates at \$3 per rebate, although it is unknown if this firm will employ a similar multi-stage process or if the new process will affect the rejection rate. It is also unknown what the ultimate costs will be once the private firm passes the rejected applications on to SDG&E.

³ The 2008 version of the application form has been reduced to 6 pages, down from the 12 page form that was revised in 2007 as part of this evaluation.

Program staffers indicated that they were concerned that rejection rate would increase under this new system. They also raised questions about the ability of the contracted firm to process the rebate applications at that lower cost if the form remains complicated.

Encourage More Point of Sales

Program staffers suggested that the program would benefit from an increase in the number of stores that offer point-of-sale (POS) instant rebates to the customers. Presently, Home Depot is the only large store offering this. While the program has tried to recruit smaller stores to offer POS, the small stores are concerned with slow repayment and tracking issues. Two factors may encourage small store participation: co-branding and providing program personnel to help set-up the rebate system at the sites.

Determine the Extent to Which Energy Efficiency Products Are Displayed and Promoted in Stores

The Single Family program employs a third-party to provide marketing support for the rebate offerings. The third party distributes materials to the 300 equipment stores in the service territories and trains the sales staffs.

Determine Awareness of Households for Energy Efficiency Products

The Single Family program has limited marketing resources, and therefore an additional area of research is the extent to which potential buyers are aware of the rebates. While the circuit rider does provide signage for the stores, signage text does not always effectively communicate which products qualify for the program. Many small stores use a software company to produce the sale informational signs and SDG&E should work with this firm to include specific rebate information on the postings. One viable marketing strategy is to assist the stores to promote rebates available from all utilities, rather than producing signs that only advertise what their own utility offers. One store suggested that the Single Family program fax a sheet every month that lists the available rebates across the various utilities and water districts.

Developing Whole House—Building Performance Component

The Single Family program staffers expressed a desire for a more comprehensive focus, rather than just installing a few energy efficiency measures at a time. However, there is some concern as to whether offering more comprehensive rebates can be cost-effective and uncertainly exists about how to develop this whole house capability. For example, will the program be an expansion of the multi-family approach which depends heavily on program support, or will it develop into an independent building performance specialist industry, as has been done elsewhere?

These research issues helped shape the evaluation data collection and analysis activities for the Single Family program. The remainder of this chapter presents the evaluation results specific to these research issues. Results relating to pool pumps are discussed first, followed

by results from the Single Family program participant survey.

3.4 SINGLE FAMILY PROGRAM EVALUATION RESULTS

The evaluation activities performed for this program included:

- Interviews with program managers and staff
- Interviews with 17 pool service contractors
- Implementation of a survey of 180 participants in the Single Family program
- A ride-along with the contractor who serves as the circuit rider, visiting six appliance and home improvement stores.
- Interviews with rebate processing and verification personnel.

The evaluation began in May 2007 with most of the data collection occurring during the summer. Detailed results of the data collection and analysis are discussed below.

Interviews with Pool Service Contractors

Summary of Research

Telephone interviews were conducted with pool service firms in San Diego County to assess their opinions and promotion of SDG&E's pool pump program in 2007 and to elicit recommendations for program improvements.

These contractors generally felt the Pool Pump program is good conceptually. Still, those who have been involved with the program for a long time seemed somewhat disengaged from the program in 2007. That may be due to SDG&E's decision to reduce the incentive levels for single-speed equipment. Program staff has received fewer rebate applications for multispeed pumps than before, which reflects lower sales and the ineffectiveness of the incentives to alter consumer purchases.

The feeling that the incentive levels are too low to be effective was widespread; it was the primary point made by most of the respondents. All other program features were much less important to pool servicers and, according to these contractors, to their customers.

This research indicates that multispeed pool pump equipment has a far smaller share of the market than single-speed equipment. Few vendors championed the multispeed equipment. In general, they felt that the price differential was too large and customer interest too low, which made it just too tough a sale. This year's program incentives did not offer enough enticement to motivate any significant promotional efforts from the pool service firms, including those that regularly told their customers about SDG&E's Single Family program.

These interviewees did not indicate any substantial concern in the market about the program's time-of-use requirements for the pool time clock reset incentives. On the contrary, established firms viewed this as a standard practice, which they regularly pursued – if the customer was willing. Those who have been promoting this practice for several years found that customer acceptance had reached a plateau, and that the market was saturated. The most prevalent perceived shortcoming of the time clock reset program was not its usage-shifting focus but its unsuitability for households with solar equipment.

Interviewees also made several negative comments about how hard it is for customers to fill out the rebate paperwork. In particular, they cited the level of detail required, challenges in providing the correct information and the possibility that applications may be rejected in error.

The pool standards in California are changing as of January 1, 2008. All pool pumps over one horsepower then will be required to be dual-speed units. This will eliminate all single-speed options, and leaves the only rebate option to be variable-speed units. Given the low opinion of variable-speed units among the sample of pool service companies interviewed, the program has a significant educational challenge if 2008 rebate activity is to maintain even the 2007 levels.

Methodology

To research these issues further, telephone interviews were conducted with pool service firms based in and operating in San Diego County to get feedback on the single-speed rebate, multispeed pump rebate, and time clock reset rebate offered by SDG&E in 2007. A random sample of pool service firms based in San Diego County was drawn from phone listings.

While this research was intended to gather feedback from participants and non-participants, all of the interviews completed were with firms that had participated in the program at some point. Essentially, all of the firms interviewed were aware of the program. It should be noted that many firms did not respond to calls about the interview, so awareness could be lower among non-respondents. However, the evaluator (who has been doing DSM program evaluation for two decades) said this is the first time they have noted such universal program awareness.

It is notable that approximately one out of five respondents essentially had dropped out of the program by 2007. The interviews explored reasons for this decline and other issues, including:

- Participation activity in 2007 and any change in participation from prior years
- Reasons for declining participation, if applicable
- Opinions about qualifying equipment
- Reactions to time clock recommendations
- Effectiveness of the incentives
- Recommendations on how to communicate with pool service firms

- Program strengths and weaknesses
- Recommendations for the future.

The 17 firms interviewed represented a mix of long-time operators and participants in the program and relatively new firms that had just started with the program.

Participation

A pattern of reduced participation was noted for a substantial portion of the interviewees. While it is hard to label many of these contacts nonparticipants, because they still talked to their customers about the program, it was clear that the level of activity had dropped in the last year or two.

One factor that shapes this response is the fact that pool sales are a small share of the typical service firm's business. A firm that serves approximately 200 homes annually might replace a dozen or so pool pumps in one year. One of the firms that were just getting involved with the program is a new company. The owner reported that customers had approached them about the time clock reset element of the program. This seemed to have spurred that respondent to get more information from SDG&E. It might be worth viewing the program's customer awareness-building as an important vehicle for generating interest among new market entrants.

One respondent expected that his participation in the program would increase next year, when additional two-speed pumps will be introduced to the market. Although none of the respondents mentioned this explicitly, it is possible that a limited selection of two-speed pumps reduces participation. However, there is no evidence that clearly demonstrates this, and respondents obviously considered two-speed pump prices a limiting factor.

Respondents cited the following principal reasons for low participation in the program: lower rebate levels, cost of and low market demand for two-speed pumps, and the mismatch between program-incented equipment and solar-powered pool systems, which comprised a significant share of some respondents' customer base.

Communications

In general, most respondents seemed to have all the program information they needed or desired. They had few suggestions about improving communications with eligible pool service firms. One respondent indicated he had been unclear about the pump size requirements, but this had been resolved.

There may be room for improvement in some of the technical program information. As noted below, there was some general concern about application processing. Respondents requested only one other improvement to program outreach: an occasional update about the availability of rebate funds.

Incentives

Almost all respondents said the rebate levels were too low this year, which made the program far less attractive to customers than in the past. Here are some sample comments.

- “The dollar amount has come down. We haven’t had as much positive response. The incentive is what matters. It has to be effective.”
- “It’s almost not worth it. But we do still share the information with all our customers.”
- “It needs to go higher.”
- “The rebates are too small and for the wrong things. Those big, fancy 4 by 160s, the Intelliflows – people aren’t interested. The purchase price is too high.”
- “I used to change a lot of pumps years ago with the old program. It’s hard to sell this concept now [because the incentive is ineffective].”
- “We’re not getting any requests from customers.”

Single-speed pumps, which made up the bulk of most firms’ pump sales, were not being rebated frequently due to the smaller incentive offered. Respondents’ comments about these incentives included the following:

- “It’s almost a joke.”
- “\$30 isn’t much. We still offer it.”
- “I participated much more a few years back under the old program. Those downsizing rebates were much more effective.”
- “It’s better than nothing.”

To assess changes that could reinvigorate promotion of the program, respondents were asked to suggest an effective rebate level. Recommendations for single-speed incentives ranged from \$50 to \$100.

Multispeed pumps did not constitute a substantial share of business for any of the respondents. With a reported price differential of approximately \$1,000, these models were characterized as a “hard sell.” Typical comments about the multispeed pumps included:

- “The multispeed pumps are too expensive. Nobody wants to put them in.”

- “Most people don’t want to do the two-speed pumps because of the price.”
- “We don’t sell a lot of two-speeds yet. The price is too expensive. They’re a hard sell.”
- “There is some interest in the variable-speed pumps but still the price is too high for many. I expect this to change next year when they can’t put in the single-speed pumps.”
- “The incentives are good. They’re going to have to do this anyway.”

Suggestions for effective rebates for multispeed pumps ranged from \$200 to \$300.

Time Clock Reset

There were some mixed opinions about shifting the operation of pool pumps to off-peak periods, but unlike the focus group findings from an earlier study, there was little pushback on the program’s recommendations. Most respondents believed that shifting to off-peak periods was acceptable, if it wasn’t already their standard practice. In particular, firms that have many years’ experience with SDG&E’s program said that shifting operation of pool pumps to off-peak hours is the optimal strategy. Their comments included:

- “We’re doing this anyway.”
- “Shifting the time is OK. It doesn’t matter what time of day the pump runs. We’ve been doing this for 20 years.”
- “It’s better to run the pump during the day. It’s better to get the circulation when the water is warm; that’s when the algal growth is greatest.”
- “The time clock recommendations are workable now. They weren’t in the past.”
- “Our customers do it. It’s perfectly acceptable to me.”
- “That’s fine. We’ve been doing it for years.”
- “There are no problems.”

The most consistent concern about the time clock reset element of the program was that it does not mesh with solar equipment. About 40 percent of the respondents mentioned this issue.

- “That’s a debatable part of the program. It doesn’t take into account solar.”
- “We have a lot of customers with solar. The program isn’t for them.”

- “When a customer with solar asks about this I ask them when they thought they were going to run the equipment.”

Another issue that arose addressed market penetration levels. There was some feedback that the market for shifting use off-peak was pretty saturated and that there was little new participation in this area.

- “Those [customers] who have done it – and it’s a pretty good percentage – did it long ago and kept with it. If they haven’t done it already, they’re not interested.”
- “The reaction from customers for \$25 is ‘who cares?’”

One respondent also noted that customer awareness had dropped off. “It’s funny you ask that. Before this year our customers were very aware, this year not so much.” Most respondents did not have an opinion about whether customer awareness had changed over time. There was little indication from these interviews that customers were expressing much interest in the time clock reset element of the program.

Reactions to equipment

Most contractors felt the equipment promoted by the program was fine. A substantial number of the firms promote specific equipment lines. If the program covered their preferred pumps, the list was satisfactory to them. Typical comments on this subject included:

- “It’s an extensive list. Most pumps are on it.”
- “That’s fine. We have one pump we recommend, but we’ll order anything the customer wants.” [This implies they have no problem with the listed equipment.]

One respondent felt strongly that it was wrong to pursue the installation of multispeed pumps:

“I’m a firm believer in small pumps. I’m not buying in to the multi-speed pumps. The problem is the users go to the high speed, use it to full capacity, and then you’re just shooting yourselves in the foot.”

No one recommended any equipment models or types of pumps for inclusion in the program.

Applications and processing

There was some feedback that the paperwork encumbered the program.

- “One of the biggest complaints is that the applications are kicked back for small things. When the customer corrects it, they have to get a new copy of the invoice from us. They shouldn’t make people go through that.”
- “The form could be put into a better format, with less information asked for. Why do they need the exact model number? They should go back to listing the requirements like they used to. It’s hard to find the model by the model number.”
- “I sold a Stay-Right two-speed pump to a customer. The homeowner tried to do it [the paperwork] but couldn’t and sent it to us. *We* couldn’t figure it out. We sent it in and SDG&E denied it. The frustrating thing was it met the requirements but it was denied.”
- “I’ve heard it is taking more than a couple of months to get the checks.”

The other side of the coin of having a “very large” list of eligible models is that it makes it harder to find the unit’s model number on the list when doing the paperwork. One owner recommended that SDG&E work with the distributors to create the list and base their list on the top selling models. He suggested focusing on making it easier for participants to identify eligible equipment, and returning to a past program practice of focusing on eligibility requirements instead of specific model numbers.

Other contractors had no feedback about paperwork; they leave it up to the customers to deal with it.

Other comments

One respondent, who was an advocate for small pumps, was concerned that some builders select oversized pool pumps. He cited the example of a contractor who installed a 2-HP pump where a ¼-HP pump would have been sufficient. “This is an example of ‘builder mentality,’” he said. He would like SDG&E to inform builders about pumps and correct sizing.

Another respondent, who owns one of the larger firms, liked the mobile training workshops SDG&E offered. He sent his staff to the training and felt it was worthwhile, in part because they learned about the range of pumps available. He would send his staff again if it were offered.

Summary of Program Strengths and Weaknesses

In summary, the pool service firms interviewed for this research identified the following strengths and weaknesses of the 2007 pool pump program.

Program strengths

- The majority of contractors interviewed believed the peak shifting aspect of the program is appropriate; some were quite strongly supportive of this practice.
- Feedback suggests that time shifting practices are fairly permanent: that customers who choose to do this stay with it.
- Most firms are satisfied with the list of eligible equipment and all appear to be able to offer eligible equipment to their customers.

Program weaknesses

- The low rebate levels are dampening market response and are widely viewed as ineffective.
- The application approval process should be simplified. It is difficult to determine if the purchased equipment is eligible and to find the model number on the program list.
- The program is not suited to solar pool systems.
- Customer awareness of the program has dropped and customers are not interested in two-speed pumps. In short, there is not strong market demand.

Participant Survey Results

In addition to examining the pool pump program component, we also did a general phone survey of Single Family program participants. The telephone survey was conducted with 180 randomly selected Single Family program participants in the SDG&E territory.

Table 1: Type of Equipment in Sample

Measure	SDG&E
Dishwasher	108
Water heater	33
Clothes washer	0
Refrigerator	20
Insulation	1
Pool pump or timer	18
Gas furnace	0
Total	180

A comparison of the sample to the actual population distribution is shown in Table 2 for

SDG&E. In Table 2, the sample distribution is heavily weighted by participants who purchased dishwashers and water heaters. It is not clear what caused the sample to favor these two appliances as the sample for the phone surveys was pulled randomly from the participant database.

Table 2: Comparison of Sample to Actual Rebate Distribution – SDG&E

Measure	Actual Rebates	Sample Totals	Number per 1,000 Participants
Dishwasher	6,810	108	16
Water heater	2,221	33	15
Refrigerator	9,664	20	2
Insulation	1,800	1	0.5
Pool pump or timer	8,251	18	2
Gas furnace	101	0	0
Room AC	1,108	0	0
Whole-house fan	39	0	0
Total	29,994	180	6

The Single Family program provides incentives to customers who either purchased items in stores or who hired contractors to do the work. As Table 3 shows, most of the sample interviewees (89 percent) bought their equipment in retail stores.

Table 3: Contractor vs. Self Purchase

How Purchased	(N=180)
Bought through contractor	11%
Purchased myself	89%

Each respondent was asked if the contractor or salesperson had informed them about the Single Family program. Table 4 indicates that contractors were more likely to inform their customers about the program than were the salespeople. Only about half of the salespeople informed participants about the program.

Table 4: Did Contractor or Salesperson Inform Customer about Program?

Response	Contractor (N=20)	Salesperson (N=90)
Yes	65%	49%
No	35%	37%

Don't know	-	15%
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Respondents were asked whether they already had decided which product to buy before talking to their contractor/salesperson and before hearing about the program. Table 5 shows that most of the respondents had not made the decision before consulting their contractors and about half of respondents had not made the decision before talking with a salesperson. However, Table 6 indicates that roughly half of each group had made up their mind before hearing about the program.

Table 5: Did Customer Make Decision on Product Prior to Talking with Contractor/Salesperson?

Response	Contractor (N=20)	Salesperson (N=50)
Yes	30%	48%
No	70%	46%
Don't know	-	6%

Table 6: Did Customer Make Decision on Product Prior to Being Aware of Program?

Response	Contractor (N=20)	Salesperson (N=90)
Yes	55%	40%
No	45%	58%
Don't know	-	2%

Respondents also were asked if the information from the contractor included any suggestions about buying an energy efficient option. Table 7 indicates that three out of four contractors suggested the energy efficient option.

Table 7: Did Contractor/ Suggest Efficiency

Response	Contractor (N=20)
Yes	75%
No	20%
Don't know	5%

Customers who had not decided which product to buy before coming to the store were asked the major reason they purchased the efficient model. Table 8 indicates that few of these respondents changed their minds specifically due to the rebates. It is important to note that saving energy and money were very big decision factors for these buyers.

Table 8: Major Reason Customers Changed Mind and Purchased Energy Efficient Option

	Contractor (N=16)	Salesperson (N=125)	Total (N=141)
Rebate/Program	13%	9%	9%
Contractor/Salesperson	25%	5%	7%
Save energy	6%	14%	13%
Sales price/Save money	6%	19%	18%
Non-Energy Factors	6%	30%	28%
Don't know	44%	22%	25%

All respondents were asked to gauge the importance of four factors in influencing their decision about which appliance or measure to select: information from the salesperson or contractor, program rebates, saving money and helping the environment. Figure 17 shows that saving money and the environment were more important than the rebates in influencing the purchase of energy efficient options. The importance of rebates varied per appliance. 60 percent of respondents who said the cash rebate was very important bought a dishwasher (Energy Star Tier I) and 21 percent bought a water heater (Natural Gas Storage). Less than six percent of people who bought attic insulation, pool pumps, or refrigerators rated the cash rebate as very important to their decisions.

Table 10 conveys a similar message. In this case, respondents were asked to list the most important reasons for buying an item. Lower energy bills were the most important factor for 47 percent of the respondents. Only 12 percent mentioned the rebates.

Figure 17: Importance of Salesperson, Rebate, Money and Environment

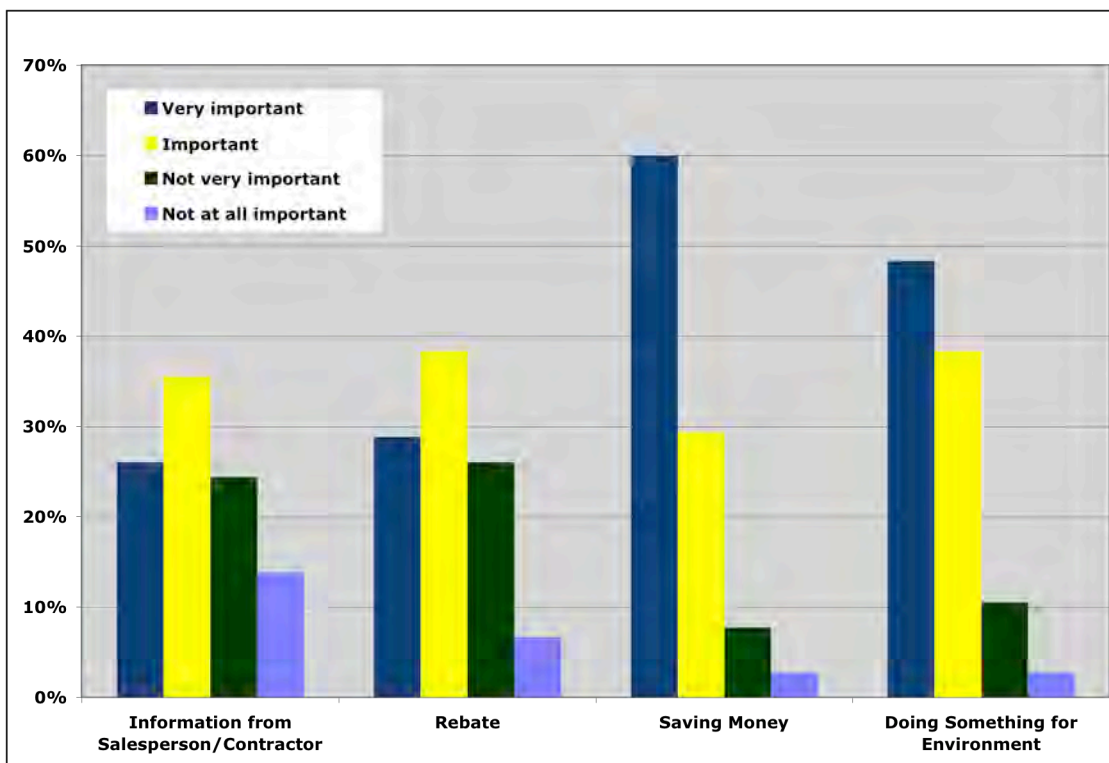


Table 10: Most Important Factor in Purchase Decision

Purchase Decision Factors	Percentage of Respondents (N=180)
Lower energy bills	47%
Non-energy factors	17%
Doing good for the environment	16%
Cash rebate	12%
Information/encouragement from salesperson/contractor	9%

Respondents were asked a series of questions about their satisfaction with different aspects of the program. Figure 18 shows respondents' overall satisfaction with all aspects of the program. Respondents were least satisfied with the rebate level.

Customers who weren't satisfied were asked to identify what would have made their experience more satisfactory. While there were only a couple of responses, one customer did not get the rebate and two others said that they were not sure if they would ever get the

rebate. Several respondents said that they would like a simpler application process.

Figure 18: Satisfaction with Program

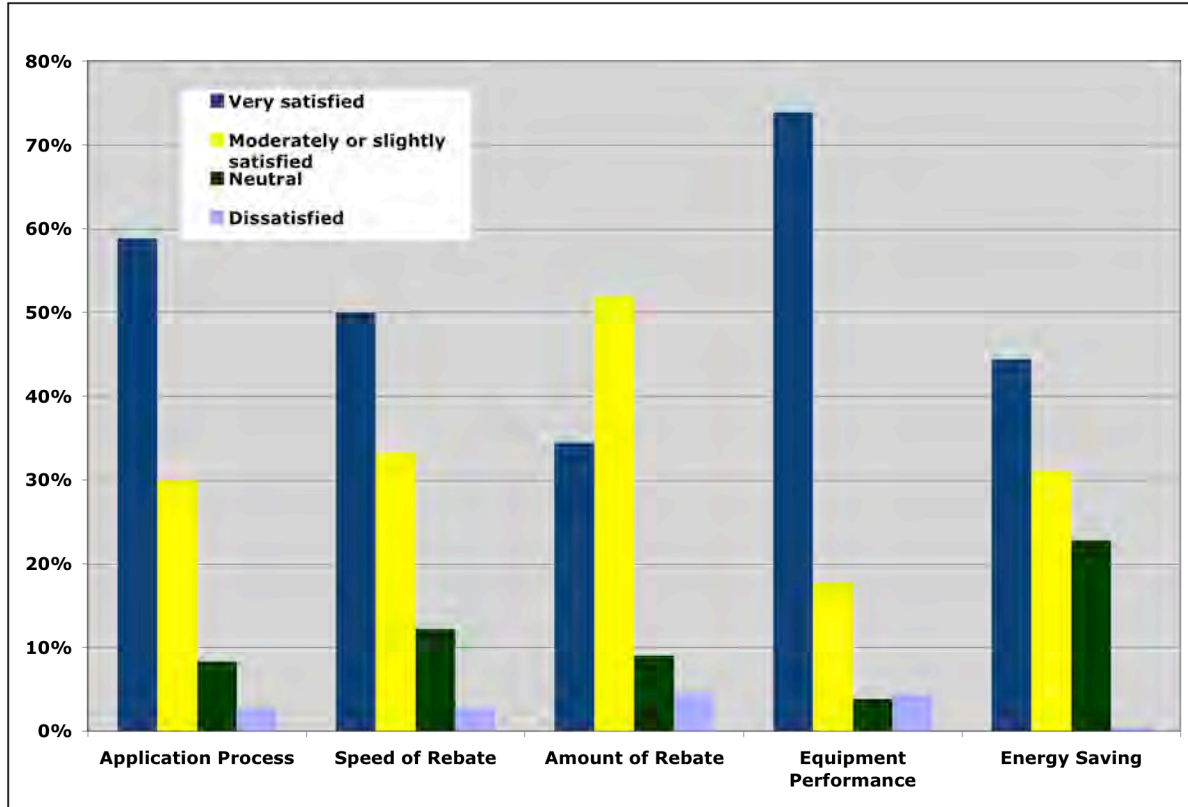


Table 11 shows the responses to a summary question about the respondents' overall satisfaction with the program. Almost all respondents voiced at least some satisfaction with the program.

Table 11: Overall Satisfaction with the Single Family Program

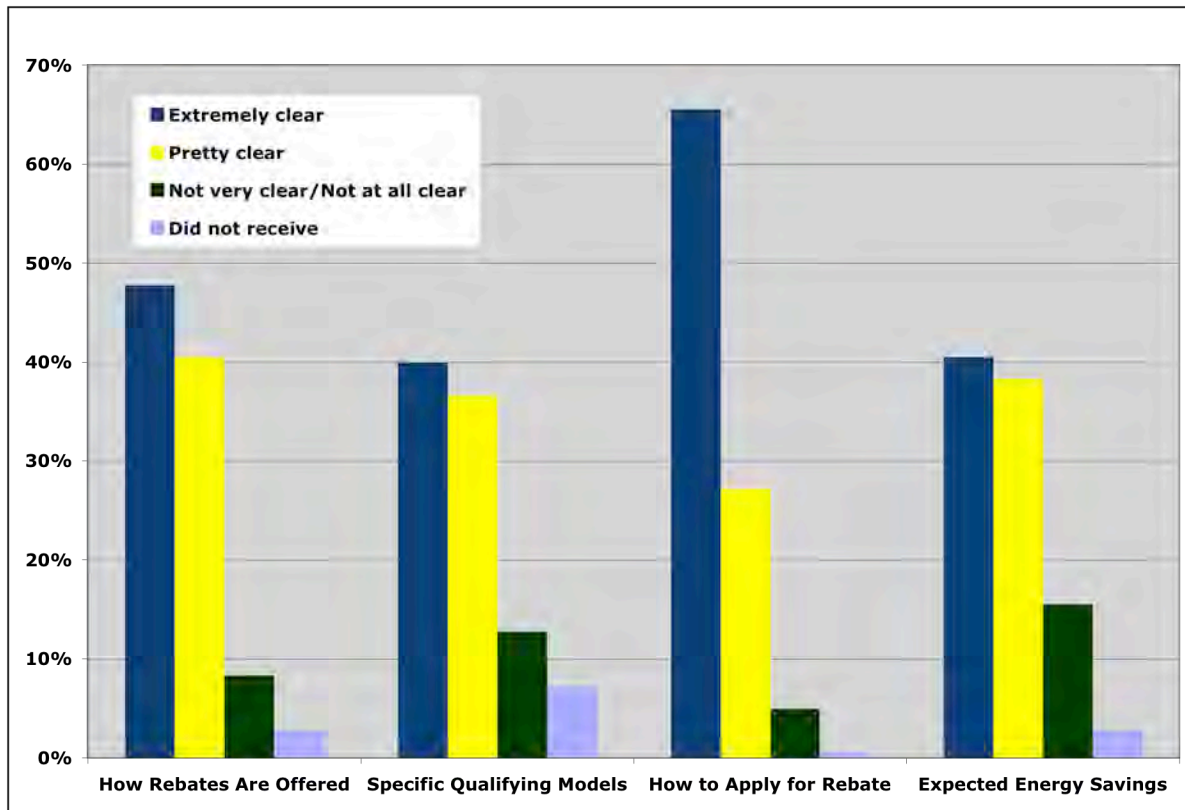
Satisfaction Level	Contractor Involved Respondents (N=20)	Salesperson Involved Respondents (N=160)	All Respondents (N=180)
Very satisfied	55%	69%	68%
Moderately or slightly satisfied	40%	24%	26%
Neutral	0%	3%	3%
Slightly or moderately dissatisfied	5%	2%	3%
Very dissatisfied	0%	1%	1%

Respondents were asked if they ever recommended this rebate program to anyone else; 82 out of 180 (46 percent) said they had. Of those who suggested the program to others, 43 percent mentioned the rebate and 24 percent talked about saving energy or money.

Nine percent of the households had a verification inspection. 15 of these respondents were very satisfied with their inspections, and the other one was slightly satisfied.

Respondents also were asked about the clarity of various program components. Figure 19 indicates that most people felt the material was clear. About 15 percent of the respondents felt unclear about which models qualified for incentives and expected energy savings.

Figure 19: Customer Ratings on Clarity of Information Received



Respondents were asked if they had any doubts about the program materials and the claims they made about the program functions and results. Table 9 shows customers' doubts about the program. Again, they were most concerned about the actual vs. estimated energy savings and the rebate application process.

Table 9: Doubts About Program

Doubt	Percent Saying Yes (N=180)	Issues
Energy savings overstated	10%	All questioned this, but purchased the equipment anyway.
Rebate process	7%	Doubts were: getting paid (4), time it takes and to complete the rebate application (2), and if outside contractor would be eligible (1)
Finding a contractor	4%	
Finding a repairman or parts to maintain equipment	4%	Four of the five respondents described mechanical problems with their equipment.
Energy savings not being worth the extra cost	2%	Didn't know how to tell (1)

Respondents were asked an open-ended question about how to improve the program. Table 10 summarizes their responses. Many people felt the program was not publicized well enough, while others wanted a simpler rebate process, higher rebates or an expansion of the program.

Table 10: Suggestions to Improve Program

Suggested Improvement	Percent (N=69)*
More advertising	38%
Higher rebates	25%
Simpler application/Rebate issues	22%
Expand/extend program	13%
Point-of-sale rebates	3%

*180 responses were recorded, but only 69 of them provided applicable suggestions.

Respondents were asked to suggest additional measures the program should include. The list in Table 11 includes a number of these suggestions, most of which already are covered by the program.

Table 11: Other Measures That Should Be Covered by the Program

Measure	Percent (N=46)*
Solar water heat, alternative energy	22%
More information (unspecified)	20%
AC, heaters	13%
Other appliances (unspecified)	11%
Off-peak metering	9%
Lighting	9%
Calculation tools/Home audits	7%
Insulation	7%
Windows	2%
Water heating	2%

*180 responses were recorded, but only 46 of them provided applicable suggestions.

Of the 180 respondents, 40 had had an energy audit of their home and 34 respondents had installed at least one measure as a result of the audit. Table 12 shows the equipment measures implemented as a result of these audits.

Table 12: Measures Installed as a Result of Audits

Measure	Percent (N=34)
Windows/Doors	29%
Refrigerators	29%
CFLs	18%
Insulation	12%
Reset thermostat or water heater setting	12%
Air conditioner	12%
Other appliances	12%
Weatherstripping	3%
Disconnected or recycled refrigerator	3%
Ceiling fans	0%

Multiple responses were accepted

People who purchased a new refrigerator were asked about what they did with their old unit. Table 13 indicates that 34 percent of the respondents participated in the recycling program.

Table 13: What Happened to Old Refrigerator?

Disposition of Old Refrigerator	Percent (N=38)
Recycled	34%
Deliverer took away	26%
Gave away or sold	24%
Still in use	8%
No refrigerator to replace	5%
Trash	3%

Respondents were asked about their use of the utility websites. Table 14 indicates that 37 percent of respondents used the utility website. Table 15 shows that most of that use was to download rebate applications or to find out more about energy efficiency programs. Note that these results are consistent with the general population survey results discussed earlier in the portfolio analysis section.

Table 14: Use of Online Information

Response	Percent Who Recalled Visiting Utility Website (N=180)	Percent Who Would Like Ability to Track Rebate Application On-line (N=180)
Yes	37%	53%
No	63%	41%
Not sure		6%

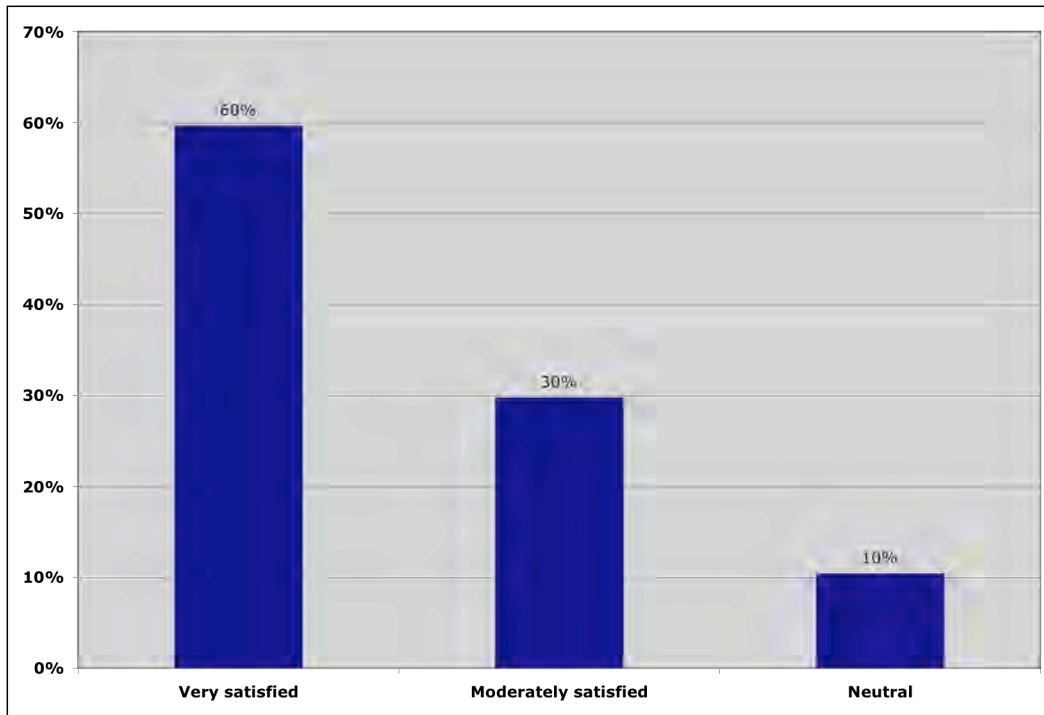
Table 15: Information Sought from Website

Information Sought	Percent (N=67)
Program information and application forms	24%
List of energy efficiency programs	24%
General energy efficiency information	23%
Billing/Service information	13%
List of contractors	3%
Other	12%

Multiple responses accepted

Figure 20 indicates that most website visitors were very satisfied with their experiences.

Figure 20: Satisfaction with Website



The final set of questions collected housing information (Table 16) and demographic information (Table 17) for the Single Family program participants surveyed.

Table 16: Housing Characteristics of Respondents

Housing Characteristic	Percent (N=180)
Home Ownership	98%
House Type	
single-family	84%
apartment	0%
condo	12%
duplex/townhouse	2%
mobile/manufactured	2%
Number of Occupants	
1	14%
2	48%
3-4	31%
5-6	6%
more than 6	1%
House size in ft ²	
less than 1,400	25%
1,400 to 2,500	50%
2,501 to 3,500	16%
3,501+	4%
When Home Was Built	
1930s and before	6%
1941 to 1969	26%
1970s	23%
1980s	24%
1990s	14%
2000 and later	4%

Table 17: Demographic Characteristics of Respondents

Characteristic	Percent (N=180)
Age	
under 35	3%
35 to 54	32%
55 to 64	22%
65+	38%
Refused	4%
Ethnicity	
White	76%
African-American	2%
Asian	4%
Hispanic	5%
Other	2%
Refused	10%
Education Level	
high school or less	14%
some college	20%
associate's degree	11%
bachelor's degree	22%
graduate or professional degree	28%
Refused	6%
Household Income	
less than \$20,000	2%
\$20,001 to \$40,000	11%
\$40,001 to \$60,000	11%
\$60,001 to \$100,000	18%
\$100,001 to \$150,000	14%
\$150,001 or more	9%
Refused	36%

Ride-alongs

As part of the process evaluation, the ECONorthwest team interviewed the contractor responsible for the circuit rider services supplied to retail stores that sell products covered by the Single Family program. At the time of the interview, this firm, Organizational Support Services (OSS), provided services only in the SCG area. Since the interview, OSS has been hired to supply similar services in the SDG&E territory. The results for SCG are discussed here as they are directly relevant to helping SDG&E refine this program.

OSS has identified approximately 400 stores in the SCE/SCG territory that sell measures covered by the Single Family program. OSS staff visits these stores periodically to give them information about the rebates, and signage and rebate applications.

Display of the signage is complicated, due to the variety of stores and whether or not they provide instant rebates. Therefore, OSS field staff carries three different sets of materials in order to give the correct materials to each store. OSS visits each store approximately four

times per year.

The SCG program offered OSS field staff \$100 for each of the 100 independent stores that agreed to do instant rebates. Staff was very excited by the prospect and worked hard to sell the idea. However, despite their enthusiastic promotion, just six stores agreed to provide instant rebates.

Field stops at Sears, Home Depot and three independent appliance stores.

The evaluation team representative visited five stores while accompanying the OSS circuit rider. The following observations were made:

- **Sears:** They sell water heaters, clothes washers and dishwashers. The sales staff has sold appliances successfully for a long time. However, this does not mean they were selling the energy efficient models. Some program signs were posted, and there were plenty of rebate applications available. They also said Sears displays only three models of water heaters in varying sizes, which may not include those that qualify for the rebates or the most energy efficient products. In addition, the Energy Factor, which determines if a water heater qualifies for the program, was not posted on the product label. Further complicating the issue is that the most expensive units did not qualify for the program. Therefore, it was hard to determine how and where to post program signage. The salespeople said the rebates did not seem to be that important, except for clothes washers, because other rebates were available from the water and electric utilities.
- **Home Depot:** Home Depot had point-of-sale (POS) instant rebates, so the sales staff was very aware of rebates. Most of the signage for the appliance rebates was placed effectively. An exception was the signage for water heaters; the qualified models had been moved, but the signage had not been moved and was located with equipment that was not covered by the program. Signage for insulation was not visible. It is apparent that this was due to two reasons: 1) The signage is too wide for the display area (a shelf post or under a shelf), and 2) There was no sign just for insulation.
- **Independent stores:** Three independent appliance stores were visited. Signs had not been moved since the previous visit, but it was hard to tell if specific models qualified for the rebate. The SCE signs for refrigerators were very visible, and each refrigerator had its own sticker. The OSS circuit rider places these stickers on the products for SCE. However, it is difficult to ensure that every floor model has a sticker, because of the turnover in equipment due to sales or display changes. Store staff also has issues with the size and stickiness of the tag. To make the program more successful, the Single Family program must create these signs and have circuit riders visit each store more often, or compensate the stores to keep signs on qualifying units.

This may be difficult because store salespeople did not have much incentive to keep

the signs in place. They received no direct compensation for the sale of an energy efficient model; their only incentive was if the rebate and appliance features made it easier to sell the product. Rebates were not really a factor in sales because they are so small. The exception was clothes washers, because of the combined water, electric and gas rebates.

The salespeople at these independent stores tended to be family members who have been in the business for a long time. They were generally well informed about the rebates, with the exception of the clothes washers; none of the salespeople knew the combined water, gas and electric rebates.

- **Instant Rebates:** OSS representatives had signed up one of the independent stores to participate in the instant rebate program. However, at the time of the field visit, six weeks after that agreement was signed, the store had heard nothing from the utility. The two other independent stores were not interested in being responsible for the instant rebates. One questioned the utility's ability to compensate them within a reasonable amount of time. At the time of the ride-along, there was no pressure on these stores to have instant rebates because only Home Depot offered them, and customers generally were unaware of the existence of instant rebates. Now that 12 firms are offering the instant rebates, there may be more pressure on the other stores to follow suit.
- **Education of Sales Force:** While the program is straightforward and program requirements have not changed frequently, there still is a need to keep the sales force informed. The circuit rider can help supply materials to the stores, but cannot be the only means of transmitting information to the sales staff. One issue is timing, as it is neither possible nor desirable for the circuit riders to meet with every salesperson. In large stores such as Sears and Home Depot, there are too many salespeople and not all of them are present at any one time. Therefore, the program needs to develop other means to communicate with salespeople periodically.

One method is to have the companies that generate the sales tags for the small appliance stores include the rebate on the sales tag. For instance, several independent stores use Price Tag Pro to produce their sales tags. For \$29/month, this service keeps information on every available model, so the store can look up a model and print an appropriate sales tag. Sales tags include an ENERGY STAR® label when appropriate. With support from the program, the software could be revised to include rebate information. OSS is following up on this strategy with Price Tag Pro.

Rebate Processing

Rebate processing is a big issue in many programs, particularly the Single Family program. In 2006, the program reported that it was taking up to eight weeks to process rebate payments, and it cost more than \$14 to process each one. Since many of the rebates were for \$25-35, this cost was disproportionately high. In addition, the rebate form for the Single

Family program was very long (12 pages), and although it could be downloaded from the SDG&E and SCG websites, it could not be filled out and submitted on-line. (Note that the rebate form has been reduced to 6 pages in 2008).

While the processing of rebates is beyond the scope of this evaluation, the difficulties encountered by customers in completing the forms and receiving payment did affect participation in the energy efficiency programs. Therefore, the process evaluation team interviewed the people in charge of rebate processing and on-site verification. They also observed the rebate processing and payment process.

The head of rebate processing said the department had made some changes that reduced processing from eight weeks to 30-42 days. The manager either did not have or was unwilling to share any data that showed the payment aging records, and explanations about the delays. She explained that the longer processing times sometimes were due to absences of application approval staff. Now, she delegates that responsibility if those people are unavailable. She acknowledged that forms still can be delayed if the program manager is unavailable to sign them.

The application processing process needs a complete overhaul if the process is to be speeded up.

Below is a review of the rebate application processing process.

1. The rebate form is filled out and received.
2. The mail room date stamps the application form and sends it to the processing center.
3. Processors pull the application and enter the information in the Energy Efficiency Tracking System (EETS), which is a payment and tracking system.
4. Some of the applications are pulled for inspection. Currently, Single Family program applications with multiple measures, do-it-yourself applicants, or homes that have previously received rebates are inspected. For other applications, five percent of the applications are selected for inspection.
5. All forms are reviewed for accuracy; some are double-checked. There is no data about how many errors are caught through this review.
6. The form packet is transferred to the program manager, who reviews the application and approves it if it is complete, or notes missing information.
7. Rebate processing managers review and sign approved applications.
8. The information is uploaded to the payment program.

SDG&E needs to fix the existing application processing system because the current approach is affecting the level of program participation. The application was too long; the Single Family program manager recently reduced the form from 12 pages to three. The long waiting period, and the inability to file on-line discourage applications, and reduce the perceived value of the rebate as an inducement to purchase an efficient product.

A recent internal study explored a number of options for making rebate processing improvements. The evaluation team has not seen this report though they did discuss it briefly with one of its senior contributors. The report finds difficulties for SDG&E in developing an on-line option. Two of the reasons that an on-line application is not in the immediate future are: 1) a need to wait to develop the new data tracking system, and 2) confusion about how to do an on-line rebate and still obtain the receipts needed to verify purchase.

If these issues are not resolved, they will continue to undermine program participation. It is recommended that SDG&E develop some type of on-line forms and not wait until the new system is developed. This could involve use of a system independent of the EETS, which fully processes the applications or alternatively uses an intermediate step to bring these on-line applications into EETS.

More importantly, the processing system must be converted to an electronic approval system that eliminates the need to shuttle the physical files from stage to stage. The current process of moving paper folders is antiquated and serves no useful purpose in this age of computer approval and signature systems. The existing approach is time-consuming, is an invitation to losing or misplacing files, and makes it impossible to track the rebate processing flow accurately.

A percentage of the delays are due to incomplete information from the applicant. Rebate processors previously sent everything back to the customer if the application was not complete. Now, they call customers to get the missing information. Electronic tracking would allow this step to be automated and could include a computer-generated phone message, email and/or postcard to the customer about the missing information. These contacts could include a help line number and a reference number so program staff could incorporate the additional information more quickly.

A thorough analysis of these and other problems would identify how to make the program less confusing for applicants. The rebate processing department does not do this type of accounting. The programs also should assess which data they need and eliminate anything else. This would shorten the application form and reduce problems. Each application also could include a simple checklist of required information.

At the time of the interview, SDG&E was negotiating with a private company to do some of the rebate processing. It is unclear how this outsourcing will be accomplished, so it is difficult to assess if this will help address the issues mentioned above. It seems likely that outsourcing could reduce the existing backlog. However, it is not clear how the processing contractor will handle applications with problems. It also is unclear if all of the signatures

required now still will be needed.

An informal interview with the head of on-site inspection also was conducted. He said his teams did inspections quickly and did not really slow down the process. The inspection department head noted that there was a process to transfer application packets and file inspection reports. While the system appeared to work, packets still were mislaid or fell through cracks. Again, it is recommended that the tracking system use an electronic packet at each step and eliminate the need to send the physical package.

3.5 SINGLE FAMILY PROGRAM ISSUES AND OBSERVATIONS

The Single Family program long has been an important component of the SDG&E portfolio. In the future, the potential savings from these efforts will diminish as the program's success makes it harder to identify measures that can be rebated cost-effectively. Many of the measures that had previously yielded large savings no longer will be eligible for rebates, either because they no longer are allowed by code or because the units which used to be well above code will just meet the new, stricter code requirements. For example, one of the biggest savings measures in 2007 will not be available in 2008 from SDG&E. New, more stringent pool pump standards, made possible in part by the Single Family program promotion, will be enacted on January 1, 2008.

As discussed in the portfolio analysis section of this report, there are few areas of savings growth in the residential market. Under these circumstances, SDG&E can expect to find it more difficult to squeeze savings from residential homes. Under these circumstances, SDG&E can expect to find it more difficult to squeeze savings from residential homes. Programs must either lower the costs of the programs or reduce rebate amounts. Increasingly, the programs must reach out to customers that have not participated. This will require more targeted programs with marketing that is focused on engaging those that have not been easily drawn in before. The use of standard broad marketing campaigns will become less and less productive in coming years.

Rebate information was available at the stores visited by the evaluation representative. However, only a little more than 50 percent of the applicants recalled seeing the materials. The recall is no better at the SCG-area stores than at the SDG&E stores even though a circuit rider supported SCG stores during the study period.

Not surprisingly, the existence of the rebates was a small factor in motivating customers to buy the energy efficient products they purchased. Only about 14 percent of the respondents thought it was an important factor. Saving money and energy were more important factors. Yet, salespeople and customers did not have accurate estimates of how much energy and dollars the efficient products would save.

Several issues related to the interviews with pool service contractors were identified. The change in code in 2008, which eliminates single-stage pool pumps, makes some of the findings irrelevant. Pool service contractors did believe the peak shifting aspect of the

program was appropriate, and some quite strongly supported this practice. The feedback suggests that time shifting practices are fairly permanent: that customers who choose to do this stay with it.

Most pool service firms were satisfied with the list of eligible equipment, and all appeared to be able to offer eligible equipment to their customers. The low pool pump rebate levels were dampening market response and were widely viewed as ineffective. There is a need for a simpler application approval process. It is difficult to identify whether or not the purchased equipment is eligible and to find the corresponding model number on the program list. Finally, the program is not suited to solar pool systems.

Based on the evaluation findings, the following recommendations are made for improving the Single Family program:

- **Simplify the rebate application process.** The major focus of the Single Family program needs to be simplification of the rebate process. This should be a continued emphasis on point-of-sale. The recruitment of the 11 new companies this summer ranks as one of the most important accomplishments of the year. Despite the difficulties reported by the task force, it should be a priority to develop an on-line application. Making this available will eliminate much of the time and expense involved in processing the rebates. It also will make it possible for stores not able or willing to offer instant rebates to assist customers in completing the rebates at the time of purchase. The company needs to overhaul its rebate processing and eliminate the antiquated process of passing hard copy folders from approval station to approval station. The current system cannot even supply the data needed to calculate the time it takes to process rebates, nor easily identify applications that have been in the system too long.

Other rebate processing recommendations include:

- Implement an application processing report that provides weekly summaries and aging reports on specific applications.
- Implement internal deadlines for the resolution of application processing issues.
- Eliminate the need for the program manager to sign off on every rebate. Allow subordinates to sign off on rebates below certain thresholds.
- Redesign the application forms to eliminate data that are not required for rebate processing and impact calculations.

3.6 SINGLE FAMILY PROGRAM BEST PRACTICES REVIEW

Program Theory and Design

- *Is the program design effective?* The Single Family program provides rebates for a broad range of home appliances and measures that are attractive to customers, including a good list of eligible pool pump equipment. The program provides a variety of ways that customers (or their contractors) can claim incentives. One very effective method is to provide point-of-sale rebates through participating retailers, distributors, and manufacturers. POS rebates make it easy for customer to receive their incentives and also reduces the amount of processing required since retailers can provide a single invoice for all POS rebates.

To continue to generate savings, however, the program will have to find new types of measures to include (e.g., high efficiency clothes washers), conduct more targeted marketing as the territory becomes more saturated, and continually monitor rebate levels, as many measures that have previously yielded savings no longer will be eligible for rebates, either because they no longer are allowed by code or because the units which used to be well above code will just meet the new, stricter code requirements.

- *Is the market well understood?* The program has made strong and targeted efforts to recruit more large retailers into the program to expand the market, and has tried to increase in the number of stores that offer convenient POS rebates to customers. Aggressive marketing by the program has expanded the list of participating retailers, including some new large chains.

Program Management

Project Management

- *Are responsibilities defined and understood?* Program roles and responsibilities among program staff, the circuit rider contractor and participating manufacturers, distributors and retailers appear to be clearly defined and understood; no significant coordination or implementation problems were mentioned.
- *Is there adequate staffing?* No program staffing deficiencies were noted in this evaluation.

Reporting and Tracking

- *Are data easy to track and report?* The program database was not assessed in this evaluation.
- *Are routine functions automated?* Rebates processing requires the physical transfer of paper forms from one stage to the next, and processing can be delayed when application approval staff or the processing manager are absent. The existing approach is time-

consuming, risks losing or misplacing files, and makes it difficult to track the rebate processing flow. Electronic tracking would help to automate the entire process and could include computerized tasks such as information screening and customer communications to obtain missing information.

Quality Control and Verification

- *Does the program manager have a strong relationship with vendors involved in the project?* While manufacturers, retailers, and circuit-rider contractors are largely responsible for driving customer participation in the program, in-house oversight of the program has been retained, and the program manager has adequate contact with all participating parties. Program staff members are actively involved in developing and distributing marketing and rebate materials and educating contractors and retail sales staff on equipment features and energy efficiency benefits.
- *Does the program verify reporting systems (e.g., rebates, invoices)?* Not addressed in this evaluation.
- *Are customers satisfied with the product?* Customers reported that they are satisfied with the range of equipment that is covered and the performance of the equipment they purchased.

Program Implementation

Participation Process

- *Is participation simple?* Customer participation is simple for POS purchases. It is not simple when the standard hard copy and on-line rebate applications are used, which are long and require very detailed information. The lengthy application form has negatively affected program participation. Regarding pool pump equipment, it is hard for customers to correctly identify the model number of their new equipment and then find the model number on the program list.
- *Are participation strategies multi-pronged and inclusive?* Not applicable.
- *Does the program provide quick, timely feedback to applicants?* No. The program has not had a good system in place to expedite rebate processing, and in the past it has taken four to eight weeks to process applications. This should improve when the new processing system is implemented.
- *Is participation part of routine transactions?* Yes, customers can obtain rebates immediately (through POS) or else as a discount through their contractor that installs the equipment.

- *Does the program facilitate participation through the use of internet/electronic means?* No, the on-line applications are lengthy and cannot actually be filled out on-line; they must be printed out, filled in, and then returned as a hard copy.
- *Does the program offer a single point of contact for their customers?* Not applicable.
- *Are incentive levels well understood and appropriate?* Customers reported that they are only moderately satisfied with the program rebate levels, and that the rebates are not a major purchasing motivator. In addition, exactly which products are eligible for rebates is not always clear to them, and sometimes sales staff does not know for sure either. In particular, there is evidence that the incentive levels for single-speed and multispeed pool pumps have been set too low, which has significantly dampened market interest.

Marketing and Outreach

- *Use target-marketing strategies?* The program has not done much target marketing and has relied primarily on bill inserts and in-store signage. As a result, most customers first hear about the program from dealers at the time of purchase.
- *Are products stocked and advertised?* No stocking problems were reported, and the rebated products appear to be generally available. Store signage, however, does not always effectively communicate which products qualify for the program. Also, salespeople and customers sometimes do not have accurate estimates of how much energy and dollars the efficient products will save due to signage problems.
- *Are trade allies and utility staff trained to enhance marketing?* The Single Family program employs a third-party to provide marketing support for the rebate offerings. The third party distributes materials to the participating equipment stores in the service territory and trains the sales staffs on the rebates and equipment benefits.

4. MULTI-FAMILY REBATE PROGRAM

4.1 MULTI-FAMILY PROGRAM BACKGROUND

SDG&E's Multi-Family Rebate program (Multi-Family program) offers cash rebates for the installation of energy efficiency measures in residential multi-family buildings. Rebates covered measures for common and tenant-occupied spaces in existing multi-family complexes with two or more units. Measures were required to meet minimum efficiency standards to qualify for the rebate.

The program provides rebates to contractors, property owners and managers after efficient measures had been installed. Most lighting rebates covered the entire cost of the installation while rebates for other measures such as boilers, controllers, air conditioners and dishwashers reduced the total costs to encourage multi-family property owners and managers to install efficient options. Qualifying measures include:

- ENERGY STAR® compact fluorescent light bulbs
- ENERGY STAR® ceiling fans
- ENERGY STAR® interior hardwired fluorescent fixtures
- T-5 or T-8 lamps with electronic ballasts
- ENERGY STAR® clothes washers
- ENERGY STAR® dishwashers
- Attic or wall insulation
- Low-flow showerheads
- Faucet aerators
- Efficient electric storage water heaters
- ENERGY STAR® exterior hardwired fluorescent lights
- ENERGY STAR® high efficiency exit signs
- Occupancy sensors
- Photocells
- ENERGY STAR® coin-operated clothes washers
- Energy efficient package terminal air conditioners and heat pumps
- ENERGY STAR® central natural gas furnaces
- Natural gas storage water heaters
- ENERGY STAR® room air conditioners
- Central system natural gas water heaters
- Central system natural gas boilers
- Natural gas water heaters or boiler controllers
- High efficiency central air conditioners
- Energy efficient central heat pumps.

The program was primarily contractor-driven; contractors generally initiated contact with property managers and offered the rebated measures. As a result, program staff had very little contact with property managers. About 20-30 contractors participated in the program; five of

them were responsible for 80 percent of the rebates. Although some contractors had their customers apply for the rebates, about 75 percent of the rebates were paid directly to the contractors.

Marketing for the program was limited to the program's web page, which included program information and a PDF of the rebate application. The program did one marketing mailing to targeted customers but noticed no change in participation. Subsequent marketing efforts were minimal.

The most recent quarterly report (for the third quarter of 2007) indicated that the program was falling short of both kWh and therm goals. As a result, the rebate for interior hardwired fixtures was reduced from \$50 to \$40, and \$800,000 of the program's therm budget and a projected savings of 800,000 therms were shifted to the utility's commercial and industrial programs. Funding was exhausted for the program and the utility stopped accepting rebate reservations as of September 21, 2007.

Figure 21 shows the Multi-Family program progress toward 2006-08 goals and budget expenditures as of Q3 2007. At the time of this report, the Multi-Family Program has exceeded its kW goal, has achieved 62 percent of its net annual kWh goal, met one-quarter of its therm savings goals, and has spent two-thirds of its three-year budget.

Figure 21: Multi-Family Program Progress Toward Goals and Expenditures (Q1 2006 - Q3 2007)

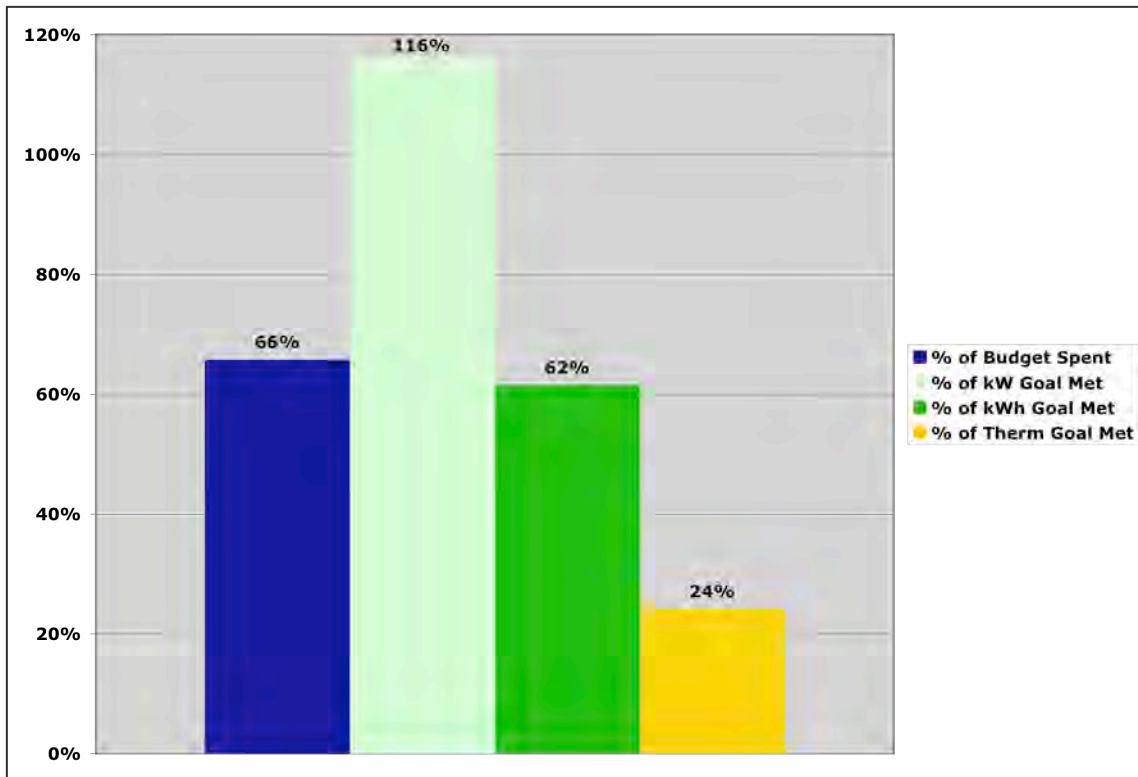
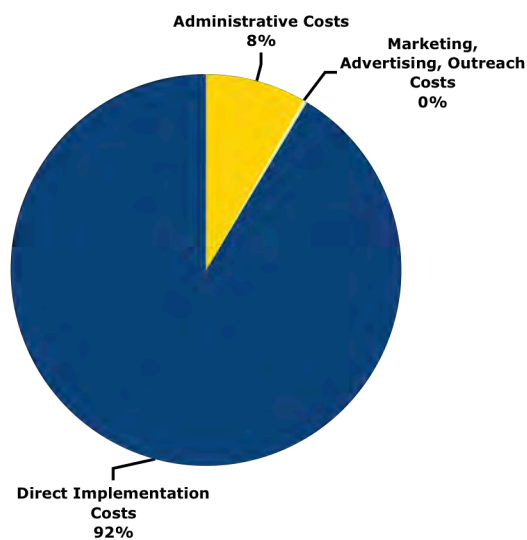


Figure 22: Multi-Family Program Expenditures by Category (Q1 2006 – Q3 2007)



4.2 MULTI-FAMILY PROGRAM LOGIC MODEL AND PROGRAM THEORY

The following program theory for SDG&E's Multi-Family program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. (The logic model diagram follows the discussion of program theory.)

Activities

Marketing and Outreach

The Multi-Family program targets property owners and managers of residential apartments, mobile home parks, and condominium complexes. Multi-family property owners/managers are contacted about the program through direct mailings, presentations at community housing workshops, local multi-family association meetings, and on the SDG&E website. The program will also enhance its current contacts with property managers via the San Diego Apartment Association.

Rebates

Rebates are available for eligible multi-family property owners/managers who install energy efficient products in their complexes. Rebates may be paid to the building owner, a condominium association, or directly to the installing contractor. Bonus rebates are offered to owners who install three or more energy efficient measures at a time.

Collaboration with trade allies

In order to facilitate the installation of gas measures, the Multi-Family program will focus on educating and expanding alliances with gas product distributors, contractors, and plumbers.

Quality assurance and verification

Quality assurance and verification procedures are established for the program.

Short Term Outcomes

Property owners understand EE benefits and are aware of program options

As a result of the various marketing and outreach activities, property owners begin to understand the potential benefits of installing EE measures and are aware of the financial incentives available through the program. Consequently, the "split incentives" barrier is effectively eliminated.

Property owners participate in program, install measures

Through the use of financial incentives the property owners will participate in the program and install energy efficient products in their complexes. The measures will be installed in individual dwelling units as well as common areas.

Mid Term Outcomes

Energy cost savings to property owners, tenants

The property owners will have reduced energy costs from installing energy efficient equipment in the common areas of the buildings for which they pay the operating cost. Tenants will see reduced energy costs from the installation of energy efficient equipment in their individual dwelling units.

Owners recognize benefits and continue to participate in program

Building owners will see the monetary benefits of participating in the rebate program and be more inclined to install additional efficiency updates in the future.

Inspections of 100 percent of approved projects, random sample of inspections for all applications submitted

SDG&E will inspect 100 percent of all projects that are approved for the program. In addition to the approved projects, a random sample of will be drawn for inspection from all applications submitted to the program.

Long Term Outcomes

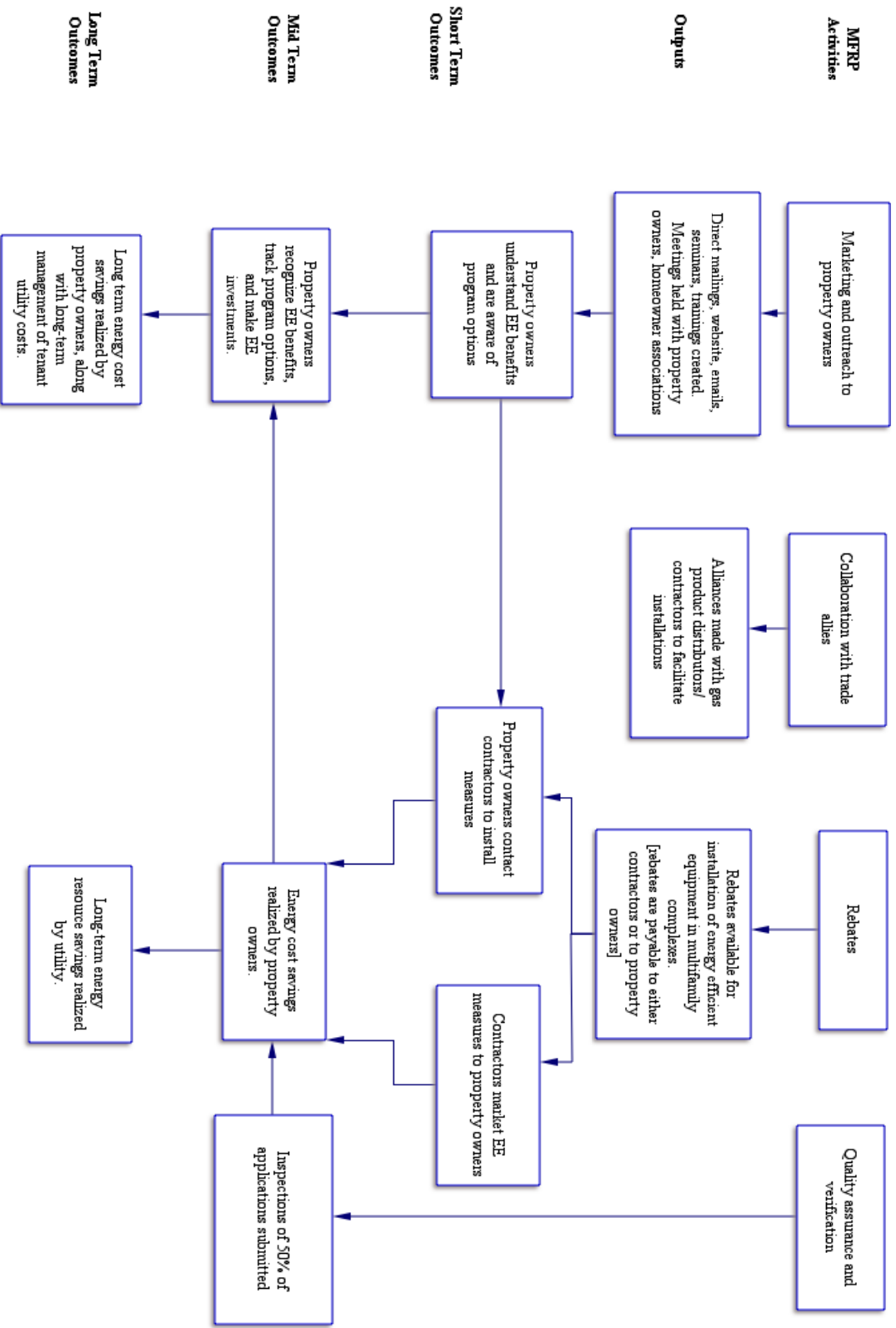
Long term energy savings to property owners and tenants

Energy savings will continue to occur as long as energy efficient products are being used in multi-family residences. The property owners will save energy in common areas and the tenants will save energy in their individual dwelling units.

Utilities realize long term resource savings.

Energy savings realized through the installation of energy efficient measures will provide the utilities with cost-effective long term energy resources.

Figure 23: Multi-Family Rebate Program Logic Model



4.3 MULTI-FAMILY PROGRAM EVALUATION OVERVIEW

Based on in-depth interviews with Multi-Family program staff conducted at the beginning of the evaluation, several key research issues were identified that provided the focus of the evaluation activities. Additional research issues were identified as the program logic model and program theory were developed. The major evaluation research issues for the Multi-Family program are described below.

Multi-Family Research Issues

Assess Whether the Requirements for Comprehensiveness Limits Participation

A primary research issue for the Multi-Family program will explore if requirements for comprehensiveness (i.e., installation of both electric and gas measures) might be hindering participation. Specifically, there are a limited number of gas measures available for installation and electric lighting contractors are not typically interested in installing gas-related measures.

The program achieved approximately 70 percent of its kWh goal last year and program managers deem the goal unrealistic. Thus, a further research issue will consider the impact of the comprehensiveness requirement in attaining the program's efficiency goals and if eliminating this requirement would increase the penetration of the electric measures.

Review the Application Form Requirements

The application form for a multi-family rebate is lengthy and may serve as a participation barrier, especially in cases where the rebate is small.

4.4 MULTI-FAMILY PROGRAM EVALUATION RESULTS

Three interview activities were completed to gather information about the Multi-Family program.

- An in-depth interview with the Multi-Family Program Manager to gather high-level information about the program, participants, energy savings goals and other important issues.
- Telephone surveys with 81 multi-family property managers and owners (40 participants and 41 nonparticipants) in SDG&E's service territory to get a sense of the program, their experiences and perceptions, and their interest in and activities related to energy efficiency.
- In-depth individual telephone interviews with 13 property managers and six contractors about their experiences with the program and suggested improvements.

Information gathered from the telephone surveys and in-depth interviews is summarized separately in the following sections of this chapter. Key findings are summarized at the

end of the chapter and are followed by recommendations for the program.

Property Owner and Manager Telephone Surveys

Eighty-one property managers and/or owners who worked at multi-family facilities in SDG&E's service territory participated in a telephone survey. Forty of these individuals had participated in the program (participants), and the other 41 had not (nonparticipants). Most of the nonparticipants (71 percent) were aware of the program. Both groups were asked questions about the facilities where they worked, their perceptions and awareness of the program, their attitudes toward utility-sponsored programs and their attitudes and actions regarding energy efficiency at their facilities. Participants also were asked specific questions about their experiences with the Multi-Family program.

Pre-participation

Participants and nonparticipants said they most often first heard of the program from contractors or vendors. A significant number of both groups also learned about the program from utility staff, individuals in the property management industry or utility marketing materials.

Table 18 shows the initial source of program awareness.

Table 18: Initial Knowledge of Program

Information Source	Participants (N = 38)	Nonparticipants (N = 29)
Contractor or vendor	42%	31%
SDG&E staff	21%	14%
Individual in property management industry	18%	10%
Utility brochure/bill stuffer	11%	28%
Don't know	5%	0%
Web page	3%	3%
Previously participated	0%	7%
Tenant	0%	3%
Newspaper	0%	3%
County of San Diego	0%	3%
Word-of-mouth	0%	3%

Table 19 shows that respondents were interested in several program features, particularly the opportunity to reduce energy costs.

Table 19: Program Features of Interest

Program Feature	Participants (N = 38)	Nonparticipants (N = 41)
Reduce energy costs	87%	71%
Upgrade tenant units	42%	68%
Upgrade the building	34%	59%
Receive a rebate on measures installed	24%	44%
Types of improvements available	21%	32%
None	3%	5%

Respondents were asked what questions they would need to have answered before participating in the program. They cited several, as noted in Table 20, most relating the participation process, the quality of work performed, and issues relating to rebate processing.

Table 20: Pre-participation Questions

Questions	Participants (N = 38)	Nonparticipants (N = 41)
What quality are the lights, appliances, and other equipment?	53%	27%
What is the cost of the installation?	45%	51%
How much should my utility bills decrease as a result of the installation?	45%	34%
Do the contractors in the program do quality installation work?	39%	24%
None	34%	15%
How do I participate?	29%	24%
What paperwork is required or what forms do I need to fill out?	24%	15%
What rebate will I receive?	18%	27%
How long will it take to get paid?	13%	17%
The decision is handled by management company	3%	0%
How do I get info about the program?	0%	2%
What is the extent of my involvement?	0%	2%
How would it affect the health of senior tenants?	0%	2%

Application Form and Process

Table 21 shows that most participants did not have difficulty with the application; over

85 percent said it was either “very easy” or “somewhat easy” to complete. This likely reflects the fact that contractors often completed the rebate applications or provided a lot of assistance.

Table 21: Difficulty of Application

Level of Difficulty	Nonparticipants (N = 38)
Very easy	66%
Somewhat easy	21%
Somewhat hard	8%
Very hard	0%
Don't know	5%

As Table 22 shows, over half of all participants required some assistance to complete the application, and most sought help from contractors. Table 23 shows that among those who needed help with their application, almost half said they would like to contact a utility representative for that assistance. Note that only one of the participants surveyed was able to get help on their application from SDG&E staff.

Table 22: Assistance Needed on Application

Need Assistance? From Whom?	Participants (N = 38)
No	39%
Yes	61%
Contractor	42%
Property management staff	8%
Utility staff	3%
Relative	3%
Other	3%
Don't know	3%

Table 23: Preferred Contact for Application Assistance

Preferred Contact	Participants (N = 22)
Utility representative	41%
Don't know	27%
Contractor representative	18%
Don't care	14%

Location of Measures

As Table 24 shows, almost all participants surveyed had measures installed in tenant-occupied areas through the Multi-Family program, while slightly more than half had measures installed in common areas.

Table 24: Measures installed in Common and Tenant Areas

Response	Participants – Common Areas (N = 37)	Participants – Tenant Occupied Spaces (N = 36)
Yes	59%	94%
No	41%	6%

Table 25 and Table 26 show the measures nonparticipants were interested in installing in tenant-occupied and common areas. Lighting measures topped both lists, although there was significant interest in several of the other measures. Nonparticipants were slightly less interested in common area measures; 34 percent of them indicated they would install “none” of the common area measures, compared to only 20 percent of tenant-occupied area measures.

Table 25: Potential Installations in Tenant-Occupied Spaces for Nonparticipants

Measure (Rebate)	Nonparticipants - Measures of Interest (N = 41)	Nonparticipants - Measures Most Likely to Install (N = 33)
Hardwired fluorescent fixtures in tenant spaces (\$50/fixture)	41%	27%
Hardwired fluorescent porch lights (\$30/fixture)	34%	18%
Screw-in fluorescent lamps (up to \$6/lamp)	34%	18%
High performance dual-paned windows (\$0.500/ ft2)	32%	15%
Faucet aerators (\$1.25 each)	32%	9%
Low-flow showerheads (\$5 each)	32%	24%
ENERGY STAR® ceiling fans (\$20/ fixture)	24%	21%
ENERGY STAR® Dishwashers (\$30/unit)	22%	12%
None of the above	20%	3%
ENERGY STAR ®clothes washers (\$75/unit)	17%	6%
Attic or wall insulation (\$0.15/ft2)	15%	6%
Don't know/ unsure	0%	3%

Table 26: Potential Installations in Common Areas for Nonparticipants

Measure (Rebate)	Nonparticipants (N = 41)	Nonparticipants (N = 27)
None of the above	34%	4%
Screw-in fluorescent lamps (up to \$6/lamp)	29%	22%
High performance dual-paned windows (\$0.50/ft ²)	29%	26%
High efficiency water heaters (up to \$500/unit)	22%	26%
Natural gas water heater or boiler controllers (up to \$750 or \$1,500/unit, respectively)	22%	15%
High efficiency boilers (up to \$1,500/unit)	20%	19%
High efficiency exit signs (\$35/sign)	17%	11%
Occupancy sensors (\$10/sensor)	17%	11%
Photocells (\$10/cell)	12%	7%
High efficiency central air conditioners (up to \$425/ unit)	10%	11%
Coin-operated clothes washers (\$150/unit)	10%	7%
Energy efficient central heat pumps (up to \$500/unit)	7%	7%

Measure Costs

As shown in Table 27, participants were asked if they had to pay for the measures installed in their facilities. While most measures were free of charge for both common and tenant-occupied areas, a larger number of participants indicated they paid for some portion of the common area measures installed through the program. This likely reflects the fact that many larger measures that did not qualify for complete rebates, such as boilers, were installed in common areas, while smaller, free measures, such as lights and faucet aerators, were installed more often in tenant-occupied areas.

Table 27: Payment for Program Measures

Response	Participants – In Common Areas (N = 22)	Participants – In Tenant-occupied Spaces (N = 34)
No, they were offered free of charge	73%	94%
Yes	23%	6%

Table 28 shows how nonparticipants would have assessed the cost of measures offered through the program. The table also includes the responses of two participants who paid for measures and said cost was a major issue influencing their decision to participate. Over half of nonparticipants said they would look at either the total cost of the installation or the total cost relative to the expected energy savings. This indicates that a significant number of individuals were looking only at up-front costs and likely would participate only if these costs were minimal.

Table 28: Method of Assessing Cost of Installation

Assessment Method	Participants (N = 2)	Nonparticipants (N = 34)
Look at the total cost relative to the energy savings you were told to expect	100%	26%
Look at the total cost of the installation	0%	29%
Look at the return on investment	0%	9%
Don't know	0%	9%
Would not need to judge because cost would be minimal	0%	9%
All factors	0%	9%
Look at the number of years the investment would take to pay for itself	0%	3%
Would have to ask owner	0%	3%
None	0%	3%

Decision-making

Respondents also were asked if factors besides investment costs would influence their decision to participate in the program. Participants' and nonparticipants' answers differed slightly, although participants were more likely to indicate that cost was the only issue, as shown in Table 29.

Table 29: Factors Affecting Installation Decisions

Decision Factor	Participants – Common Areas (N = 22)	Participants – Tenant- occupied Spaces (N = 1)	Nonparticipants – All Areas (N = 34)
None, no other factors	45%	100%	21%
Tenant acceptance, aesthetics	23%	0%	38%
Quality of product	23%	0%	35%
Installation difficulties	14%	0%	21%
Repair, maintenance issues	9%	0%	38%
Don't know	0%	0%	6%
Rebate	0%	0%	3%
Safety	0%	0%	3%
Approval from the State	0%	0%	3%

Both groups were asked if other individuals would be involved in the decision-making process. Table 30 shows that property owners were most often involved in making decisions about installations at the property, and that a significant number of supervisors at property management companies and property managers also were involved. This finding illustrates that multi-family property companies use a variety of decision-making structures and processes and that it can be hard to find the right person to secure participation in the program.

Table 30: Others Involved in Decision-making

Decision Maker	Participants – Common Areas (N = 22)	Participants – Tenant- occupied Spaces (N = 2)	Nonparticipants – All Areas (N = 34)
Property owner	59%	0%	53%
Property manager	32%	50%	15%
Supervisor at property management company	14%	50%	26%
No one else	5%	0%	9%
Purchasing manager at property management company	0%	0%	9%
Don't know	0%	0%	3%
Investors	0%	0%	3%
Maintenance staff	0%	0%	3%
The State	0%	0%	3%

Finding Contractors for Installations

Nonparticipants were asked two questions about how they would find a contractor to install measures offered through the program. Table 31 shows that almost all nonparticipants would get at least one bid for the work; 59 percent would get three or more. Over 80 percent of nonparticipants would ask the utility for a list of contractors working with the program, as shown in Table 32.

Table 31: Number of Bids Would Seek from Contractors

Number of Bids	Nonparticipants (N = 34)
1 bid	9%
2 bids	24%
3 bids	59%
Don't know	9%

Table 32: Desire for List of Contractors

Response	Nonparticipants (N = 34)
Yes	82%
No	18%

Difficulties with the Program

Participants and nonparticipants were asked what difficulties they encountered or would expect to encounter during their participation in the program. The large majority of participants reported they did not experience any problems. A small number said the only major difficulties they encountered were the quality of contractors and their work and the rebate application. Nonparticipants expected to experience a much wider array of difficulties; only 46 percent expecting to have no difficulties at all.

Table 33: Difficulties Encountered or Expected to Encounter with Program

Difficulty	Nonparticipants (N = 28)	Participants – Common Areas (N = 22)	Participants – Tenant- occupied Spaces (N = 2)
None	46%	77%	100%
Quality of contractors and work	21%	18%	0%
Approval from owners/ supervisor	14%	0%	0%
Costs/ finding money	11%	0%	0%
Don't know	7%	0%	0%
Disturbing or interfering with tenants	4%	0%	0%
Difficulty with application	0%	5%	0%

Additional Measures

Table 34 and Table 35 show nonparticipants' interest in additional measures that were not offered by the program. Roughly half of all nonparticipants surveyed were interested in additional measures, particularly solar domestic water heaters, refrigerators and window or through-wall air conditioners. Note that some of the measures such as windows were offered through the program, which suggests that some nonparticipants were unaware of the specific Multi-Family program incentives.

Table 34: Interest in Additional Measures for the Program

Response	Nonparticipant (N = 41)
No	51%
Yes	49%

Table 35: Additional Measures of Interest

Additional Measure	Nonparticipants (N = 20)
Solar domestic water heaters	40%
ENERGY STAR® refrigerators	30%
ENERGY STAR® window or through-wall air conditioners	25%
Pool heaters/ pumps	10%
ENERGY STAR® coin-operated clothes washers	5%
Cool roofs	5%
Sprinkler timers	5%
Sealing & insulation for doors	5%
Windows	5%

Participant Satisfaction

Participants were asked a series of questions about their satisfaction with the program and installed measures. Table 36 shows participant satisfaction with work completed by the contractor. While most participants were either “extremely satisfied” or “somewhat satisfied,” 34 percent rated the work as either mediocre or poor. These individuals were asked a follow-up question to determine why they were not satisfied. As noted in Table 37, most respondents indicated that the contractor either had not done the work as expected or had used poor quality products.

Table 36: Customer Satisfaction with Contractor Work

Level of Satisfaction	Participants (N = 38)
Extremely satisfied	37%
Somewhat satisfied	29%
Neither satisfied nor dissatisfied	16%
Somewhat dissatisfied	11%
Dissatisfied	8%

Table 37: Reason for Rating of Contractor Work

Reason	Participants (N = 13)
Contractor did not complete work or do what was expected	62%
Poor quality product	23%
Did not show up when expected	8%
Ran out of supplies	8%

Participants’ satisfaction with the performance of the equipment is shown in Table 38. Again, roughly two-thirds (66 percent) of participants reported that they were either “extremely satisfied” or “somewhat satisfied.” Those who reported lower levels of satisfaction were asked why they selected their rating, and most said that the lights that had been installed were burning out. Responses to this follow-up question are detailed in Table 39.

Table 38: Customer Satisfaction with Performance

Level of Satisfaction	Participants (N = 38)
Extremely satisfied	32%
Somewhat satisfied	34%
Neither satisfied nor dissatisfied	13%
Somewhat dissatisfied	13%
Dissatisfied	8%

Table 39: Reason for Rating of Equipment Performance

Reason	Participants (N = 13)
Lights burning out	54%
Can’t determine performance yet	15%
Not seeing energy savings	8%
Spending more money to maintain equipment	8%
Product did not work	8%
Bulbs hard to replace	8%

Participant satisfaction with the equipment installed in tenant areas is shown in Table 40. Again, the majority of participants were either “extremely satisfied” or “somewhat satisfied.” Those reporting lower levels of satisfaction were asked why they selected their rating. As noted in Table 41, most indicated they were having difficulties with the quality of the equipment or that tenants had not said anything about the equipment.

Table 40: Satisfaction with Tenant Unit Installations

Level of Satisfaction	Participants (N = 38)
Extremely satisfied	34%
Somewhat satisfied	18%
Neither satisfied nor dissatisfied	32%
Somewhat dissatisfied	5%
Dissatisfied	8%
Does not apply	3%

Table 41: Reason for Rating of Tenant Unit Installations

Reason	Participants (N = 18)
Lights were burning out.	28%
Tenants have not said anything.	22%
Manager had received complaints from tenants.	11%
Quality of light was poor.	11%
Quality of equipment was poor.	11%
Tenants who did not receive new equipment were unhappy.	6%
Tenants did not like waiting one week for the installations.	6%
Bulbs were hard to replace.	6%

Participants also were asked what tenants liked most about the work that was completed in their units. As Table 42 shows, 46 percent reported that they were unaware of tenants’ response or had not received any comments from tenants, while 27 percent reported that tenants liked the energy savings best.

Table 42: Reason for Tenant Satisfaction

Reason	Participants (N = 37)
Energy savings	27%
Don't know	24%
No comment from tenants	22%
Better light quality	11%
Like the new product	11%
Tenants are not happy with work	5%
Better hot water quality	3%
Tenants are generally happy with improvements	3%
Contractor was friendly and professional	3%
Other	3%

Table 43 shows that the majority of participants felt that their expectations of the program had been met adequately. Most of the 29 percent who did not feel this way cited problems with the contractor, installation or equipment quality as the main reasons they did not feel that their expectations were met.

Table 43: Expectations of Program Met?

Response	Participants (N = 38)
Yes	71%
No	29%
Contractor/installation unsatisfactory	11%
Quality of equipment unsatisfactory	8%
Other	8%
Lower than expected energy savings	3%

As Table 44 shows, 66 percent of participants indicated they would recommend the program to property managers at other facilities. However, 34 percent said they would not recommend the program to others, primarily because of poor experiences with contractors or the equipment, or because they had not had enough time to evaluate the program.

Table 44: Likely to Recommend Program to Others

Response	Participants (N = 38)
Yes	66%
No	34%
Poor experience with program	11%
Hasn't been long enough to evaluate program	11%
Other	5%
Poor quality products used	3%
Problem with contractor	3%
Lower than expected energy savings	3%

Marketing

Participants and nonparticipants were asked how they would like to receive information about similar utility programs in the future. As Table 45 shows, over half of all respondents from both groups indicated they preferred direct mail. Bill stuffers and email were other common responses, which suggests that mailing effective marketing materials may be the best way to communicate about utility-sponsored programs to the multi-family industry.

Table 45: Preferred Marketing Methods

Marketing Method	Participants (N = 38)	Nonparticipants (N = 41)
Direct mail	55%	54%
Bill stuffers	37%	20%
Email	29%	29%
Contractors or other vendors	21%	12%
Fax	8%	7%
Utility website	5%	5%
TV	5%	2%
Trade association	3%	0%
None of these	3%	5%
Radio	0%	2%
Phone	0%	0%
Newspapers	0%	0%

Table 46 shows participants' and nonparticipants' ratings of various utility program

features. Both groups placed about the same level of importance on each of the six issues. Quality installations and products were the most important.

Table 46: Importance of Program Features

Program Feature and Importance	Participants (N = 38)	Nonparticipants (N = 41)
Simple/no paperwork		
Very important	61%	54%
Somewhat important	29%	34%
Not at all important	11%	12%
Don't know	0%	0%
Amount of the energy savings		
Very important	82%	80%
Somewhat important	8%	15%
Not at all important	3%	5%
Don't know	8%	0%
No cost for installation/equipment		
Very important	84%	83%
Somewhat important	11%	10%
Not at all important	5%	7%
Don't know	0%	0%
Quality products		
Very important	89%	85%
Somewhat important	11%	10%
Not at all important	0%	5%
Don't know	0%	0%
Quality installation work		
Very important	95%	88%
Somewhat important	5%	7%
Not at all important	0%	5%
Don't know	0%	0%
List of all approved vendors in my area		
Very important	53%	56%
Somewhat important	34%	34%
Not at all important	11%	10%
Don't know	3%	0%

Program Impacts

Table 47 shows the response to a question to determine if participants had observed any impacts on their energy bills due to their participation in the program. Only 16 respondents were in a position to see the energy savings. Of these, only 50 percent had noted decreases in their energy bills after participating in the program.

Table 47: Decrease in Energy Bills Observed?

Response	Participants (N = 16)
Yes	50%
No	44%
Don't know	6%

Two participants were asked if tenants had commented on a change in their comfort level since HVAC or insulation measures had been installed. Both replied that none of their tenants had made any comments.

Participants were also asked if tenants had commented on how lights installed under the program had affected illumination in their homes. Fifty percent of the respondents had heard nothing from their tenants on this topic. Of the 50 percent who said they had heard anything from their tenants, 28 percent said they could see “better” and 13 percent said they could see “about the same” after the installations.

Table 48: Tenant Visibility Levels after Lighting Installations

Tenant Comments	Participants (N = 32)
Tenants have not commented	50%
Better	28%
About the same	13%
Less	9%

Suggestions for Improvement

Table 49 through Table 53 show participants’ suggestions to improve the program. They were asked to make suggestions about products offered, services provided, rules and restrictions, communications with property managers, and forms and paperwork for the program. Though the majority of participants did not suggest any improvements in these categories, there were a few who did have some suggestions. These suggestions are listed in the following tables.

Table 49: Suggestions for Products Offered

Improve Products	Participants (N = 38)
No	58%
Yes	42%
Better quality equipment	18%
More products/selection	13%
Other	8%
Make sure replacement bulbs easy to find	3%
Replace burned-out bulbs at no cost	3%

Table 50: Suggestions for Services Provided

Improve Services	Participants (N = 38)
No	61%
Yes	39%
Better quality contractors	24%
Clarity about what is offered	3%
Other	3%
Easier to contact program staff	3%

Table 51: Suggestions for Rules and Restrictions

Rules and Restrictions	Participants (N = 38)
No	90%
Yes	10%
Trial period of measures installed	5%
Work with managers and tenants	3%
More flexibility	3%

Table 52: Suggestions for Communications with Property Managers

Communications with Property Managers	Participants (N = 38)
No	79%
Yes	21%
Would like to learn about program before contractors	11%
More advertising	3%
Information on website	3%
Program staff should be available when needed	3%
Want to know more about programs	3%

Table 53: Suggestions for Forms and Paperwork

Forms and Paperwork	Participants (N = 38)
No	89%
Yes	11%
Simpler paperwork	5%
Less paperwork	3%
Difficult because of language barrier	3%

Level of Interest in Energy Efficiency

Table 54 shows that participants were more likely than nonparticipants to have installed energy efficiency improvements outside of the Multi-Family program.

Table 54: Prior Energy Efficiency Improvements

Response	Participants (N = 38)	Nonparticipants (N = 41)
Yes	58%	44%
No	42%	56%

Those who had made some efficiency improvement were asked a follow-up question to determine what had been installed. As Table 55 shows, lighting measures were the most common response for both participants and nonparticipants.

Table 55: Prior Efficiency Installations at Property

Measure	Participants (N = 22)	Nonparticipants (N = 18)
Screw-in CFLs	32%	17%
Refrigerators	27%	6%
Hardwired fluorescent fixtures	23%	22%
Hardwired fluorescent porch/outdoor lights	18%	50%
Weather stripping	9%	0%
Low-flow showerheads	9%	0%
ENERGY STAR® programmable thermostats	5%	0%
Photocell controls for exterior lighting	5%	0%
ENERGY STAR® clothes washers	5%	17%
High efficiency air conditioners or heat pumps	5%	17%
Natural gas water heater or boiler controllers	5%	0%
Faucet aerators	5%	0%
Dryers	5%	0%
Toilets	5%	0%
High efficiency water heaters	0%	11%
ENERGY STAR® dishwashers	0%	11%
High efficiency boilers	0%	0%
High performance dual-paned windows	0%	11%
Attic or wall insulation	0%	6%
Occupancy sensors	0%	0%
ENERGY STAR® ceiling fans	0%	6%
Solar water heating	0%	0%
Solar photovoltaic (PV) panels	0%	0%
High efficiency exit signs	0%	6%
Cool roofs	0%	0%

Both groups were asked if they planned to make any energy efficiency improvements to their properties over the next two to three years. Participants were more likely than nonparticipants to have such plans, although less than half of both groups planned to make energy efficiency improvements in the near future.

Table 56: Plans for Future Efficiency Improvements at Property

Response	Participants (N = 38)	Nonparticipants (N = 41)
No	42%	29%
Yes	58%	71%

Individuals who planned to make energy efficiency improvements over the next two to three years were asked two additional questions to determine what they planned to install in tenant-occupied areas and common areas. Table 57 shows that the installation of ENERGY STAR® refrigerators was the most common answer in tenant-occupied areas for both groups, and a significant number expressed interest in a variety of other measures. As shown in Table 58, the majority (56 percent) of participants who planned to make energy efficiency improvements in tenant-occupied areas did not plan similar improvements in common areas. The majority of nonparticipants planned some lighting improvements in common areas.

Table 57: Energy Efficiency Improvements Planned for Tenant-occupied Areas

Measure	Participants (N = 16)	Nonparticipants (N = 12)
ENERGY STAR® refrigerators	31%	50%
ENERGY STAR® dishwashers	25%	17%
None in tenant-occupied spaces	19%	17%
ENERGY STAR® clothes washers	19%	17%
ENERGY STAR® ceiling fans	19%	0%
High performance dual-paned windows	13%	33%
ENERGY STAR® programmable thermostats	13%	8%
High efficiency window or through-wall air conditioners	13%	17%
Don't know	13%	0%
CFLs	6%	33%
Hardwired fluorescent fixtures	6%	17%
Attic fans	6%	0%
Solar	6%	0%
Weather stripping	6%	0%
Stoves	0%	8%
Water heaters	0%	8%

Table 58: Energy Efficiency Improvements Planned for Common Areas

Measure	Participants (N = 16)	Nonparticipants (N = 12)
None in common areas	56%	8%
High efficiency air conditioning	19%	0%
Hardwired fluorescent or high efficiency outdoor lighting	13%	17%
Hardwired fluorescent indoor lighting	13%	33%
ENERGY STAR® coin-operated clothes washers	6%	0%
CFLs	6%	33%
Cool roofs	6%	0%
High efficiency water heaters	0%	0%
Natural gas water heater or boiler controllers	0%	8%
Solar water heating	0%	0%
High efficiency central boilers	0%	0%
Attic or wall insulation	0%	0%
Photocell controls for exterior lighting	0%	8%
Solar photovoltaic (PV) panels	0%	8%
High efficiency furnaces	0%	0%
High efficiency exit signs	0%	17%
Occupancy sensors for interior lighting	0%	8%
Pool heater	0%	8%

Table 59 shows participants' and nonparticipants' interest in incentives to replace refrigerators. More than 70 percent of both groups were interested in such incentives.

Table 59: Interest in Incentives for Refrigerator Replacements

Response	Participants (N = 38)	Nonparticipants (N = 41)
Yes	76%	71%
No	24%	29%

Table 60 shows participants' and nonparticipants' interest in incentives for the replacement of coin-operated clothes washers. While 58 percent of participants were interested in such incentives, only 32 percent of nonparticipants indicated they were interested.

Table 60: Interest in Incentives for Clothes Washer Replacements

Response	Participants (N = 38)	Nonparticipants (N = 41)
Yes	58%	32%
No	42%	68%

Participants were asked if they were interested in incentives for other technologies. As noted in Table 61, the 45 percent of participants who responded “yes” named a variety of technologies.

Table 61: Desired Incentives for Other Technologies

Response	Participants (N = 38)
No	55%
Yes	45%
Dishwashers	11%
Stoves	8%
Anything you can offer	5%
Air conditioning	5%
Ceiling fans	5%
Solar water heaters	5%
Windows	5%
Water heaters	5%
Solar paneling	3%
Solar skylights	3%
Computers	3%

Property and Management Characteristics

Participants and nonparticipants were asked a series of questions about their multi-family facilities, the firms employing them and their professional backgrounds. Table 62 shows the number of apartment units located at the facilities of those surveyed. The vast majority reported having 20 or more units, with over half (61 percent of participants and 59 percent of nonparticipants) reporting 50 or more units at the property being discussed.

Table 62: Number of Apartment Units at Property

Number of Units	Participants (N = 38)	Nonparticipants (N = 41)
1-4	0%	5%
5-9	11%	2%
10-19	0%	10%
20-49	29%	22%
50-99	24%	37%
100 or more	37%	22%

Table 63 shows the number of years the respondents had been in their position at the multi-family property. Sixty-six percent of participants and 56 percent of nonparticipants reported being in their current position for five years or less.

Table 63: Years in Current Position of Employment

Number of Years	Participants (N = 38)	Non-participants (N = 41)
Less than 1 year	3%	5%
1-2 years	34%	24%
3-5 years	29%	27%
6-10 years	13%	20%
11-20 years	16%	17%
21 or more years	5%	5%
Refused	0%	2%

In-Depth Interviews

In-depth telephone interviews were conducted with six contractors and 13 property managers randomly selected from a list of those who had previously participated in the program. These interviews were completed over a two-week period in December 2007; each took about 15-25 minutes to complete. The purpose of these interviews was to gather a complete view of individual experiences with the program and explore some of the issues identified during the earlier telephone surveys.

This section explores some of the main topics discussed during the interviews, including initial knowledge of the program, decision-making structures in the multi-family and contractor sectors and the rebate application. Each subsection highlights key findings, quotes and observations identified during the interviews to give a complete picture of customer, contractor and program manager experiences.

Six interviews were completed with participating contractors working in SDG&E's service territory. These contractors represented a variety of specialty areas; two worked strictly with lighting, three worked with controls for hot water systems and two worked with boilers and water heaters. The companies ranged from one-person operations to those with more than 25 employees. Most contractors did work only in the State of California, although a couple said they had completed projects in nearby states such as Arizona and New Mexico.

In-depth telephone interviews were completed with 13 property managers of multi-family facilities in located in SDG&E's service territory. These individuals were drawn at random from a list of hundreds of multi-family property managers who had participated in the rebate program. Property managers interviewed represented facilities ranging from eight units to over 400 units. These individuals had a wide range of experience in the industry, with some working as property managers for less than two years and others for more than 30 years. Slightly less than half of the property managers reported membership in the San Diego Apartment Association and/or the Apartment Owners' Association.

Initial Knowledge of the Program

All contractors working with the Multi-Family program had worked on SDG&E efficiency programs for the previous three to 10 years. They generally were aware of SDG&E's programs and communicated somewhat regularly with utility staff or other contractors about the rebate programs.

Almost all contractors who completed the in-depth interviews indicated that they were the first to inform their customers about the Multi-Family program. Many had contacted existing customers directly (in person, and by phone or email) to let them know about the rebates. These findings are in line with the telephone survey, which found that the largest number of participants and nonparticipants first learned about the program from a contractor or vendor.

Property managers first learned about the program through many different channels: most often SDG&E materials or information from an outside party such as their own property management firm, other property managers or a contractor or vendor. When asked about the best way to contact them about utility-sponsored rebate programs, over half of property managers said they preferred direct mail or a visit by utility staff or contractor.

Decision-making Structures

Several decision-making structures exist in the multi-family sector. This makes it difficult to employ a single technique or a single point of contact when trying to install measures under the rebate program. Contractors and property managers said these structures were barriers to program participation.

- **Finding the right point of contact at multi-family properties is difficult.** Multi-family properties frequently are managed by a variety of individuals who

are responsible for discrete operations and decisions. Many of the individuals responsible for decisions such as installations frequently work off-site and are hard to reach. As a result, property managers working at the property may have little authority or knowledge about the program and related activities such as installing and paying for energy efficient measures. This creates a barrier to participation by making it difficult for contractors to contact the appropriate people to authorize participation in the rebate program.

- **Property managers can be hesitant to participate in the program.** Several contractors said property managers hesitate to participate in the program due to concerns that the new measures will not function properly or that energy bills will not go down. This is especially true for lighting measures in tenant-occupied areas, because property managers may not see a reduction in energy bills and may fear that tenants will not like the new fluorescent fixtures and bulbs. As one contractor noted, several property managers seem to have an “if it ain’t broke, don’t fix it” philosophy, and prefer to leave things as they are rather than complete program-related paperwork and assume the risk that tenants might not be satisfied with the changes.
- **Energy efficiency typically is not a major concern for property managers.** Several property managers indicated that energy efficiency was not a top priority at their property. According to a property manager who also owned his building, property management companies often are not concerned with and remain unaware of energy efficiency measures because they feel it does not directly impact their business since these companies do not pay for installations or improvements to the property.

Installation of Measures

Results from the telephone survey indicate that 66 percent of participating property managers were either “extremely” or “somewhat satisfied” with work done through the program. However, over one-quarter of property managers reported difficult or negative experiences with contractors and the installation process and saw this as a major flaw of the program. Other issues with the installation process are discussed below.

- **Gaining access to tenant-occupied areas was not perceived as a barrier to participation.** All 13 property managers indicated that gaining access to tenant units was not a major problem and would not prevent participation in a program like the Multi-Family program. They said property managers simply must give tenants 24 hours’ written notice before entering the units and said few tenants complain about such work.
- **Contractors occasionally did poor, incomplete, or unprofessional work.** Several property managers noted that the contractors who installed program measures did not complete the job as expected. Several did not bring enough supplies to upgrade the entire facility, did poor quality installation work that had to be redone by property managers or did not finish all of the installations.

- **Property managers generally were pleased with common area boiler installations.** All of the property managers participating in the in-depth interviews reported being satisfied with the installation of common area boilers and water heaters. This high level of satisfaction likely was due to the fact that contractors always completed boiler installations, property managers saw the results in lower energy bills and aesthetics were not an issue.
- **Because of financing issues, installations usually were made only to replace broken items.** Multi-family facilities usually install energy efficient measures only to replace something that has broken. This is due to the high first-cost of these measures. This is not an issue for free measures such as lighting, faucet aerators and low-flow showerheads.

Rebate Application

The rebate application drew the most complaints from contractors and property managers participating in the in-depth interviews, with over two-thirds of those who had filled out an application suggesting it needed improvement. Property managers and contractors considered the application unnecessarily long and complex and often needed help completing it from someone who was knowledgeable about the program (see Table 22). Though the application was not necessarily difficult for many, several key issues deserving attention were highlighted during the in-depth interviews.

- **Individuals responsible for filling out the application were less satisfied with the program.** Normally, one person, either the contractor or the property manager, was responsible for filling out the application and collecting the rebate from the utility. In either case, the individuals responsible for filling out the application were more likely to feel that the program was complex, cumbersome, and difficult. They thought the application asked for too much hard-to-find information.
- **Many property managers needed some assistance to complete the application.** Although 87 percent of property managers rated the application as “very easy” or “somewhat easy”, 61 percent needed some assistance to complete it. As property managers and contractors noted, this likely was due to the fact that they had to contact several people to gather the necessary information. These included supervisors at property management companies (for utility account information and property tax ID numbers), contractors (for product information) and owners (for approval).
- **The PDF format of the application was not computer-friendly.** Several contractors who had completed multiple applications noted that the PDF format did not allow them to fill out and save information electronically. A different format, such as Word or Excel, would make it much easier to save information and time.

Rebates and Funding Levels

- **Contractors identified several issues about rebate levels for various measures covered by the program.** In general, contractors said some rebate structures were better than others, some helped move business and provide quality products and some were too low and caused individuals to lose money. Contractors also questioned the appropriateness of rebates for measures that users can alter or reprogram (such as controllers), and suggested some alternate funding mechanisms for specific measures and the program as a whole. Major issues for rebates, for the program and those specific to lighting and gas, are discussed below.
- **Rebates increase business for contractors and encourage customers to purchase more efficient models.** Many property managers replaced old or broken boilers and water heaters when they participated in the program. Gas contractors said the rebates helped encourage their customers to buy more efficient models when they replaced older equipment. Lighting contractors indicated that the incentives, which allowed property managers to have program measures installed at no cost, were extremely helpful in generating business. One lighting contractor said, “The rebates are the only reason people are doing lighting measures.”
- **Rebates for hardwired lighting fixtures are too low.** All lighting contractors said the reduced rebates for hardwired fluorescent fixtures severely reduced the kinds and quality of approved products. They added that many of these products are not aesthetically pleasing. Contractors and property managers complained about the quality of these fixtures, calling them a “downgrade rather than an upgrade” and saying that they were creating a bad image for the Multi-Family program.
- **Lighting contractors are losing money on the required gas measures.** Lighting contractors usually installed faucet aerators and/or low-flow showerheads in order to comply with the requirement that gas-based measures be installed with every project completed under the program. Contractors said that rebates for these measures were too low, and this caused them to lose money on these mandatory installations.
- **Ultra high efficiency boilers are difficult to promote under the program.** The highest efficiency gas boilers available were significantly more expensive than products that were labeled energy efficient, but saved less energy than the ultra high efficiency products. Unfortunately, rebates were not high enough to justify the greater expense for the most efficient models. As a result, gas contractors said the program generally did not encourage the purchase of these ultra high efficiency models.
- **Rebates for controllers are unnecessarily high.** Several gas contractors who participated in the program felt that the rebates for controllers were too high. They explained that controllers generally have a short enough payback period to sell the products without a rebate. They also were concerned that property managers

could reprogram or alter the controllers, thereby reducing or eliminating the energy savings. The contractors recommended eliminating the rebates for controllers and using rebate funds to verify that controllers achieve projected therm savings.

- **Property managers become accustomed to rebates and will put off installations until funding becomes available.** Some contractors noted that rebates act as a “double-edged sword” by encouraging business when funding is available and hurting business when programs are discontinued. They described situations where property managers postponed an energy efficiency upgrade until utility funding was available, even if they would have made the upgrade without the rebate. This can delay energy savings from the property.

Program Satisfaction

The majority of participating contractors and property managers were satisfied with all aspects of the program. They said the rebates encouraged installations by contractors and offered energy efficient measures for multi-family properties at a reduced cost. However, individuals from both groups identified the following problems with the program.

- **Abrupt notification that the program would be discontinued due to lack of funding hurt contractors.** One of the contractors’ most common complaints about the program was the abrupt notification that funding no longer would be available. Projects involving major gas measures often take a long time to complete. Obviously, it is particularly difficult for contractors if they must inform a property manager during project installation that program funding no longer is available and therefore, that costs have increased. Abrupt discontinuation of the program also made it hard for contractors to forecast their cash flow.
- **Unprofessional and poor quality work by some contractors dissatisfied some property managers.** Several property managers commented on negative experiences with the contractors who did the installations. This included contractors who did not complete all tenant units, did poor quality work, interacted unprofessionally with property management staff and tenants and were not respectful of tenants’ property.
- **The lengthy rebate processing period presented financial difficulties for program participants.** Several participants said SDG&E often took much longer to process the rebate than anticipated. Instead of less than two months, it often took up to four months. This was difficult for both property managers and contractors, who had planned to receive the rebate much more quickly.
- **Reduced funding for hardwired fluorescent fixtures dissatisfied contractors and property managers.** Contractors indicated that the reduced funding for hardwired fluorescent fixtures forced them to install cheap, unattractive and low-quality options. As a result, property managers were unhappy with the appearance of the lighting measures and how quickly the low-quality lights burned out. One

of the property managers reporting such an experience said they had removed the fixtures and told others in the industry not to participate in the program.

4.5 MULTI-FAMILY PROGRAM ISSUES AND OBSERVATIONS

Most of the contractors and property managers were satisfied the Multi-Family program. Property managers liked having new products installed for free or at reduced cost, appreciated the energy savings generated by the efficiency measures and being able to upgrade both common and tenant-occupied areas. They were also generally pleased with how the program operated. Contractors were able to increase their business because of the rebates and noted that customers were more likely to buy efficient options due to the program.

Though customer satisfaction was high, the program was falling short of expectations. Therefore, SDG&E decided to shift a large amount of program funding to commercial and industrial programs, thereby forcing significant cuts in the program's therm budget and incentives for interior lighting fixtures. As of September 21, 2007, the utility no longer was accepting rebate applications and had put the program on hold because incentive funds had been exhausted.

During the in-depth interviews, contractors and property managers discussed many of their problems with the program and offered suggestions to improve it. These improvements included simplifying the rebate application, developing a clear program marketing strategy and coordinating this program with SCG's Multi-family program. Addressing these issues will encourage more contractors and property managers to participate and increase overall activity for the Multi-family program.

The recommendations below are based on information gathered from surveys and interviews with program staff, participating and nonparticipating property managers and contractors. These recommendations highlight specific strategies program staff can undertake to improve the operation and effectiveness of the program and achieve kWh and therm savings goals.

Recommended Program Improvements include the following:

- **SDG&E needs to develop a marketing strategy and marketing materials for the program.** Contractors and property managers identified several opportunities for SDG&E to increase the program's outreach and effectiveness through marketing efforts and materials. The two channels described below offer the utility the greatest opportunity.

As SDG&E's program manager noted, contractors are largely responsible for driving participation in the program. Therefore, the utility should give them marketing materials to promote the program and increase participation. Several contractors said that marketing materials such as brochures produced by SDG&E that feature the SDG&E logo would help them communicate the benefits of the program more effectively and increase the program's credibility.

Decision-makers for properties managed by external property management companies usually do not work on-site and frequently do not see energy bills. As a result, typical marketing channels, such as bill inserts and on-site property visits, do not reach those responsible for approving the installation of new measures. By mailing marketing materials, making direct personal contacts with these decision-makers and marketing through apartment associations, SDG&E can increase awareness of the program by key decision-makers in the multi-family industry.

- **Rebates for interior hardwired fluorescent lighting fixtures should be increased.** Several lighting contractors noted that the reduction of the rebate for interior hardwired fluorescent lighting fixtures from \$50 to \$40 significantly reduced the number of options available through the program. Lighting contractors indicated that the fixtures they can provide at this rebate level are much lower quality, are more likely to have problems, and are much less aesthetically pleasing. One contractor noted that the lower quality products had a negative impact on the program, because his customers experienced more problems and told others not to participate. One of the property managers had a similar experience, calling the new measures a “downgrade” from what they already had been using. By increasing funding levels back to \$50, SDG&E can provide high quality lighting equipment and ensure that the program maintains its good reputation.
- **Controller performance should be verified.** Several contractors who installed controllers expressed concern that customers were adjusting controller settings, and thereby eliminating the energy savings these measures can provide. If SDG&E continues to provide rebates for controllers, it should verify that they are providing the anticipated energy savings.
- **The rebate application must be simplified.** One of the most consistent complaints about the program from contractors, property managers and program staff was the length and complexity of the application. The application was 16 pages long and required detailed information, including data about the property, tax identification numbers, utility account numbers, and the measures installed. Contractors and property managers said it was hard to find this information, much of which they felt was unnecessary. Therefore, it is recommended that SDG&E reduce the complexity and length of the application to eliminate one of the major barriers to participation in the program
- **SDG&E should coordinate the Multi-Family program with SCG’s version of the same program.** SDG&E could benefit from coordinating the gas portions of this program with SCG’s similar Multi-family program. Many of the gas contractors working in SDG&E’s service territory also work with SCG’s program. Because both of these utilities are owned by Sempra Utilities, they could explore collaborating on issues such as simplifying the rebate application, increasing marketing materials and efforts, and improving the verification of controllers.

- **SDG&E should explore alternate funding methods to meet its energy savings goals.** As noted by the program manager, five of the contractors working with the program were responsible for about 80 percent of the rebates. An alternate funding method that guarantees high performance contractors a set amount of funding in exchange for a set amount of energy savings may help streamline the program and meet energy savings goals. This could reduce paperwork and let the utility set specific kWh and therm targets, which contractors would compete to provide. Although this may not be SDG&E's preferred approach, it is important that SDG&E explore and evaluate alternate funding methods and models to meet its goals.

4.6 MULTI-FAMILY BEST PRACTICES REVIEW

Program Theory and Design

- *Is the program design effective?* The program has offered a broad range of eligible measures that collectively support a whole-building approach to (potentially) achieve maximum energy savings. In particular, building owners and managers like being able to upgrade both common and tenant-occupied areas. Contractors have been able to increase their business due to the rebates and note that property owners and managers are more likely to buy efficient options due to the program. Requiring gas measures to be installed with other measures has generally increased the amount of energy savings that have been realized, although lighting contractors typically meet this requirement by installing aerators and low flow showerheads.
- *Is the market well understood?* Yes. The program knows that multi-family properties can have different decision-making structures, and that decision makers can include property owners, owner associations, management company supervisors and purchasing managers, and on-site facility managers. These actors may have different levels of purchasing authority and awareness of building energy consumption, availability of energy efficiency equipment, and specific program offerings. This makes it challenging for program staff and contractors to contact the appropriate people to authorize participation in the program.

Program Management

Project Management

- *Are responsibilities defined and understood?* Not applicable (no program delivery functions are contracted to third parties).
- *Is there adequate staffing?* No staffing problems were reported.

Reporting and Tracking

- *Are data easy to track and report?* Although the program does collect information on many aspects of multi-family buildings (complex and unit level data, units treated/untreated, measures information) via the rebate application forms, the current

tracking and reporting system design does not fully address the program's information and data needs.

- *Are routine functions automated?* Not addressed in this evaluation.

Quality Control and Verification

- *Does the program manager have a strong relationship with vendors involved in the project?* The program has successfully built relationships with firms responsible for equipment installations, operations, and maintenance. Program contractors communicate relatively regularly with utility staff and other contractors to stay informed about the rebate program.
- *Does the program verify reporting systems (e.g., rebates, invoices)?* Not addressed in this evaluation.
- *Are customers satisfied with the product?* Property owners and managers were satisfied with the list of eligible equipment, but one-third was dissatisfied with the work performed by the contractor and one-third reported equipment problems (often lights burning out prematurely).

Program Implementation

Participation Process

- *Is participation simple?* No. Many participants require utility staff assistance to complete the long and detailed rebate application forms, and the forms deter some would-be participants.
- *Are participation strategies multi-pronged and inclusive?* The number of channels through which customers can enter the program (self-initiated installations, contractor recommendations) is limited but appropriate for this market segment.
- *Does the program provide quick, timely feedback to applicants?* No. Many participants noted that the rebate often took much longer to process than anticipated, sometimes taking up to four months.
- *Is participation part of routine transactions?* No, customers must initiate participation by acting upon marketing information from the utility or recommendations from a contractor.
- *Does the program facilitate participation through the use of internet/electronic means?* No. The program's website provides downloadable rebate applications, however the PDF format does not allow them to fill out and save information electronically. A different format could make it much easier to save time and information.

- *Does the program offer a single point of contact for their customers?* Installation contractors are also used to deliver the program, which is appropriate for this program.
- *Are incentive levels well understood and appropriate?* Overall, customers appreciate the rebates provided by the program and they are generally understood. On the gas side the rebates have motivated many boiler and heater installations, and lighting contractors said that the lighting rebates are critical for lighting upgrades. There is some evidence that rebates for controllers, which customers can alter or reprogram, may be too high. Conversely, rebates for hardwired lighting fixtures and ultra high efficiency boilers appear to be too low to stimulate installations.

Marketing and Outreach

- *Use target-marketing strategies?* The program does not have a formal strategic marketing plan, and the program is marketed only through the program's web page. Most multi-family owners and managers indicated that direct mailings would be the best way to communicate program information. There is a desire for more mailed communications so that they have the same or better information than the contractors, who have driven participation in the past.
- *Are products stocked and advertised?* Not applicable.
- *Are trade allies and utility staff trained to enhance marketing?* The evaluation team did not hear about any training for contractors to market the program. Program staff noted that giving contractors marketing materials from the utility, such as informative brochures with the SDG&E logo, would provide additional sales tools and improve the credibility of the contractors and the program.

5. CROSSCUTTING UPSTREAM RESIDENTIAL LIGHTING PROGRAM

This chapter describes SDG&E's 2006-2008 Crosscutting Upstream Residential Lighting Program (Upstream Lighting) and the experiences of the program manager and retailers participating in the program.

5.1 UPSTREAM LIGHTING PROGRAM BACKGROUND

The Upstream Lighting program is part of a statewide effort by SDG&E, SCE, and PG&E to increase the market for energy efficient products. Through this program the utilities offer identical dollar-value incentives to manufacturers to discount the wholesale cost of lighting products to their retailers. These retailers agree to reduce their prices by the same percentage. The goals of the program are to procure kW and kWh savings, and to increase significantly the acceptance of energy efficient lighting products by consumers.

The Upstream Lighting program is crosscutting; it targets customers such as single-family homeowners, renters and multi-family tenants, as well as owners of apartment buildings and small businesses who shop at home improvement stores. To motivate consumers to purchase and install qualifying energy efficient lighting products, the program provides discounted energy efficient lighting products at the retail level via rebates or buy-downs to manufacturers. Manufacturers pass the rebates through to retailers by discounting their prices, and retailers pass the savings through to the customers at the register, so customers do not have to send in a rebate form. The incentive levels are sufficient to provide attractive retail price points to the consumer, making the products competitive with less efficient options.

To initiate program participation, SDG&E emails a Request for Proposals (RFP) to lighting product manufacturers. Interested manufacturers request participation documents, which include a reservation request form, an incentive level worksheet and a manufacturer's participation agreement. The agreement outlines the terms and conditions of participation; manufacturers sign it and submit it to the program manager in order to participate. The SDG&E program manager reviews the documents and verifies that the proposed retailers are SDG&E customers, confirms that the proposed lighting products qualify for incentives, and reviews the allocation request to determine that it is realistic for the proposed retail stores and that it meets program goals. Incentives are allocated to the manufacturers based on the last two criteria. The program manager approves appropriate requests and sends the manufacturers a "Notification of Allocation Award." When the program manager receives the manufacturers' detailed documentation of product sale and delivery, the manager authorizes issuance of a rebate check to the manufacturer.

Products are displayed in the stores with signage provided by the manufacturer that mentions the SDG&E discounts. The manufacturer and retailer promote the discounted products through advertising, circulars and in-store materials. SDG&E also coordinates statewide promotions with "Flex Your Power" advertising and point-of-purchase (POP) materials in retail stores.

SDG&E does on-site inspections of all participating manufacturers and random on-site inspections of participating retailers' displays and products to ensure program compliance and execution. This verification confirms anticipated delivery and sales numbers. The California utilities also work with third-party quality/advisory groups to ensure the quality of the discounted products (e.g., PEARL and ENERGY STAR[®]).

Program results are tracked on an ongoing basis and reported according to the protocols in the program workbook and supporting work papers. To help track sales, the label on the lamps offers consumers a chance to win one of three prizes if they register their purchase at the SDG&E website.⁴

Figure 24 shows the Upstream Lighting program progress toward 2006-08 goals and budget expenditures as of Q3 2007. At the time of this report, the Upstream Lighting program has exceeded its kW goal, has achieved about half of its net annual kWh goal, and has spent about half of its three-year budget.

⁴ The prizes are a 42" HDTV, a laptop computer, and an MP3 player.

Figure 24: Upstream Lighting Program Progress Toward Goals and Expenditures (Q1 2006 - Q3 2007)

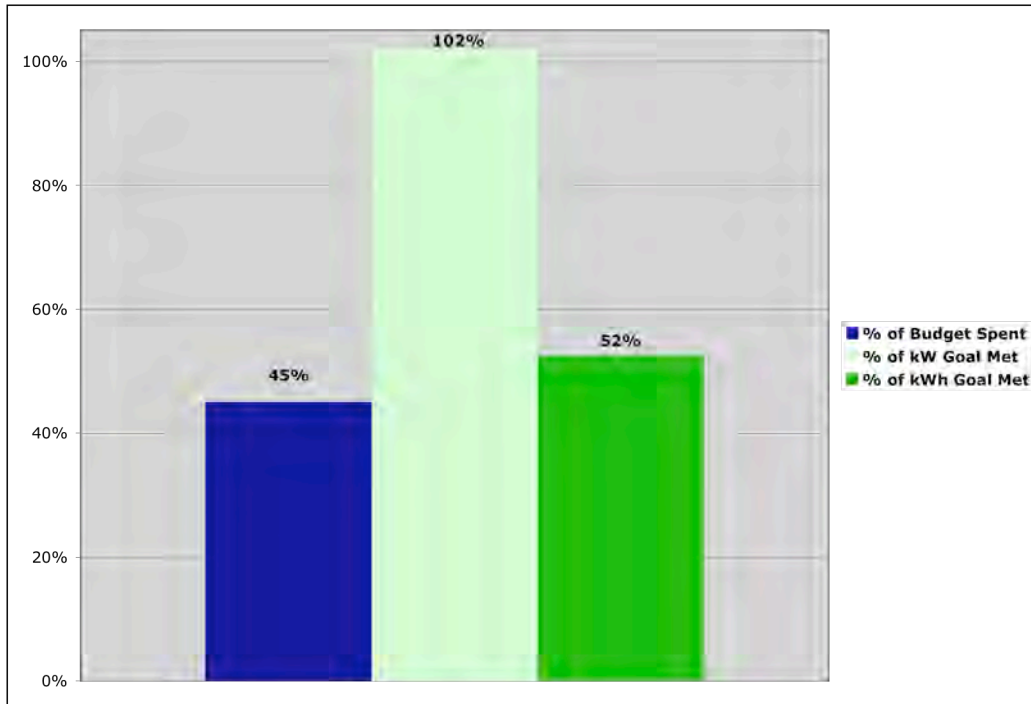
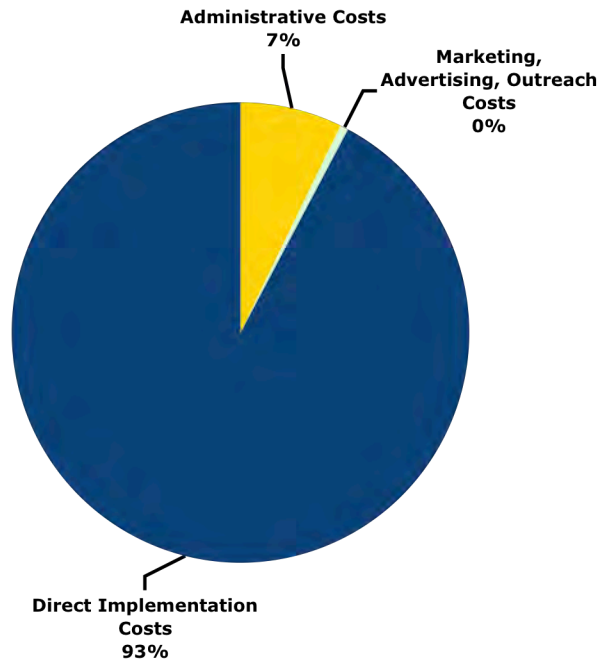


Figure 25: Upstream Lighting Expenditures by Category (Q1 2006 – Q3 2007)



5.2 UPSTREAM LIGHTING LOGIC MODEL AND PROGRAM THEORY

The following program theory for SDG&E's Upstream Lighting program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. (The logic model diagram follows the discussion of program theory.)

Activities

Program Outreach and Selection of Participating Manufacturers and Retailers

The primary targets of the program are manufacturers and retailers of lighting products including lamps and fixtures. The final, downstream target is the residential lighting customer who will ultimately purchase the discounted energy-efficient lighting product. RFPs are released and responded to by manufacturers and retailers interested in participating. Proposals are evaluated and bids are selected that will result in delivery and sales of a wide range of lighting products across a variety of retailers throughout the service territories of the sponsoring utilities.

Incentives

Incentives are paid to manufacturers based on verified delivery of qualified lighting product to stores and the product sold. The manufacturer discount is passed on to the retailer, who ultimately discounts the product to the customer seamlessly at the point of sale.

Marketing and Promotion

Marketing and promotional activities are generally conducted by the manufacturers and retailers. Other promotional activities may include bill inserts, in-store promotional materials, direct mailings, promotional sales events, and product competitions. Products are displayed with labeling or signage indicating discounts are provided through the utility.

Quality Assurance

On-site inspections of retailer displays and products help ensure program compliance and execution. Verification confirms anticipated delivery and sales numbers. Bounce-back cards attached to the product invite customers to provide feedback. Utilities also work with third party quality/advisory groups to ensure the discounted product is of high quality (PEARL and ENERGY STAR[®]).

Short Term Outcomes

Increased level of efficient lighting products available.

Discounted products are distributed and stocked by upstream participants. The lower price means that more products are supplied, increasing shelf space and sales at retail outlets.

Incentives allow efficient lighting products to compete with inefficient counterparts by providing attractive price points for energy efficient options.

Customers choose efficient lighting over inefficient options due to the increased shelf space, promotional pricing and price competition with inefficient options.

Specialized promotions occur at various times and are customized.

Manufacturers and retailers draw customer attention to the discounted pricing through displays or sale signs. Other information may be provided as part of regional or national campaigns (e.g. Change-a-Light).

Quality assurance activities confirm satisfaction with the program and performance of measures.

QA findings allow the program to adjust any activities or measures not meeting sales or performance expectations.

Cost-effective kW and kWh savings, resulting reductions of greenhouse gas emissions.

The purchase of energy efficient lighting products by consumers results in cost-effective kW and kWh savings and coincident GHG emissions.

Mid Term Outcomes

Energy-efficient lighting market share expanded by 10 percent over the three year implementation period.

Program-sponsored discounts and resulting customer purchases push the market share for energy efficient lighting products to 10 percent over the implementation period.

Long Term Outcomes

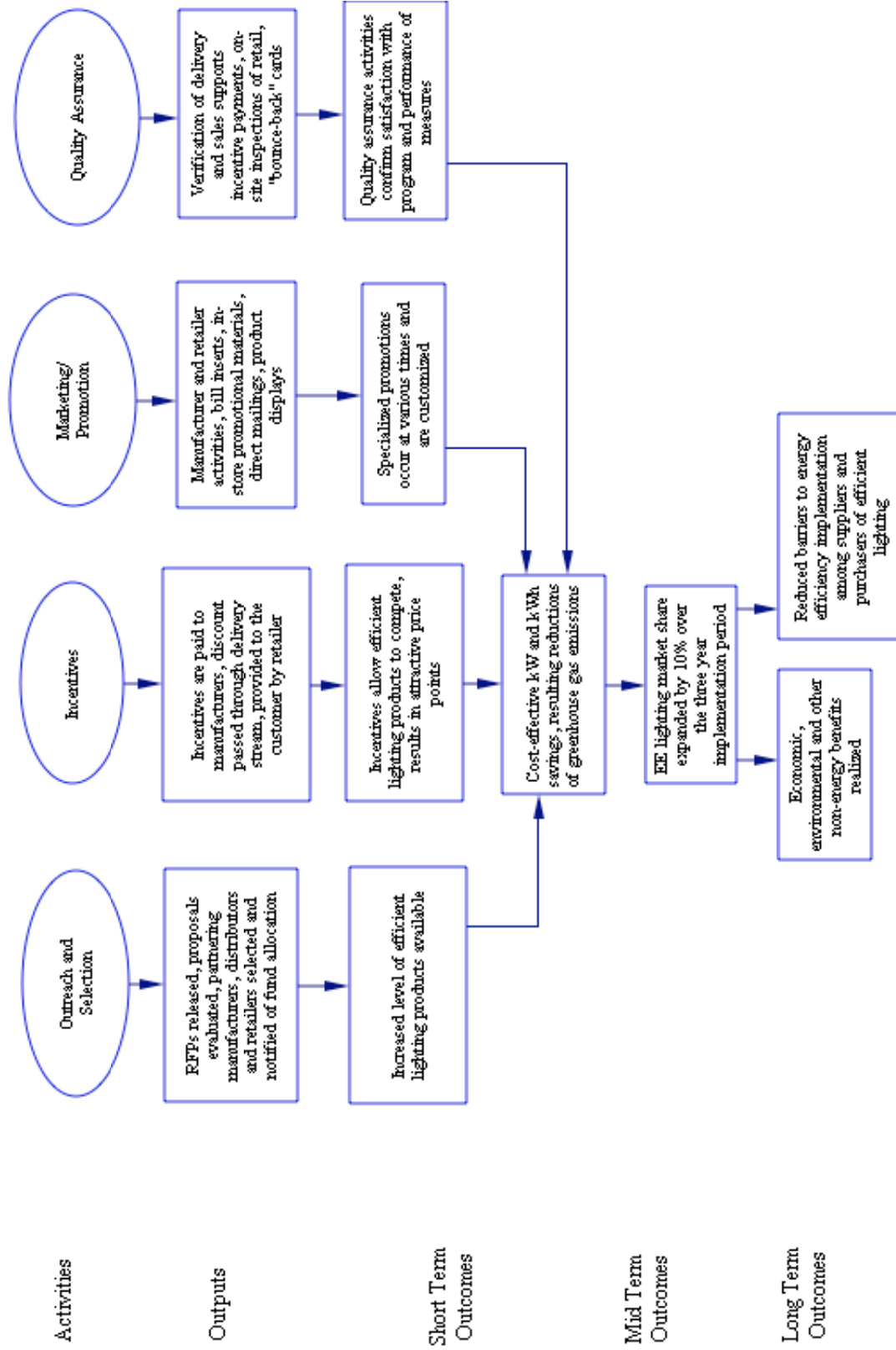
Economic, environmental and other non-energy benefits realized

Consumers realize persistent energy and cost savings. Energy savings contribute to lower peak demand, reduction in GHG emissions, and bring other convenience benefits to purchasers (improved lighting, fewer replacement events).

Reduced barriers to energy efficiency implementation among suppliers and purchasers of efficient lighting.

Barriers related to lack of demand and higher first cost are reduced for upstream market actors who use program funds to reduce the cost and increase the supply of energy-efficient lighting products in California. Barriers related to information and lack of experience are reduced through purchase and installation of the efficient lighting products by consumers.

Figure 26: Logic Model for the Upstream Lighting Program



5.3 UPSTREAM LIGHTING PROGRAM EVALUATION OVERVIEW

Based on in-depth interviews with Upstream Lighting program staff conducted at the beginning of the evaluation, several key research issues were identified that provided the focus of the evaluation activities. Additional research issues were identified as the program logic model and program theory were developed. The major evaluation research issues for the Upstream Lighting program are described below. The fundamental research question was: “How can the program increase bulb sales, and thereby savings?” To answer it, two broad categories of researchable issues were identified.

Upstream Lighting Research Issues

Review of the mix of discounted products

The program relies on manufacturers to identify products and mixes of products they are willing to support in the marketplace that meet the criteria of the RFP. Yet, it is not clear how to expand the product mix and how to use the process to expand the market to other retailers and products.

Determine how the availability of discounted energy efficient lighting products is communicated to consumers.

The program relies on the manufacturer to provide signage to retailers, and to work with retailers and their sales staff to display and promote the bulbs in the stores.

The methods used in this evaluation and the evaluation results are discussed in detail in the following section.

5.4 UPSTREAM LIGHTING PROGRAM EVALUATION RESULTS

The evaluation activities completed for this program included:

- In-depth interviews with program managers and staff
- In-depth interviews with participating lighting retailers
- A phone survey of 912 SDG&E residential customers

Note: Because 14 participating lighting manufacturers had been interviewed in late 2006 and early 2007 as part of an evaluation of the statewide Single-Family Energy Efficiency Rebate Program (SFEER), the evaluation team decided not to interview manufacturers for this evaluation. It was determined that a second survey with the same contacts for the same program in less than a year could be confusing and burdensome.⁵

⁵ The evaluation for which these lighting manufacturers were interviewed was not published prior to this report. Itron conducted the evaluation for the California IOUs; its draft title is *2004/2005 Statewide Residential Retrofit Single-Family Energy Efficiency Rebate Evaluation*.

Participating Lighting Retailer In-Depth Interview Results

This section summarizes participating lighting retailers' assessments of SDG&E's 2006/2008 Upstream Lighting Program. It is based on interviews conducted in late summer 2007 with 75 lighting retailers who were participating in the program. In-depth interviews addressed the following topics:

- Source of program awareness and reasons for participation
- Program lighting products carried and satisfaction with sales
- Experiences with multi-packs
- Comparison of program and non-program lighting sales and shelf space
- Product availability
- Marketing activities
- Program satisfaction and suggestions for program improvements
- Firmographics.

In the following section, in-depth interview responses from lighting retailers are integrated with information gained from interviews with program staff and data from other sources.

Call Disposition

The evaluators obtained information for this section from primary research conducted for this study. The principal data source was a series of interviews conducted with representatives of lighting retailers (N = 75) that participated in the Upstream Lighting program, and other interviews with program staff. Retailer interview contacts were drawn from lists provided by the program manager; these lists contained information about 484 retail locations in San Diego County that participated in the program.⁶ Table 64 shows the disposition of calls to these retailers.

⁶ It is noteworthy that the list of participating retailers was not available in an electronic format. The interview with the program manager confirmed that this information has not been entered into an electronic database. Without such a database, retrieval and use of retailer information is difficult.

Table 64: Disposition

Disposition		Percent (N=484)
Completed		15%
Declined	Hard Refusal	3%
	Not Qualified, Decisions Made at Higher Level	8%
	Contact Unavailable During Survey	2%
List Errors	Duplicate Contact	13%
	Wrong/Disconnected Number	4%
No Contact	Left Messages, Calls Unanswered	21%
	No Answer	1%
	Unable to Reach/No Phone Number	32%

Source of Program Awareness and Reasons for Participation

About one-fifth (19 percent to 21 percent) of the interviewed retailers began participating in the program in each of the years 2004, 2005, 2006 and 2007. The remaining 20 percent did not know when their store began participating in the program.

Thirty-nine percent of the contacts reported learning of the program from superiors within their organization (Table 65). Twenty-eight percent of the contacts reported learning of the program from a manufacturer, and 21 percent reported learning about it from SDG&E. The manufacturer mentioned most often was Feit Electric (seven percent), followed by General Electric (four percent), and Broada Lighting, Lights of America, Phillips, Sunrise Lighting, and US Parent Company (one percent each).⁷

Table 65: Source of Program Awareness

Source	Percent (N=75)
Corporate Hierarchy	39%
Manufacturer	28%
SDG&E	21%
Other	3%
Don't Know	9%

Retailers were asked to choose from among four prompted reasons for program participation. All but one (99 percent) said that promoting energy efficiency was the most

⁷ One contact mentioned both Feit Electric and General Electric, and was counted for both manufacturers.

important ("4" or "5" on a five-point scale). (Table 66) Although the fewest contacts reported that increasing store traffic was the most important prompted reason for participating in the program, a large portion of the contacts (87 percent) did report that this reason was important to them. Other, unprompted reasons for program participation given by the contacts included customer service (11 percent), environmental concerns (nine percent), corporate directive (eight percent), public relations or image (eight percent) and community service (five percent). There is no statistically significant relationship between store size and any of the reasons given for program participation.

Table 66: Participation Reasons

Reason	Percent
Promote Energy Efficiency	99%
Increase Energy Efficient Bulb Sales	95%
Obtain Low-cost Efficient Bulbs	95%
Increase Store Traffic	87%
Other	43%

Multiple responses were accepted

Program Lighting Products Carried

All of the retailer contacts reported their stores carried spiral compact fluorescent lights (CFLs) through the program. This compared with reflectors, the next most common bulb type, which were carried by 25 percent of the contacts (Table 67). LEDs and three-way bulbs were carried by roughly equivalent portions (24 percent) of the contacts. Twelve percent of contacts reported carrying A-lamps. Stores with more than 100,000 square feet of floor space were significantly more likely to report carrying reflectors and candelabras than smaller stores, and also were more likely (approaching significance) than smaller stores to report carrying dimmable bulbs.

Table 67: Bulb Types Carried through Program

Bulb Type	Percent
Spiral	100%
Reflector	25%
LEDs	24%
Three-way	24%
Globe	19%
Candelabra	15%
Dimmable	15%
A-Lamp	12%
Other	12%

Multiple responses were accepted

Even though contacts reported carrying small percentages of the various bulb types other than spirals, program staff suggested those percentages might have been exaggerated. For example, according to the program manager, “No candelabras have been requested in five years.”

The program manager also explained why relatively few retailers carry non-spiral energy efficient bulbs. The incentive level for a given bulb is based on its lumen output. Thus, the incentive for bulbs of equivalent lumens is roughly the same regardless of differences in manufacturing costs or wattages. Because spiral bulbs typically cost less to manufacture than specialty bulbs, the incentives result in a proportionately larger discount to the retailer for spirals than for the other bulbs. In fact, although this is not the program’s intent, the incentives allow manufacturers to give spiral bulbs to retailers for free. By comparison, according to the program manager, even the discounted price for the other bulbs, which are not free, is more than many retailers are willing to pay.

Simply raising the incentive levels for specialty bulbs in order to make them more attractive to retailers is not practical for the program. In addition to being more expensive to manufacture, specialty bulbs typically have a lower lumen output than a spiral CFL of the same wattage. Thus, greater sales of specialty bulbs would have a negative effect on the program’s cost effectiveness, thereby effectively penalizing the program for greater sales of specialty bulbs.

Product-Sales Satisfaction

Large portions (roughly 75 percent or more) of those who carried any given type of bulb were satisfied with the sales of those bulbs (“4” or “5” on a five-point scale), and in general, more of the contacts were satisfied with the bulbs they carried most frequently. For example, sales of spiral bulbs were satisfactory to 95 percent of those who carried them while sales of most of the least commonly carried bulbs (e.g., candelabra, dimmable and “other” energy efficient bulbs) were satisfactory to 73 to 78 percent of contacts who

carried them (Table 68). A-lamps were an exception to this pattern; 89 percent of the retailers who carried them were satisfied with their sales. “Other” energy efficient bulb types reported by these contacts were night lights (nine percent), porch lights (one percent) and bug lights (one percent).

**Table 68: Satisfaction with Sales of Program Bulbs
(Rate 4 or 5 on 5-Point Scale)**

Bulb Type	Percent
Spiral (N=75)	95%
Reflector (N=19)	89%
LEDs (N=18)	83%
Three-Way (N=18)	83%
Globe (N=14)	86%
Candelabra (N=11)	73%
Dimmable (N=11)	73%
A-Lamp (N=9)	89%
Other (N=9)	78%

Multiple responses were accepted

Two (three percent) of the contacts who carried spiral bulbs reported dissatisfaction ("1" or "2" on a five-point scale) with the sales of those bulbs. Both of those contacts reported sales of the bulbs were slow, and attributed that to their locations in an “upscale market” or an “upper-class neighborhood” where energy-saving products were of less interest to their customers.

One of the 18 contacts (six percent) who carried three-way bulbs reported dissatisfaction with the sales of those bulbs. This was one of the same contacts who reported dissatisfaction with the sales of spiral bulbs, and he gave the same reason: his store’s location in an “upper-class neighborhood” where energy-saving products were of less interest to his customers. One of the 11 contacts (nine percent) who carried dimmable bulbs also reported dissatisfaction with his sales of those bulbs, saying simply, “They are not selling very well.”

No contacts reported dissatisfaction with their sales of reflector bulbs, LEDs, A-lamps, globes or candelabra bulbs. However, higher percentages of contacts reported not carrying globes (12 percent) and candelabra bulbs (11 percent) because of insufficient sales or customer demand for them than gave this reason for not carrying the other bulb types. Twenty-nine percent of retailers who reported selling night lights, and the retailer who reported selling bug lights reported dissatisfaction with the sales of those items.

The most commonly reported reason for not carrying any given type of energy efficient bulb was distilled from responses such as “corporate does the buying” or it is a “corporate decision” (Table 69).

Table 69: Reasons for Not Carrying Bulbs

Reason (N=75)	Reflector	LED	3-Way	Globe	Cand.	Dim.	A-lamp
Higher-level Corporate Decision	31%	33%	32%	31%	31%	31%	29%
Unaware of Availability Through Program*	24%	20%	27%	28%	28%	31%	27%
Insufficient Market for These Bulbs	4%	5%	5%	9%	9%	5%	5%
Small Store/Limited Selection/Space	4%	3%	4%	5%	5%	5%	4%
Other	3%	5%	4%	1%	1%	4%	4%
Don't Know	5%	5%	72%	5%	7%	3%	5%

*Includes contacts who gave this as a reason for not carrying the bulb and contacts, discussed below, who requested the addition of this bulb to the program

However, the underlying message implicit in such responses is that the contact did not know why his store did not carry the bulbs. When responses that defer to corporate decision-making are re-categorized as “Don’t Know” responses, the most common reason the contacts gave for not carrying a given type of bulb was that the bulb type was not available through the program. Between one-fifth (20 percent for LEDs) and about one-third (31 percent for dimmable bulbs) of the contacts expressed a lack of awareness of the availability through the program of bulbs other than spiral bulbs (Table 70). The next most common reason for not carrying a bulb, mentioned by less than 10 percent of the contacts, was inadequate demand for the bulbs.

Table 70: Re-categorized Reasons for Not Carrying Bulbs

Reason (N=75)	Reflector	LED	3-Way	Globe	Cand.	Dim.	A-lamp
Unaware of Availability Through Program*	24%	20%	27%	28%	28%	31%	27%
Insufficient Market for These Bulbs	4%	5%	5%	9%	9%	5%	5%
Small Store/Limited Selection/Space	4%	3%	4%	5%	5%	5%	4%
Other	3%	5%	4%	1%	1%	4%	4%
Don't Know	36%	39%	36%	36%	37%	33%	35%

*Includes contacts who gave this as a reason for not carrying the bulb and contacts, discussed below, who requested the addition of this bulb to the program

The finding that the lack of awareness of the availability of bulb types offered through the program occurred for approximately 33 percent of the contacts suggests that complete program information is not reaching a substantial portion of the store managers. In support of this interpretation, when the contacts were asked for suggestions to improve the program, 23 percent of those who suggested including bulbs the program already

offered also explicitly suggested providing more program information to them. Their comments were: “Educate retailers about the complete program. We only know bits and pieces.”, “Tell us more.” and “More information to retailers about what’s going on, what to expect.”

As referenced in the footnotes to Table 69 and Table 70, retailers’ lack of awareness of product availability also was evident in their suggestions about including additional products in the program. Thirty-one percent of the contacts reported they would like to see other lighting products included in the program. Interestingly, most of the lighting products these contacts suggested already were included in the program. The requested products included reflectors, also referred to as “floodlights,” which were mentioned most frequently. Between five and 10 percent of the retailers requested inclusion in the program of each of the bulb types, except spirals and T-8s, which already were covered by the program.

Table 71). The multiple requests for the various bulbs suggest there is a market for all of the energy efficient bulbs offered through the program, at least when they are comparably priced to standard lighting products. “Other” lighting products mentioned by the contacts for program inclusion were ceiling fan bulbs, “bathroom lights,” “boutique” bulbs, “the different kinds of bulbs needed for apartments,” multi-packs⁸ and fixtures. Also included in this category is the response of a contact who said simply, “Love to have more....”

Table 71: Desired Program Lighting Products

Lighting Product	Percent (N=75)
Reflectors	13%
LEDs	11%
Three-way Bulbs	9%
Dimmable Bulbs	8%
Globes	8%
A-Lamp Bulbs	7%
Candelabra Bulbs	7%
T-8s	4%
Other Products	9%

Multiple responses were accepted

Experiences with Multi-Packs

Sixty-eight percent of the contacts reported their stores carried energy efficient bulbs packaged in multi-packs. One of the contacts who reported carrying multi-packs

⁸ This contact was referring to a package with different types and wattages of bulbs packaged together.

expressed dissatisfaction with the sales of those items. That contact reported being “somewhat dissatisfied” (“2” on a five-point scale) with his multi-pack sales, due to “some sort of legal problem” that “required some bulbs to be pulled.” All but one of the remaining multi-pack retailers (96 percent) reported they were satisfied with their sales of those items (“4” or “5” on a five-point scale, Table 72).

Table 72: Multi-packs

Response	Percent
Carried (N=75)	68%
Satisfied with Sales (N=51)	96%

Packages of four bulbs were the most common multi-pack size reported by the contacts; 51 percent of them carried such products (Table 73). Twenty-four percent of the contacts reported carrying multi-packs of two bulbs. A few contacts reported carrying other multi-pack configurations. Reported multi-pack configurations included three bulbs (three percent), five bulbs (four percent) and six bulbs (five percent). However, the program offered multi-packs of only two, four and eight bulbs.

Table 73: Quantities of Bulbs in Multi-packs

Multi-pack Quantity	Percent (N=75)
Two Bulbs	24%
Four Bulbs	51%
Eight Bulbs	7%
Other	12%

Multiple responses were accepted

Lighting Sales and Shelf Space

Seventy-two percent of the contacts reported their stores’ sales of energy efficient bulbs increased during the program period, while about 21 percent reported their sales remained the same. Three percent reported their sales decreased, and four percent were unable to say whether their sales of energy efficient bulbs had changed during the program.

Of the 56 contacts who reported increased sales, 88 percent were able to estimate the percentage by which their sales of energy efficient bulbs increased during the program. Estimates of the increase in sales ranged from “one percent” to “1,000 percent,” with an average percentage increase of 102 percent, and a median increase of 35 percent. However, a caveat is in order. Beyond the fact that 72 percent of the contacts reported increased sales of energy efficient bulbs during the program, the percentages by which sales increased are of limited value in interpreting the amount of increased bulb sales. For example, the contact who reported a one percent increase said the percentage was low “because the base is so large.” In addition, three of those who reported 100 percent sales

increases commented they had not carried energy efficient bulbs before participating in this program.

To provide a more meaningful interpretation of the responses regarding increases in sales of energy efficient bulbs, they have been categorized as small (one percent through 10 percent), moderate (11 percent through 59 percent), or large (60 percent or more). Using that approach, 22 percent of the 49 contacts reported a small increase in sales, while 37 percent reported a large increase in sales of energy efficient bulbs (Table 74). There is no statistically significant relationship between store size and the amount by which its sales of energy efficient lighting increased during the program.

Table 74: Increases in Sales of Energy Efficient Bulbs

Increase	Percent (N=49)
Small Increase (1% through 10%)	22%
Moderate Increase (11% through 59 %)	41%
Large Increase (60% or more)	37%

Current estimates of the market penetration rate for energy efficient bulbs in California range from five percent to 10 percent. Among the 43 contacts who offered an estimate of the portion of their overall bulb sales that were energy efficient bulbs, all but four (91 percent) estimated greater percentages, and in some cases much greater percentages, for the portion of their bulb sales that were energy efficient bulbs. As with the estimates of percentage increases in sales of energy efficient bulbs, the contacts' estimates of the portion of their sales representing energy efficient bulbs have been categorized as average (five percent through 15 percent), above average (16 percent through 50 percent) and high (51 percent or more). By these definitions, 47 percent of those who estimated the market share for their energy efficient bulbs reported it to be high (Table 75).

Table 75: Market Share of Energy Efficient Bulb Sales

Market Share	Percent (N=43)
Average (5% through 15%)	9%
Above Average (16% through 50 %)	44%
High (51% or more)	47%

Sixty-nine percent of the contacts reported the shelf space dedicated to energy efficient lighting products increased during their participation in the program. (This compares to 72 percent of the contacts who reported an increase in the sales of energy efficient bulbs during the program.) Of the 52 contacts who reported a shelf space increase, 62 percent estimated the percent of this increase. These estimates ranged from “about four percent” to “400 percent.” Four of those whose estimates were “100 percent” said they had not

carried energy efficient bulbs prior to participating in this program. The same approach was used to estimate sales increases and market share to characterize estimated shelf space increases as small, medium or large. Fifty-six percent of these 32 contacts reported a large increase in their shelf space for energy efficient lighting as a result of the program (Table 76). In addition, four contacts who did not provide percentage estimates reported the addition of end cap, aisle, or pallet displays, suggesting moderate to large increases in their space dedicated to energy efficient bulbs.

Table 76: Increases in Shelf Space for Energy Efficient Bulbs

Increase	Percent (N=32)
Small Increase (1% through 20%)	31%
Moderate Increase (21% through 59 %)	13%
Large Increase (60% or more)	56%

Product Availability

Fundamental to selling a product is the prerequisite ability of the store to obtain the product. The contacts reported that only one type of bulb was difficult to obtain; (19 percent) of the contacts said it was hard to get spiral CFLs. However, in addition to these contacts, five percent of the contacts suggested the program could be improved by supplying their stores with more bulbs. There is no statistically significant relationship between store size and difficulty in obtaining spiral CFLs.

Comments and suggestions relating to produce availability include:

- “There is no good ordering system. They just come when they come.”
- “They only came one or two times a year.”
- “Make it last longer: more than one time a year.”
- “Do more than once a year.”
- “Run promos for a longer time. More product. We run out.”
- “Increase the number of times per year for promotions.”
- “Do more times a year.”
- “Do the program more often.”

These suggestions again indicate an unmet demand for energy efficient lighting products. More than that, however, these comments reflect retailers’ incomplete understanding of the program. Together, the comments suggest retailers saw the program not as ongoing, but rather as a series of intermittent, even unpredictable, promotions for energy efficient

lighting. It is not known what impact this perception of the program had on retailers' program participation and activities. It may be worthwhile to investigate the extent of any such impact in a future evaluation.

Marketing Activities

The Upstream Lighting program has no budget for marketing. Therefore, it tries to leverage manufacturers' advertising funds by requiring them to provide signage and other promotional assistance to the retailers. Other manufacturer promotional assistance includes end caps or other aisle displays, point-of-purchase materials, in-store demos, retailer circulars or mass media advertising.

Eighty-five percent of these retailers indicated their store used the manufacturers' product promotional materials. However, three percent of these had discontinued using the provided materials: one because "It got old," and another because it did not "fit with our signage." Of the 15 percent of the contacts who reported their stores did not use manufacturer-provided materials, 73 percent reported the manufacturer had not placed promotional materials in their stores. The remaining contacts (27 percent) did not know why their stores were not using the manufacturer-provided signage. Even among the contacts whose stores did use the manufacturers' promotional materials, only 17 percent reported the manufacturers had placed the materials in their stores. Therefore, to the extent manufacturers work with retailers to promote the lighting products, it appears their involvement generally does not include direct on-site activities.

We found no statistically significant relationship between store size and reports of manufacturer-installed signage. Nonetheless, according to program staff, "Smaller retailers are better at using manufacturer signage and putting it up. Bigger stores have their own sign requirements, so it's more difficult to get them to use the provided signage."⁹ Furthermore, sign removal is more likely to occur in larger stores where communication between shift managers about using non-standard signage may be limited. The program manager's observations were based on compliance inspections he made annually to at least one location of all participating retailers. These inspections also revealed that the signs accompanying program lighting products typically include the manufacturer's suggested retail price, and information indicating the benefits of energy efficient lighting, such as energy savings and ENERGY STAR[®] messages.

Sixty-nine percent of the retailers who used the manufacturer-provided promotional materials said they were effective ("4" or "5" on a five-point scale). Eleven percent of the contacts who used the materials said they were ineffective ("1" or "2" on a five-point scale) because the materials included only one sign (three percent),¹⁰ the signs were too

⁹ However, the contact who reported the manufacturers' signage did not "fit our signage" was from one of the smaller retailers.

¹⁰ One contact who rated the materials as effective also suggested his store received only one sign from the manufacturer.

small (three percent), the materials did not make a lasting impression (two percent¹¹) and the “customers were already aware of” energy efficient bulbs (two percent).

Retailers suggested two primary improvements to the manufacturers’ marketing materials: “more” and “larger.” Six “other” suggestions for improving the materials included: signs that mention multi-packs (three percent of contacts), “more colorful” signs, self-illuminated signs, signs with more information and energy consumption comparisons for energy efficient lighting and better product packaging.

Fifty-six percent of the contacts reported their stores also created their own materials to promote the program’s energy efficient lighting products. The relationship between store size and the likelihood of making its own promotional materials is statistically significant, with stores of 20,000 to 100,000 square feet more likely to have done this. Although 69 percent of the retailers who used manufacturer-provided materials rated manufacturers’ signage as effective, retailers’ comments and the finding that 56 percent of the retailers made their own signage to promote program products suggest that retailers also viewed the provided signage as inadequate.

According to the program’s concept paper, on a national level, SDG&E is continuing to support ENERGY STAR[®] products and to coordinate with the ENERGY STAR[®] lighting campaign called “Change A Light, Change The World” to maximize marketing efforts. On a state level, SDG&E is coordinating statewide promotions with “Flex Your Power” advertising and point-of-purchase materials in retail stores. Twenty-four percent of the contacts reported awareness of such marketing or other publicity promoting energy efficient lighting products in California.

Most of those who reported such awareness mentioned the medium through which the message was conveyed to them. Contacts mentioned advertising through electronic media (radio and television) most often (15 percent of the contacts, Table 77). However, some contacts mentioned specific advertising sources. For example, SDG&E advertising was mentioned by four percent of contacts, which is interesting because SDG&E does not directly promote energy efficient lighting in this way. Nonetheless, these mentions of nonexistent, or incorrectly attributed, advertising exceeded the percentage of contacts (three percent) who mentioned “Flex Your Power” ads. This suggests that the impact of the latter advertising in promoting energy efficient lighting products is quite limited. “Other” marketing or promotional activities mentioned by the contacts included online and “go green” advertising.

¹¹ Two (20 percent) of the contacts who rated the materials as neither effective nor ineffective (“3” on a five-point scale) also commented about the materials’ lack of impact. One said they were “not too ‘wow’. We had to make our own.” The other commented that the materials were “not as effective for large-box stores.”

Table 77: Awareness of Other Energy Efficiency Marketing

Marketing or Promotion	Percent (N=75)
Radio Ads	8%
Television Ads	7%
Newspaper or Magazine Ads	4%
SDG&E Ads	4%
Flex Your Power Ads	3%
Other Stores	3%
Other	3%

Multiple responses were accepted

All but two of the marketing efforts to get California consumers to purchase energy efficient lighting products were rated effective ("4" or "5" on a five-point scale). Those efforts, both mentioned by the same contact who was unable to give an opinion about their effectiveness, were online and magazine advertising. Only one tentative suggestion was made to improve the effectiveness of these marketing efforts: run the advertising more frequently.

Program Satisfaction and Suggestions for Program Improvements

Thirty-three percent of the contacts reported receiving comments from customers about the program's lighting products. Sixty-four percent of these retailers reported positive comments. The most commonly reported positive customer comments were about the relatively low prices of the bulbs (24 percent). Twenty-four percent of the contacts also reported their customers asked for more bulbs than the retailers had available, including customers of two contacts (eight percent) who asked for additional types and wattages of energy efficient bulbs. One of these two contacts reported carrying only spiral bulbs. However, the other one reported carrying dimmables, candelabras, globes and LEDs as well as spirals.

Thirty-two percent of the retailers reporting customer comments reported receiving negative comments about the program's lighting products. The most commonly reported customer complaint, mentioned by three contacts (12 percent), was that the brightness of the bulbs was inadequate. Four other reported customer complaints, mentioned once each, included premature bulb burn out, dimmable bulbs not working well, the bulbs warmed up slowly and "they are ugly."

Seventy-three percent of the contacts reported overall satisfaction ("4" or "5" on a five-point scale) with the program, while three percent reported dissatisfaction ("1" or "2" on a five-point scale). However, the comments of these latter contacts reveal it was not the program itself that was the source of their dissatisfaction. Rather, one of these contacts expressed dissatisfaction with the intermittent and unpredictable delivery of energy efficient bulbs, while the other contact said his dissatisfaction arose from learning during this survey that he could have had bulbs other than spiral bulbs, which was the only bulb

type he was offered as part of the program.

When asked to identify the best aspect of the Upstream Lighting Program, retailers’ most common response was the products’ price points, that is, the price to the customers. This was mentioned by 19 percent of the contacts (Table 78). Saving or conserving energy and the closely related increased awareness of energy efficiency and awareness and use of energy efficient products were the next most commonly mentioned best program features. “Other” aspects of the program identified as best by the contacts were its advertising, its simplicity and smooth performance, the bulb packaging, and the program’s benefit to a store’s image.

Table 78: Best Aspect of Program

Best Aspect	Count	Percent (N=75)
Product Price Point (To Customer)	14	19%
Saving/Conserving Energy	12	16%
Increased Awareness of Energy Efficiency or Use of EE Products	11	15%
Increased Sales/Store Traffic	4	5%
Low Cost (To Retailer)	3	4%
Other	6	8%

Multiple responses were accepted

Forty-eight percent of the contacts offered suggestions for program improvements. The most common suggestions, made by 20 percent of the retailer contacts, can be distilled into a request for more discounted product (Table 79). These suggestions included comments such as, “Make it last longer, more than once a year,” as well as requests for specific products such as fixtures or multi-packs, and straightforward suggestions of “more bulbs.” The next most common suggestion was for more advertising, promotional assistance or consumer education. The two “other” suggestions were for simpler forms and spending more money on advertising instead of on free bulbs to retailers.

Table 79: Program Improvements to Make

Program Improvement	Count	Percent (N=75)
More Program Discounted Product	15	20%
More Promotional Help/More Consumer Education	11	15%
More Control Over Supply and Delivery	4	5%
More Program Information (To Retailers)	4	5%
Lower Price (To Retailers)	3	4%
Other	2	3%

Multiple responses were accepted

Firmographics

Sixty-three percent of the contacts' stores may be categorized as medium-sized (5,000 to 50,000 square feet) Table 80). Twenty-three percent of the stores were larger, with 15 percent exceeding 100,000 square feet. Ten percent of the contacts' stores were small, including two that were less than 2,500 square feet in size.

Table 80: Contacts' Store Sizes

Square Feet of Indoor Space	Count	Percent (N=75)
Less than 2,500	2	3%
2,500 to 5,000	5	7%
5,000 to 10,000	10	13%
10,000 to 20,000	18	24%
20,000 to 50,000	19	25%
50,000 to 100,000	6	8%
100,000 or More	11	15%
Don't Know	4	5%

The 12 smallest stores (16 percent) had 10 or fewer employees (Table 81). Most (52 percent) of the stores had 11 through 50 employees. Twenty percent of the stores had more than 100 employees.

Table 81: Number of Employees

Number of Employees	Count	Percent (N=75)
One through Five	3	4%
Six through 10	9	12%
11 through 20	18	24%
21 through 50	21	28%
51 through 100	8	11%
More than 100	15	20%
Don't Know	1	1%

Consumer Survey

In addition to the retailer survey, a survey of 912 SDG&E residential customers contained questions about recent CFL purchases and installations. This sample of residential customers was segmented into four sub-samples. The first sub-sample comprised respondents who, since January 1, 2006, had not purchased any of a list of

major appliances, windows, insulation, or CFLs.¹² This sub-sample was categorized as General Population (GP). Respondents who had purchased only CFLs from that list during that time were categorized as CFL Purchasers (CFLP). Respondents who purchased any of the listed items other than CFLs, including those who also purchased CFLs, were categorized by their residence in a single-family dwelling (SF), or in a multi-family dwelling (MF). The largest sub-sample was the CFLP group (Table 82).

Table 82: Consumer Survey Sub-Samples

Sub-Sample	Count	Percent
CFL Purchasers (CFLP)	368	40%
Single Family Dwellings (SF)	313	34%
Multi-Family Dwellings (MF)	81	9%
General Population (GP)	150	16%
Total	912	99%

Even though inclusion in the single-family and multi-family categories was not based upon having purchased a CFL since January 1, 2006, 93 percent of the single-family sample and 95 percent of the multi-family sample reported CFL purchases since that date (Table 83). Eighty one percent of the four sub-samples combined had made a CFL purchase in the preceding 18 months. Roughly 85 percent of all of those who purchased CFLs reported purchasing them in multi-packs.

Table 83: CFL and Multi-Pack Purchases

Purchase	CFLP (N=368)	SF (N=313)	MF (N=81)	Total Sample (N=912)
CFLs	100%	93%	95%	81%
Multi-packs	85%	84%	86%	NA

Not surprisingly, those in the CFLP group who reported having one or more CFLs installed in their homes was a higher percentage (98 percent) than was reported by the other groups (Table 84). However, high percentages of respondents in the single-family and multi-family categories also reported having one or more CFLs installed. Finally, 43 percent of the GP sub-segment reported CFLs installed in their homes, for an overall 88 percent of the entire sample reporting installed CFLs.

¹² Listed items were refrigerators, clothes washers, dishwashers, pool pumps, central air conditioners, heat pumps, room and window air conditioners, evaporative coolers, water heaters, furnaces, insulation, windows, and compact fluorescent light bulbs.

As might be expected, fewer customers living in multi-family dwellings, which are typically smaller and have fewer light fixtures, reported high quantities of installed CFLs compared to customers in the single-family and CFLP sub-samples. The multi-family sub-segment also had the fewest reports of incandescent bulb use in their homes. For the entire sample, including the general population, 33 percent reported having ten or more bulbs installed.

Table 84: Bulbs Installed in Home

Bulbs Installed in Home	CFLP (N=368)	SF (N=313)	MF (N=81)	GP (N=150)	Total Sample (N=912)
One or More CFLs	98%	96%	93%	43%	88%
Five or More CFLs	67%	66%	57%	18%	58%
Ten or More CFLs	39%	42%	20%	3%	33%
One or More Incandescents	58%	63%	45%	75%	62%

To gain an understanding of consumer behavior regarding installation versus storage of purchased CFLs, the reports of single and multi-pack bulb purchases were summed, and compared to reports of the numbers of bulbs stored. This understanding may help program staff to arrive at more accurate program savings attributions based upon bulb purchase data.

The figures arrived at by this research team are inexact because the respondents were not asked how many bulbs they purchased, and some respondents from each sub-sample reported they did not know how many bulbs were in the multi-packs they purchased, additionally some reported they did not know how many CFLs they stored. However, these sums do suggest the minimum numbers of CFLs purchased by the respondents, and offer a reasonable approximation of the portions of those bulbs put into storage.

The CFLP group reported the greatest number of CFLs purchased, with at least 1,267 bulbs purchased by them since January 1, 2007 (Table 85). This sub-segment also reported the highest rate of CFL storage at 35 percent. The combined CFL storage rate for the three groups that had recently purchased CFLs was 32 percent. Because the actual number of bulbs purchased is likely more than the computed number, we estimate the percentage of purchased bulbs put into storage by these respondents at between 20 percent and 30 percent.

Table 85: Bulbs Purchased and Stored

Behavior	CFLP	SF	MF	Total Sample
CFLs Purchased	1,267	1,211	252	2,730
CFLs Stored	441	380	61	882
Percent Stored	35%	31%	24%	32%

5.5 UPSTREAM LIGHTING PROGRAM ISSUES AND OBSERVATIONS

Retailers generally were satisfied with the Upstream Lighting Program and their sales of products offered through the program. Nonetheless, they reported an unmet demand for all of the lighting products offered through the program. Like Oliver Twist, both lighting retailers and their customers were asking, “May I have more?” This was true for the infrequently carried types of bulbs as well as for spiral CFLs. A few retailers carried only spiral CFLs because their stores were small and had limited shelf space. Yet it is unclear from the remaining retailers’ responses why they didn’t offer all bulb types. Program staff suggested the reason for the limited selection of energy efficient bulbs available through participating retailers was the program’s inability to offer adequate incentives for bulbs other than spiral CFLs because of the negative impact this would have had on the program’s cost effectiveness.

It is reasonable to assume that retailers and their customers had similar motivations for participating in the program and buying efficient lighting products, in part because retailers also are consumers and are subject to the same marketing influences as the general public. Viewed in this way, it also is reasonable to assume consumers are motivated to buy the products in order to save energy. Of course, different things motivate different people, and each shopper may have multiple motivations for making purchases.

As an example of a different set of motivations, the retailers’ responses suggested economic status is related to purchases of energy efficient lighting. Two of them (three percent) reported dissatisfaction with their program lighting sales, blaming this on their locations near upper-income neighborhoods where money saved through energy savings was not as important as in neighborhoods whose residents earned less. Their observations were supported by the observation of another retailer who remarked, “We sell out in four days whenever we put them on the floor. People from Tijuana come across the border to buy them.” Other evaluation findings include:

- The program substantially increased lighting retailers’ sales of energy efficient products. However, increases in sales of specialty bulbs were minimal to negligible because of the limited number of retailers who carried them.
- The lumen-based incentives and the program’s measurement and verification requirements imposed structural biases in favor of the sales of spiral CFLs over the sales of other types of energy efficient bulbs.
- Retailers perceived their customers wanted to purchase a wide array of energy efficient lighting products, and retailers would like to carry those products.
- Retailers were not well informed about the program. They were unaware of all of the products the program offered, and saw it not as an ongoing effort, but rather as a series of intermittent, even unpredictable, promotional events over which they had little control.
- Retailers generally were not aware of manufacturers placing product signage in

their stores. Further, in spite of the fact that 69 percent of the retailers who used the manufacturer-provided signage rated that signage as effective, retailers' comments and the finding that 56 percent of the retailers made their own signage to promote program products, suggest retailers also viewed the provided signage as inadequate.

- Retailers had little awareness of third-party marketing, such as “Flex Your Power” advertising, which promotes the benefits or use of energy efficient lighting.

The four suggested program improvements most frequently mentioned by retailers were:

- More program discounted products, both quantity and variety
- More advertising and promotional help, including consumer education
- More control over supply and delivery
- More information about the program to retailers.

The latter three suggestions echo retailers' suggestions reported by Itron in its recent evaluation of the statewide program.¹³

- Residential customers have installed CFLs at high rates, with about nine out of ten (88 percent) of them reporting the installation of one or more CFLs in their homes.
- At the same time, many of these CFLs are being put into storage, with an estimated 20 percent to 30 percent of CFLs purchased by consumers being stored.

Based on the evaluation results, the following are recommendations for the Upstream Lighting program:

- **Create an electronic tracking database.** Data from program documents should be kept in an electronic database to allow access to and use of this information. Such access would help evaluators obtain samples and would facilitate direct marketing to participating retail store managers.
- **Provide program information directly to store managers.** With this information, store managers have the opportunity to become advocates for sales of the full array of efficient lighting products offered through the program.
- **Re-tool the marketing messages.** Marketing messages should address customers' multiple motivations for purchasing energy efficient lighting,

¹³ Itron, *2004/2005 Statewide Residential Retrofit Single-Family Energy Efficiency Rebate Evaluation*, pp. 5-10.

especially including energy conservation, money savings, and environmental benefits.

- **Evaluate other metrics for program success.** In order to eliminate or mitigate the biases imposed upon the program by existing measurement and verification requirements, consideration should be given to using benchmarks other than, or in addition to, cost effectiveness (i.e. the Total Resource Cost test) to measure program accomplishments. As an example, the overall trend in CFL sales could be monitored and compared to the trend in sales of standard incandescent lamps.

5.6 UPSTREAM LIGHTING PROGRAM BEST PRACTICES REVIEW

Program Theory and Design

- *Is the program design effective?* In general, the program is doing what it is intended to do, which is to motivate consumers to purchase and install qualifying energy efficient lighting products at the retail level via rebates or buy-downs to manufacturers (so customers do not have to send in rebate forms themselves). Most retailers said their stores' sales of energy efficient bulbs have increased during the program period, and that they are selling a greater percentage of efficient bulbs than the statewide market penetration rate. The discounted price points are motivating shoppers to buy.

However, the program is not achieving its potential due to the following issues:

- Retailers do not regularly receive complete program information. Many are not aware of all of the products the program offers, and they don't perceive it to be an ongoing effort. As a result they do not always offer the types of lights that customers demand or provide the lights on a regular basis.
- The lumen-based incentives create a bias in favor of spiral CFLs over the stocking of other types of energy efficient bulbs. This has improved the program's cost effectiveness, but has constrained the selection of efficient bulbs that are available to shoppers.

Lastly, the program may not be sufficiently flexible to quickly integrate design changes if needed to meet changing market demand, as the lag time between the RFP and implementation was more than six months. This issue has not really been tested.

- *Is the market well understood?* This residential mass-market program does not focus on specific product manufacturers or retail customers. The program tries to provide a wide range of lighting measures to a diverse customer base, including single-family homeowners, renters and multi-family tenants, as well as owners of apartment buildings and small businesses who shop at home improvement stores.

Program Management

Project Management

- *Are responsibilities defined and understood?* SDG&E staff roles and responsibilities in the program are clear and well defined, and the program requirements of lighting manufacturers and retailers are clear in the RFPs that are issued and contracts that are signed.
- *Is there adequate staffing?* No staffing deficiencies were described to the evaluation team.

Reporting and Tracking

- *Are data easy to track and report?* No. Manufacturers submit paper documents to the program allocating specific quantities of bulbs to various retailers. The program has no electronic database of retailers and contacts, although the program requires that manufacturers report information for the stores they work with.
- *Are routine functions automated?* Not applicable; manufacturers submit information fairly infrequently (although this data could still be put into an electronic format).

Quality Control and Verification

- *Does the program manager have a strong relationship with vendors involved in the project?* This was not assessed. Manufacturers were not interviewed for this evaluation, and retailers have no relationship with program staff.
- *Does the program verify reporting systems (e.g., rebates, invoices)?* Yes. SDG&E does on-site inspections of all participating manufacturers and random on-site inspections of participating retailers' displays and products to ensure program compliance and execution. This verification confirms anticipated delivery and sales numbers.
- *Are customers satisfied with the product?* In general retailers are satisfied with their sales volumes of various types of bulbs, although they also tend to not carry bulbs where there is higher customer dissatisfaction or reduced demand. They also like the program's simple design and beneficial public relations. Lighting purchasers also seem to be reasonably satisfied, although about one-quarter of them wanted more bulbs than were available, and one-third had negative comments about the various lighting products (mostly pertaining to bulb brightness).

Program Implementation

Participation Process

- *Is participation simple?* Yes. It is easy for manufacturers, retailers, and customers to participate in the program.

- *Are participation strategies multi-pronged and inclusive?* Yes. Overall, customers can choose from a wide range of retailers and lighting products.
- *Does the program provide quick, timely feedback to applicants?* This was not assessed for manufacturers seeking to join the program.
- *Is participation part of routine transactions?* Yes. Customers participate as part of their regular shopping experience.
- *Does the program facilitate participation through the use of internet/electronic means?* Not applicable.
- *Does the program offer a single point of contact for their customers?* Not applicable.
- *Are incentive levels well understood and appropriate?* The incentive levels provide attractive retail price points to the consumer, making the products competitive with less efficient options. At the same time, there is some evidence that the rate of free-ridership is relatively high in big box stores (and lower in smaller non-chain stores).

Marketing and Outreach

- *Use target-marketing strategies?* The program has no budget for marketing. Manufacturers are required to provide signage and other mass-market promotional assistance to the retailers.
- *Are products stocked and advertised?* The program works with the lighting retailers to ensure product is stocked, the displays are high-quality, and point-of-purchase materials are clear. Retailers said that only spiral CFLs were difficult to obtain. However, retailers tend to get infrequent deliveries of efficient bulbs (they are not available all year), and sometimes they do not have sufficient quantities to meet customer demand.
- *Are trade allies and utility staff trained to enhance marketing?* No. Retailing staff receives no training through the program.

6. LIGHTING EXCHANGE PROGRAM

6.1 LIGHTING EXCHANGE PROGRAM BACKGROUND

San Diego Gas & Electric's Lighting Turn In (Turn In) program exchanges inefficient and unsafe halogen torchiere lamps for high-efficiency 23-Watt pin-based compact fluorescent torchieres. The Turn In also offers customers who may not otherwise have access to local utility programs the opportunity to replace incandescent bulbs with free energy efficient ENERGY STAR[®] compact fluorescent bulbs (CFLs). Replacing halogen and other incandescent bulbs with ENERGY STAR[®] models can help reduce energy usage and demand on the statewide electrical system.

The objectives of the program are to achieve long term energy savings and to target market segments within SDG&E's service territory that historically have not participated in energy efficiency programs due to language, income, housing type, geographic or home ownership barriers.

The Turns Ins generally occur on weekends in parks, community centers or the parking lots of local stores. Participants must bring a bill from the utility to prove they are SDG&E customers. They then can exchange up to two torchieres for energy efficient floor lamps in white or black, and up to five incandescent lamps for 23-Watt CFLs. In 2007 (through September 30, 2007), the Lighting Exchange program held 36 Turn-In events with 6,236 attendees and collected 3,933 torchieres and 25,310 incandescent bulbs.

The SDG&E crew sets up two tents: one for the exchange of the bulbs and lamps, and the other for energy efficiency information. The crew also provides disposal dumpsters for the collected torchieres and bulbs. To ensure that the halogen torchieres are not reused, staff destroys them at the Turn In. A staff person snips off the plug and gives it to the participant to exchange for a CFL torchiere. The halogen bulb is removed for separate disposal; the metal and plastic parts of the torchiere are placed in a dumpster.

Events are promoted primarily through postcards mailed to residential customers who live near the event locations. This promotional mailing is a major program expense. SDG&E also tries to attract free coverage in newspapers and on TV and radio to help promote the events, but has had limited success. The program has recruited the help of local fire departments, which have created TV spots demonstrating the fire hazard associated with halogen torchieres. However, the response from promotions other than the postcards has been low, and the program continues to depend on the mailings.

Figure 27 shows the Lighting Exchange program progress toward 2006-08 goals and budget expenditures as of Q3 2007. At the time of this report, the Lighting Exchange program has achieved approximately 60 percent of its energy savings goals and spent almost 60 percent of its three-year budget.

Figure 27: Lighting Exchange Program Progress Toward Goals and Expenditures (Q1 2006 - Q3 2007)

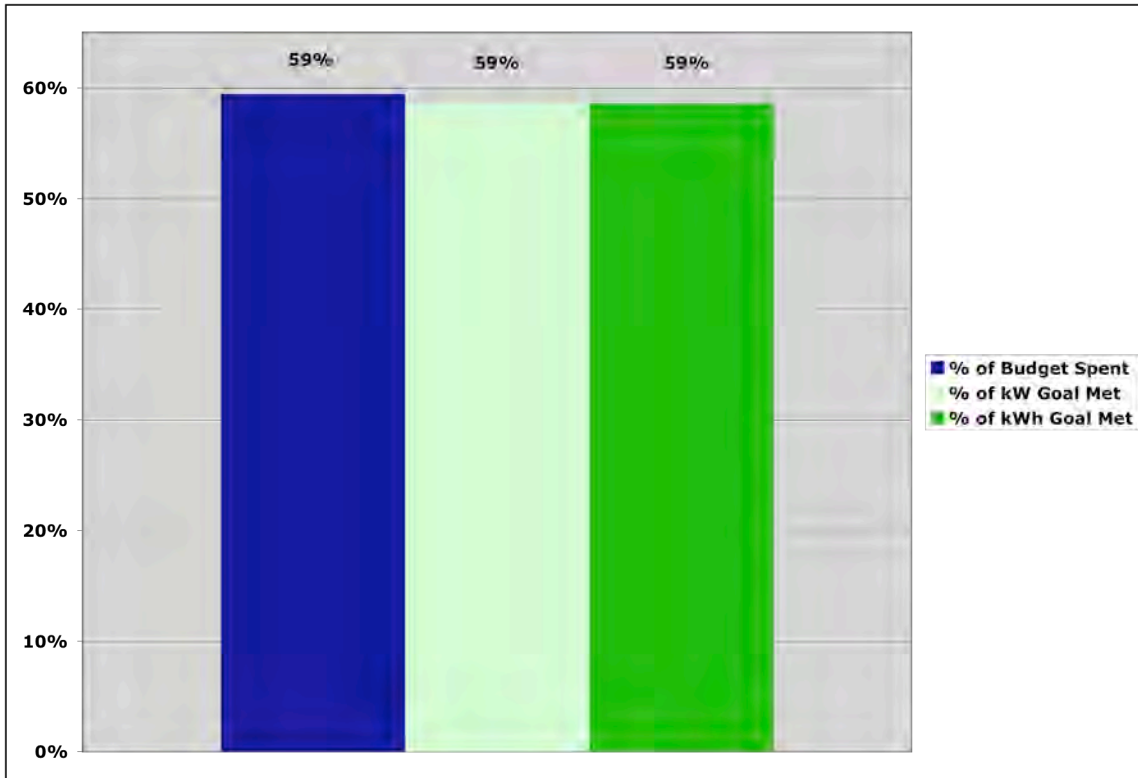
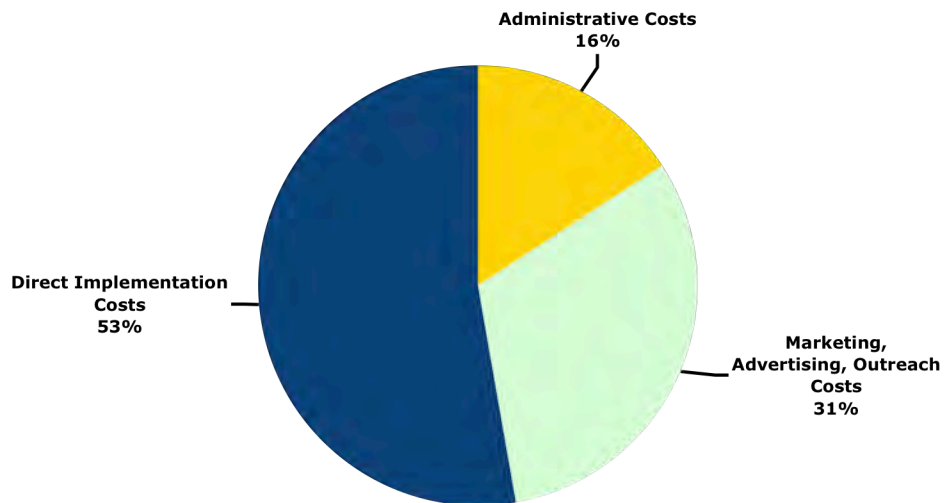


Figure 28: Lighting Exchange Expenditures by Category (Q1 2006 – Q3 2007)



6.2 LIGHTING EXCHANGE 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 Lighting Exchange program. The structure of the logic model that links activities and outcomes is a useful instrument for identifying specific program assumptions that could be tested using survey or other primary data collection activities.

The following program theory for the Lighting Exchange program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. (The logic model diagram follows the program theory discussion.)

Activities

Marketing, outreach, event promotion to customers

Significant program promotion is integral to the success of the lighting exchange program. Because this program targets hard-to-reach customers extra effort is needed to promote program events. Promotion efforts include event flyers, direct mailings, local radio spots, and posting events on the SDG&E website. The website also features an online application for customers to fill out prior to exchange events.

Exchange sites identified in HTR areas

Potential exchange sites (stores, schools, etc.) are identified by the program in hard-to-reach (HTR) areas. Locating the exchange in these areas reduces travel times and increases the likelihood that HTR customers will participate in the program.

Collaboration with outside groups

Partnerships will be established with local community groups (e.g., churches, senior centers), schools, employers in lower paying industries, city and county governments and other SDG&E programs. These partnerships will increase customer outreach and awareness of the program and provide lighting exchange venues. They will also increase awareness of other SDG&E programs that hard-to-reach customers may be eligible to participate in.

Lighting exchange process developed

The Lighting Exchange program provides hard-to-reach customers with a free lighting replacement service to dispose of their inefficient lighting and replace it with CFLs. Lighting exchange events will be held throughout the service territory for customers to replace their lighting. Attempts are made to staff these events with SDG&E employees, with an emphasis on recruiting bilingual people to make the program more effective.

Quality assurance

Surveys of randomly selected participants will be conducted during turn-in events to determine the satisfaction of participating customers. A committee reviews the survey

responses and make any necessary program adjustments.

Short Term Outcomes

Hard-to-reach customers aware of program

The combination of program marketing and collaboration with outside community groups makes the lighting exchange program accessible to a wide audience of HTR customers.

Customers participate in program, replace inefficient lighting with CFLs

Customers will participate in the program by bringing their inefficient incandescent lighting to turn in events and trading it for energy efficient CFLs.

Reduced energy costs

The installation of efficient lighting will result in immediate energy cost savings to the customer.

Surveys completed by participating customers

Surveys are distributed at turn in events and are completed by participating customers with comments on the program's effectiveness.

Mid Term Outcomes

Customers see benefits, continue to participate

Customers will recognize the savings they achieve by replacing the old lighting with CFLs. This acts as an incentive for customers to continue participating and using CFLs in their homes.

Reduce energy use in residential market

The more efficient CFLs will reduce overall energy use in the residential market as more customers turn in their inefficient lighting.

Survey results reviewed, program adjustments made

A program committee reviews customers' survey responses and adjustments are made to the program design if necessary.

Long Term Outcomes

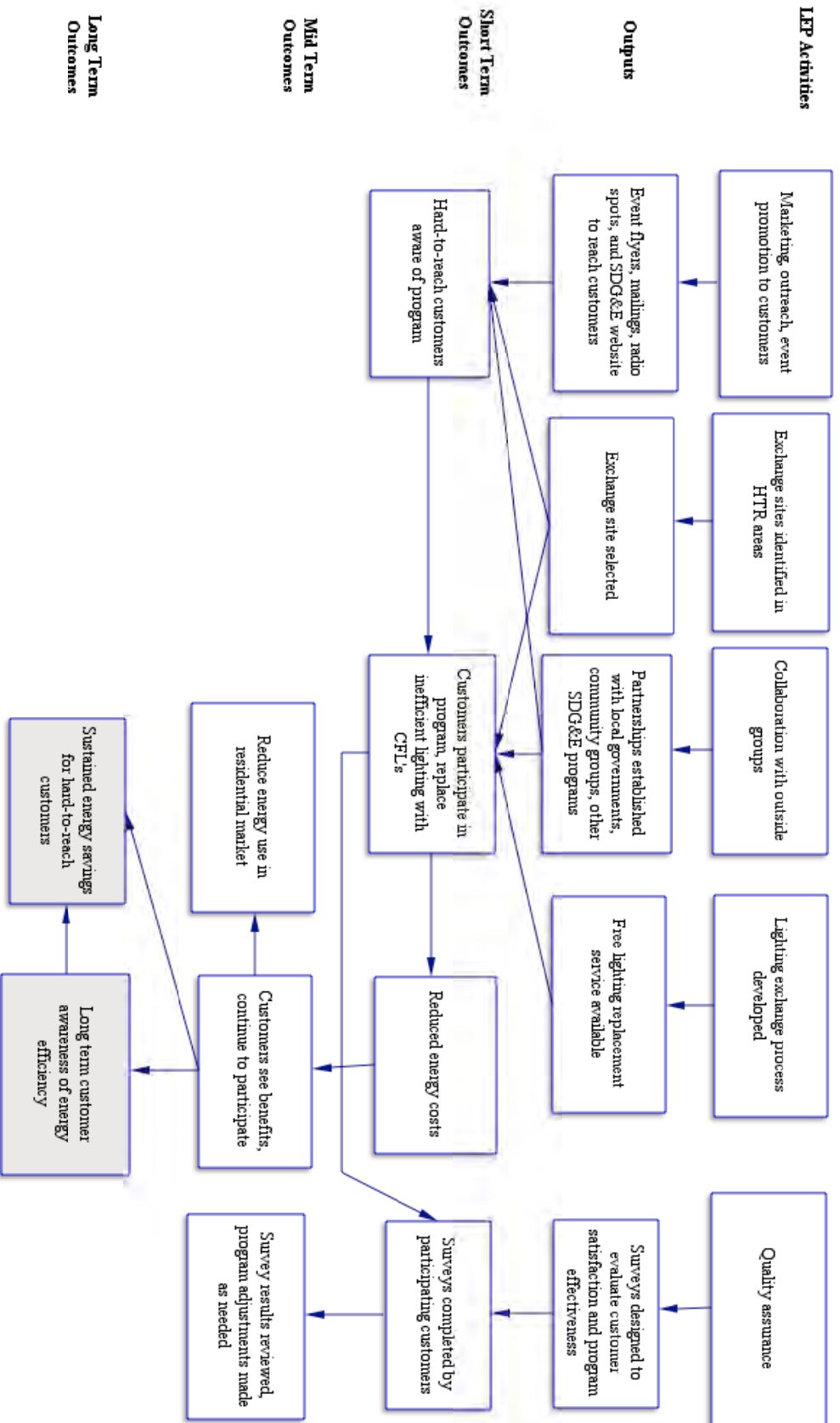
Long term customer awareness of energy efficiency

The Lighting Exchange program will inform customers of energy efficiency opportunities and they will seek out other efficiency measures to increase their energy savings in the future.

Sustained energy savings for hard-to-reach customers

Replacement of less efficient lighting with CFLs will produce long term annual energy savings to the consumer and will be sustained as long as efficient lighting is used.

Figure 29: Lighting Exchange Program Logic Model



Shaded boxes indicate induced outcomes that are outside of the direct program influence

6.3 LIGHTING EXCHANGE PROGRAM EVALUATION OVERVIEW

Based on in-depth interviews with Lighting Exchange program staff conducted at the beginning of the evaluation, several key research issues were identified that provided the focus of the evaluation activities. Additional research issues were identified as the program logic model and program theory were developed. The major evaluation research issues for the Lighting Exchange program are described below.

Make Events More Efficient by Expanding Types of Lamps Accepted

Due to expensive postcard marketing that draws in at most only 200 customers to each event, the Lighting Exchange Program is barely cost-effective. One of the factors limiting participation is the requirement that only halogen torchiere lamps can be exchanged for a CFL replacement. Customers can turn in up to five incandescents and receive five 23 Watt screw-in CFLs. A successful model, the SCE Lighting Exchange program currently holds events that allow replacement of any screw-in lamp with a pin-based CFL equivalent. These events are held at WalMarts and generally have over 5,000 lamps turned in.

Find Alternative Marketing Approaches to Postcard Mailings

The use of postcards is expensive and there may be other less expensive ways to attract participants. Teaming with big box stores is a promising approach because of the large number of residential customers that frequent these stores.

Using Exchange to Promote Other Measures and Targeted Education

Customers wait in line (typically less than 20 minutes) to get free lamps and turn in torchieres. However, the education component of the program is minimized because such knowledge sharing does not typically produce immediate energy savings. Determining if participants gain knowledge about energy efficiency as a part of attending the turn-in events is an issue that should be addressed.

The methods used in this evaluation and the evaluation results are discussed in detail in the following section.

6.4 LIGHTING EXCHANGE PROGRAM EVALUATION RESULTS

The research activities performed for this program include:

- Interviews with the Turn In Program Manager and staff
- Interview with the independent contractor providing similar services to Southern California Edison
- Observation of the Turn In on June 16, 2007, at San Diego-City Heights Urban Village.
- Phone surveys of 100 Turn In attendees.

Lighting Exchange Phone Survey Results

This section reports on feedback from 100 participants from all 2007 events who were interviewed by phone.

The survey asked questions on the following topics:

- Program promotion
- Travel time to the event
- Feedback about program staff
- Recipients' recall of information given at the event
- Efficiency actions taken since the event
- Post-event lighting actions
- Bulb replacement since the event
- Satisfaction with the program

Program Promotion

As noted in Table 86, the Turn In program uses postcards, free publicity, email, posters and a website to attract participants. Program promotion relies on postcards sent to customers living near each Turn In site. As Table 86 indicates, the cards drew 63 percent of attendees to the Turn Ins. SDG&E mails about 10,000 postcards for each event. This is the program's biggest expense; SDG&E spent \$90,000 on the advertising and outreach in 2006.

Free publicity in newspapers and on TV and radio news shows drew about 21 percent of attendees. Few attendees were attracted by posters (two percent), signs at the event (two percent) or by seeing the event in action (zero percent). A similar program, run by Southern California Edison (SCE), which generally attracts 10 to 15 times more customers than the SDG&E event, relies almost exclusively on low-cost or no-cost promotional approaches. Notably, the SCE lighting exchange program targets the general public, which is a much broader clientele than the low-income customers that SDG&E pursues with its version. However, the SCE program is referenced throughout this chapter as a comparison, from which SDG&E may draw certain elements. Expanding the program to cover the broader market will also help SDG&E to meet its savings goals.

Table 86: Where Did Attendees Learn of Lighting Turn In

Source of Information	Percent (N=100)
Mailer from SDG&E	63
Newspaper/TV	21
From a friend	7
Email from SDG&E	3
Website	2
Poster at site of exchange	2
Other	4

Travel Time to Turn Ins

Respondents were asked to estimate the amount of time it took them to get from their homes to the Turn In. As Table 87 illustrates, more than 85 percent of the participants traveled 10 minutes or less to get to the Turn In.

Table 87: Travel Time from Home to the Turn In

Travel Time to Event in Minutes	Percent (N=100)
0 to 5	40
5.01 to 10	37
10.01 to 15	15
More than 15	8

The Turn Ins generally were held outdoors, in parks or in other public spaces. In all cases, SDG&E set up tents, tables and signs to direct people to the Turn In site. All but three percent of respondents said they had no problem finding the site. One of these three individuals, who traveled 20 minutes to the Turn In, may have been less familiar with the area. The other two who had trouble finding the site reported traveling 10 minutes each. Since program marketing focuses on postcards mailed to customers near each Turn In site, it is not surprising that most people were familiar with the area and had no trouble finding the Turn In. However, SDG&E did not set up many signs in the area to attract street traffic or to guide those less familiar with the neighborhood.

Feedback About Program Staff

Only one of the 100 respondents said Turn In staff was not courteous. This respondent was upset because she wanted to keep the weights from the lamp for an art project, and staff insisted that the parts be put in the dumpster. The program requires that the lamps be collected and destroyed so they are not reused. However, at the turn in event observed in this evaluation, customers were

allowed to keep storage racks and parts other than the basic fixture and the electrical parts.

Only three percent of the 100 respondents thought the staff was not helpful and knowledgeable. One attendee said staff allowed people to exchange lights without presenting a valid electric bill to prove that they were SDG&E customers. One person had a hard time filling out the Turn In form while standing up.

Participants' Recall of information About the Turn In

The Turn In is an opportunity to educate attendees about other SDG&E programs and energy efficiency opportunities. Turn In staff sets up two tents: one for the lighting exchange, and another where customers can get additional information after they have collected their lamps. At the event observed in this evaluation, Turn In, this arrangement was inconvenient, because many participants left the first tent carrying boxes of lights and bulbs, and decided to bypass the second tent. The participant survey indicates that only 50 percent of the customers remembered that SDG&E provided information about other energy efficiency opportunities. Seventy percent of the 50 respondents who recalled the other energy education training said they implemented at least one of the energy saving measures as a result of the Turn In education effort.

Table 88 shows the energy efficiency information respondents recalled having received. It should be noted that not all of these topics were emphasized in the educational materials available at the Turn In, and that respondents may have recalled information from another venue.

Table 88: Recalled Information from Lighting Turn In

Action	Percent (N=50)
Turn off lights	19
Reduce lighting use	14
Lower/raise thermostat	14
Lower hot water temperature	7
Do not heat/cool rooms	6
Wash full loads	4
Have heating system tuned	3
Wash with cold water	3
Other	8

Turn In staff also provide information about other SDG&E rebate programs. Only 35 percent of the 100 respondents remembered receiving this information. Table 89 indicates that most of the respondents who recalled receiving information about other programs named the Appliance Recycling (69 percent) and Single Family (60 percent) programs.

Most of the information given to customers at the education tent seemed to center on the CARES program. According to the SDG&E program manager, program staff members talk with

everyone in line about the CARES program and register qualified customers right away. However, as noted in Table 89, survey responses suggest that such efforts were unsuccessful, as only 14 percent of respondents recalled receiving information about the CARES program. Table 90 shows which programs participants have participated in or plan to participate in the future.

Table 89: Recalled Receiving Program Information at Turn In

Program	Percent (N=35)
Single Family Rebate Program	60
Appliance Recycling	69
CARES	14

Table 90: Past and Future Participation in Other Programs

Program (N=35)	Percent Participated in Program	Percent Joined After Attending Turn In	Percent Likely to Participate in Next Year
Single Family Rebate Program	20	6	34
Appliance Recycling	17	11	14
CARES	6	0	6
Home Energy Audit	3	3	0

Energy Efficiency Actions Taken Since Turn In

Table 91 shows responses to an open-ended question: “Since participating in the Lighting Turn In, have you taken any other measures to increase the energy efficiency in your home?” The results indicate that 67 percent of respondents took additional measures. However, it is not clear that the Turn In had any influence on their behavior.

Table 91: Measures Taken by Lighting Turn In Participants

Action	Percent (N=100)
Purchased EE lights	25
Changed use of lights	15
Purchased EE heating/cooling	2
Changed use of heating/cooling	9
Purchased EE appliance	2
Changed use of other appliance	1
Purchased EE windows	8
Purchased tankless water heater, solar pool heater	3
Took no actions	33

Post-Turn In Lighting Actions

The respondents were asked to account for the torchieres and CFLs they were given at the Turn In. Table 92 shows the number of lamps still in use. Note that some respondents included CFLs other than the ones they received at the Turn In, which they bought themselves or received from another program.

The 14 CFL recipients who were not using their lamps were asked why. Thirty-six percent said they had no more places to put the lamps, 21 percent said the lamps did not fit in their sockets and 21 percent said the bulbs were burning out too quickly.

Table 92: Torchiere and Lamp Use

Torchiere and CFL Status	Number of Lamps	Average Number of Lamps per Household
Torchieres (N=44)		
Torchieres handed out	66	1.5
Torchieres now in use	57	1.3
Torchieres not in use	9	0.2
Burned out or broken	4	
Given away	0	
Not being used	5	
CFLs (N=56)		
CFLs handed out	240	4.3
CFLs now in use	228	4.1
CFLs not in use	65	1.2
Burned out or broken	18	
Given away	5	
Not being used	42	

Bulb Replacement Experience

Recipients of pin-based torchieres were asked if they had tried to find replacement bulbs for the lamps they received. Table 93 indicates that 82 percent had not yet tried to find replacement bulbs, but that all of those who had were able to find them.

Table 93: Torchiere Pin-Lamp Replacement Experience

Replacement Experience	Percent of Households (N=44)
I have not tried to find them.	82
I have found them in stores, but have not needed them yet.	9
I have found them, but they were too expensive to buy.	5
I have found them and purchased them.	5

Use of the Efficient Lamps

The respondents were asked to estimate the number of hours per day they use the lamps. Results are shown in Table 94. The torchieres are used an average of 2.7 hours/day per household and 1.7 hours/day per lamp. The CFLs are used an average of 10.8 hours/day per household and 2.6 hours/day per lamp.

Table 94: Torchiere and CFL Hours Use per Day

Hours Per Day	Torchieres (N=44)	CFLs (N=55)
0	4.84%	0.00%
0.01 to 1	29.03%	42.04%
1.01 to 3	48.39%	36.73%
3.01 to 5	11.29%	9.73%
5.01 to 10	4.84%	10.18%
More than 10	1.61%	1.33%

Comparison of the New Lamps to the Ones Turned In

Recipients of torchieres were asked to compare the quality of the light and lamp and the safety of the new lamp to the ones they turned in. Results are shown in Table 95. Surprisingly, more people (10 percent versus five percent) complained about the quality of the lamp than the quality of the light. It may be that differences in lumen and light quality are mitigated in indirect lighting applications. Fewer people complained about the light quality with torchieres than they did with other CFL applications. Two respondents said the new lamps did not work properly: one missed the dimming capability of their old lamp, and one thought the new lamps looked cheaper than the ones they turned in.

Table 95: Torchiere Quality and Safety Ratings

Torchiere Quality and Safety (N=42)	Percent Responses Quality of the Light	Percent Responses Quality of the Lamp	Percent Responses Safety of the Lamp
Better than the ones I turned in	52	40	74
The same as the ones I turned in	43	50	24
Worse than the ones I turned in	5	10	2

Ongoing Use of Incandescents

All respondents were asked if they had any remaining lamps with incandescent bulbs that were used two or more hours per day. As Table 96 illustrates, 54 percent of the homes had no incandescents in use for more than two hours per day. Table 97 shows why the incandescents had not been replaced.

Table 96: Number of Remaining Incandescents Used More than Two Hours Per

Number of Incandescents Used More than Two Hours per Day	Percent of Households (N=56)
0	59
1	11
2	9
3	5
4	5
5	2
8	2
9	2
10	2
Don't know	4

Table 97: Reasons Incandescents Have Not Been Replaced

Reason	Percent of Households (N=26)
CFLs do not fit	58
Don't have any more CFLs to use	15
Poor light quality	8
Lamps cost too much	8
Don't know	12

Satisfaction with the Lighting Turn In

Respondents were asked to rate their overall satisfaction with the Turn In Program. Table 98 indicates that 90 percent were satisfied with the program. When asked to suggest improvements to the program, respondents recommended the ideas shown in Table 99. The most common response, mentioned by 13 percent of respondents, was to offer the program more often; the second most common suggestion, mentioned by eight percent of respondents, was to give away more types of CFL bulbs, primarily smaller bulbs.

Table 98: Overall Satisfaction with Lighting Turn In Program

Satisfaction Rating	Percent of Households (N=100)
Extremely satisfied	59
Very satisfied	32
Somewhat satisfied	8
Not at all satisfied	1

Table 99: Recommendations for Improving the Lighting Turn In Program

Suggested Program Improvement	Percent of Households (N=100)
Repeat program, offer more often	13
Offer other types of bulbs	8
Better parking or provide drop-off place for lamps	4
Advertise more	3
Better signs/directions	2
Give away more lamps	3
Offer other types of lamps	2
Recycle fluorescent lamps	1
Better quality bulbs	1
No Suggestions	55

Suggested New SDG&E Programs

Respondents were asked if SDG&E should offer other useful programs. Most of their responses, which are listed in Table 100, name existing SDG&E programs.

Table 100: Other Programs that Would Be Helpful to Attendees

Suggested New Program	Percent of Households (N=100)
Rebates for windows	7
House Doctor or in-home assistance	5
Lower prices	5
Rebate for other measures	4
Recycle fluorescent lamps	3
CARES or low-income support	3
Off-peak rates	2
Make information more available	2
No response or nothing	60

Participant Demographics

The final set of questions collected housing information, shown in Table 101, and demographic information, shown in Table 102. The Turn In is intended to attract hard-to-reach customers, including renters, people with lower incomes and those who don't speak English; many of the Turn Ins are located near large populations of these customers. The vast majority (82 percent) of respondents are homeowners. In addition, 68 percent of respondents are over age 55, and 80 percent have taken some college or associate's degree courses.

Table 101: Housing Characteristics of Attendees

Characteristic	Percent of Households (N=100)
Home Ownership	82
House Type	.
Single-family	74
Apartment	11
Condo	9
Duplex/townhouse	4
Mobile/manufactured	2
Number of Occupants	
1	19
2	40
3-4	22
5-6	10
More than 6	4
Refused	5
House Size in ft ²	
Less than 1400	29
1400 to 2500	45
2501 to 3500	5
Don't know	21
When Was Home Built	
1940 and before	6
1941 to 1969	30
1970s	29
1980s	13
1990s	6
2000 and later	5
Don't know	11

Table 102: Demographic Characteristics of Attendees

Characteristic	Percent of Households (N=100)
Age of Respondent	
under 35	8
35 to 55	21
55 to 65	29
over 65	39
Refused	3
Ethnicity of Respondent	
White	64
African-American	4
Asian	4
Hispanic	18
Other	2
Refused	4
Education Level	18
High school or less	27
Some college	12
Associate's degree	23
College graduate or greater	18
Refused	2
Household Income	
Less than \$20,000	12
\$20,000 to \$40,000	17
\$40,000 to \$60,000	25
\$60,000 to \$100,000	19
\$100,000 to \$150,000	5
More than \$150,000	4
Refused	17
Gender	
Male	48
Female	47
Enumerator unsure	5

6.5 LIGHTING EXCHANGE PROGRAM ISSUES AND OBSERVATIONS

The June 16, 2007, Turn In was well organized and well received. The crew set up the event professionally, and served participants in a considerate and friendly manner. The event clearly generated a positive image of SDG&E within its target communities. Participants were grateful that SDG&E provides the service.

Clearly, the Turn Ins have positive benefits. However, the program can make several improvements, including the following.

- **Find an alternative to the direct-mail (postcard) promotion.** The current approach struggles to be cost-effective, particularly due to the high cost of mailing the postcards. Therefore, the program must find alternatives to the postcards, and/or significantly

increase the number of kWhs saved at each event. Program managers should phase in these approaches while continuing the mailings until they are sure they will get good attendance without the postcards. Program managers should be encouraged by the fact that SCE does no promotional mailings and yet consistently receives 9,000 torchieres and bulbs at their turn-ins. We recommend that SDG&E hire the SCE contractor, which already provides circuit rider support for the Home Energy Efficiency Rebate Program, to run a couple of trial events using the SCE format. This is a good way to determine if the more expansive model with its less expensive marketing strategy is viable in the SDG&E region.

- **Expand the program to accept all types of lamps that have screw-in sockets and replace them with similar pin-based fluorescent alternatives.** The viability of the current program, which accepts only halogen torchieres and gives away up to five standard 23-Watt CFLs per customer, is questionable. The program cannot count on receiving an endless supply of halogen torchieres at the Turn Ins, especially as it returns to neighborhoods where it has held previous Turn Ins. In addition, with customers' easy access to CFLs, the practice of providing free CFLs becomes less justified. In recent discussions, it was recommended that the program accept all incandescent floor lamps for exchange. This is seen as a good way to ease the program into accepting all incandescent lamps. Because these incandescent lamps use more than 100 watts of power, these lamps are worth replacing. In addition, the replacement lamps already are being brought to the events and do not represent a significant change in procedure for the program

SCE has expanded its exchange program to accept all lamps with screw-in sockets; this has increased the number of lamps collected and the associated savings significantly. If SDG&E adopts this approach, the Turn In program will have to carry many different types of lamps and will need a bigger crew and larger facilities. SCE's website, www.sce.lampexchange.com, shows the types of lamps included in the program and photos of their recent turn ins.

- **Change the line flow so participants receive information before they exchange their lamps.** Most participants said they received their lamps and left, thereby bypassing the education tent and CARES table. SDG&E should change the traffic flow so customers pass the information tables while waiting in line. They will be far more likely to look at the material and ask questions if they are not carrying lamps.
- **Add a table or tables for educational materials.** Provide educational materials while customers wait in line. Materials might include: information about the CFLs they will receive; suggestions about the placement of lamps, outdoor porch lights, reading lamps, etc.; and annual energy savings and other energy efficiency opportunities, including other residential and low-income programs. A recent positive enhancement to the programs has been to invite community organization representatives to promote CARES and other support efforts to the customers while they wait in line.
- **Set up a station to collect old CFLs and promote safe disposal of lamps.** Several respondents said SDG&E needs to develop a program to collect and recycle old CFLs, since they contain mercury and should not be deposited in the trash. SDG&E should

educate CFL recipients about proper disposal of these lamps. The Turn In would be a good place to begin this process. SDG&E could provide deposit bins for old CFLs and display signs and literature about proper disposal methods.

- **Include a picture of a halogen bulb on promotional materials.** If the program is going to continue to focus on halogen torchieres, it should include a picture of the bulbs in its promotional materials. The current promotion shows a torchiere fixture but not the bulb. It also would be helpful to show Turn In participants sample halogen bulbs.
- **Increase walk-in traffic.** The programs need to draw more participants, by eliminating or altering the direct-mail approach. In addition, SDG&E should place eye-catching signs, balloons and perhaps old torchieres to draw walk-in traffic and to direct participants to the site.
- **Consider partnering with large stores.** The use of large store parking lots has numerous advantages. The stores generate a lot of traffic. They can be the prime source of promotion. SCE, which does not use direct mail promotion, relies on store promotions. (SCE's website, www.scelampexchange.com, offers information about their program.) People can learn about the Turn In while shopping, and return later to turn in their lamps. For others, the turn in is another activity they can do while shopping at the store.

6.6 LIGHTING EXCHANGE PROGRAM BEST PRACTICES REVIEW

Program Theory and Design

- *Is the program design effective?* The program design/delivery is generally effective, but could also be enhanced. First, the events could be more “efficient” by expanding the types of lamps that are accepted. The SCE Lighting Exchange program, for instance, currently holds events that allow replacement of any screw-in lamp with a pin-based CFL equivalent. This generates more traffic to events and also more energy savings. Secondly, the traffic flow at events could be changed so customers pass the information tables while waiting in line. They would be far more likely to look at the materials and ask questions if they are not carrying lamps.
- *Is the market well understood?* The hard-to-reach market is fairly well understood, however the program still struggles to attract significant participation, due primarily to its reliance on mass mailings for marketing. SCE's program does not do any mailings but attracts ten times as much traffic, in part because the implementer is able to successfully publicize events to nearby neighborhoods using other media, including highly visible signage, flags and balloons to attract those driving by. The SCE events are also done in conjunction with big-box retailers (e.g., Wal-Mart) where many targeted customers shop and held over two days so that customers can more easily take part.

Program Management

Project Management

- *Are responsibilities defined and understood?* Yes. Program management and staff responsibilities are clear and well defined. SDG&E staff does not have any difficulty delivering this program.
- *Is there adequate staffing?* No staffing deficiencies were described to the evaluation team.

Reporting and Tracking

- *Are data easy to track and report?* This was not evaluated.
- *Are routine functions automated?* On-site program staff process routine exchanges very efficiently and in a friendly manner.

Quality Control and Verification

- *Does the program manager have a strong relationship with vendors involved in the project?* Not applicable.
- *Does the program verify reporting systems (e.g., rebates, invoices)?* Not applicable.
- *Are customers satisfied with the product?* The program has high rates of customer satisfaction, and many customers express their thankfulness for this service.

Program Implementation

Participation Process

- *Is participation simple?* It is easy for customers to participate in exchanges; they just come with their torchieres and/or incandescent bulbs and fill out a simple application while waiting in line. Bilingual staff are on-hand to give assistance if needed. Sometimes, however, there can be long lines to turn-in equipment.
- *Are participation strategies multi-pronged and inclusive?* No. Only a few types of trade-in events have been conducted to date, mainly in parks and community centers.
- *Does the program provide quick, timely feedback to applicants?* Customer eligibility is determined immediately on-site (as they are required to bring their account number).
- *Is participation part of routine transactions?* Not applicable.
- *Does the program facilitate participation through the use of internet/electronic means?* The website includes an online application for customers to fill out prior to exchange events.
- *Does the program offer a single point of contact for their customers?* Yes. The program has a simple one-stop-shop design.

- *Are incentive levels well understood and appropriate?* Not applicable.

Marketing and Outreach

- *Use target-marketing strategies?* The program specifically selects exchange sites (parks, schools, etc.) in hard-to-reach areas. As mentioned earlier, however, alternative marketing approaches need to be explored further along with different types of trade-in events and equipment. The program has relied primarily on generic mailings as the main marketing approach, which has been expensive and not particularly effective.
- *Are products stocked and advertised?* No equipment shortages at exchange events were reported to the evaluation team.
- *Are trade allies and utility staff trained to enhance marketing?* There is no marketing training. Exchange staff knows their specific responsibilities at the exchange, so there is no training needed. If a new person filled in they would be given a job handing out lamps, and would not try to explain CARES or how a CFL works. Little information is provided to customers in general.

7. COMPREHENSIVE MOBILE HOME PROGRAM RESULTS

7.1 MOBILE HOME PROGRAM BACKGROUND

The Mobile Home Program is designed to provide energy efficiency measures to owners and renters of mobile and manufactured homes in the SDG&E service territory. Synergy designed this program based on its prior experience with a program in the Pacific Gas & Electric (PG&E) service territory.

Synergy has found that this market segment is unlikely to take advantage of energy efficiency programs because of language, economic and educational barriers. According to Synergy, many of the customers in this segment are senior citizens, on fixed incomes and often are physically unable to install the measures themselves. These factors present significant barriers to participation in other energy efficiency programs. Therefore, the Mobile Home Program seeks to overcome or reduce these barriers through direct marketing and direct installation of energy efficiency measures.

The Mobile Home Program is marketed to mobile home park residents through community meetings and referrals. Once residents sign up, program technicians install some or all of the following energy efficiency measures: testing and sealing ducts; performing diagnostics and tune-ups for air conditioning systems; and installing aerators, low-flow showerheads, compact fluorescent bulbs (CFLs) and interior and exterior fluorescent fixtures.

Program staff includes the nine key individuals listed in Table 103, nine office staff who provide scheduling and administrative support and 13 technicians.

Table 103: Synergy Mobile Home Program Key Staff

Job Title	Job Description
CEO	Chief Executive Officer
Operations Manager	Program Management
Office Manager	General Office Management
Production Manager	Supervises Technicians
Quality Control Manager	Coordinates Quality Assurance and Control
General Manager	Mobile Home Park Identification, QA Surveys, Marketing
Senior Project Coordinator	Interface with Mobile Home Parks and Saturation Lead
Project Coordinators (2)	Interface with Mobile Home Parks

Table 104 displays the program status relative to program installation goals as from August 2006 to September 2007. Seventy five percent of program measures were installed within the first 13 months of program implementation (August 2006 through September 2007). Synergy staff anticipates completing program goals well before the contract's end in December 2008.

Table 104: Mobile Home Program Goals Per Measure and Percentage Installed

Measures	Quantity to be Installed (N)	% Installed
Duct Test & Seal	3,820	51%
AC Diagnostic & Tune-up	3,825	86%
Aerators	4,350	92%
Low-flow Showerhead	4,275	77%
Energy Star® CFL (Exterior)	2,500	5%
20-Watt Energy Star® CFL (Interior)	19,500	90%
18-Watt Energy Star® Fluorescent Fixture (Exterior)	1,110	280%
30-Watt Energy Star® Fluorescent Fixture (Interior)	4,000	72%
Common Area 20-Watt Energy Star® CFL (Exterior)	3,500	13%
Common Area Energy Star® CFL (Interior)	2,000	4%
Overall	48,880	75%

Figure 30 shows the Mobile Home program progress toward 2006-08 energy savings goals and budget expenditures as of Q3 2007. At the time of this report, the Mobile Home program is generally on track with its savings goals and has spent over half of its 3-year program budget.

Figure 30: Mobile Home Program Progress Toward Goals and Expenditures (Q1 2006 - Q3 2007)

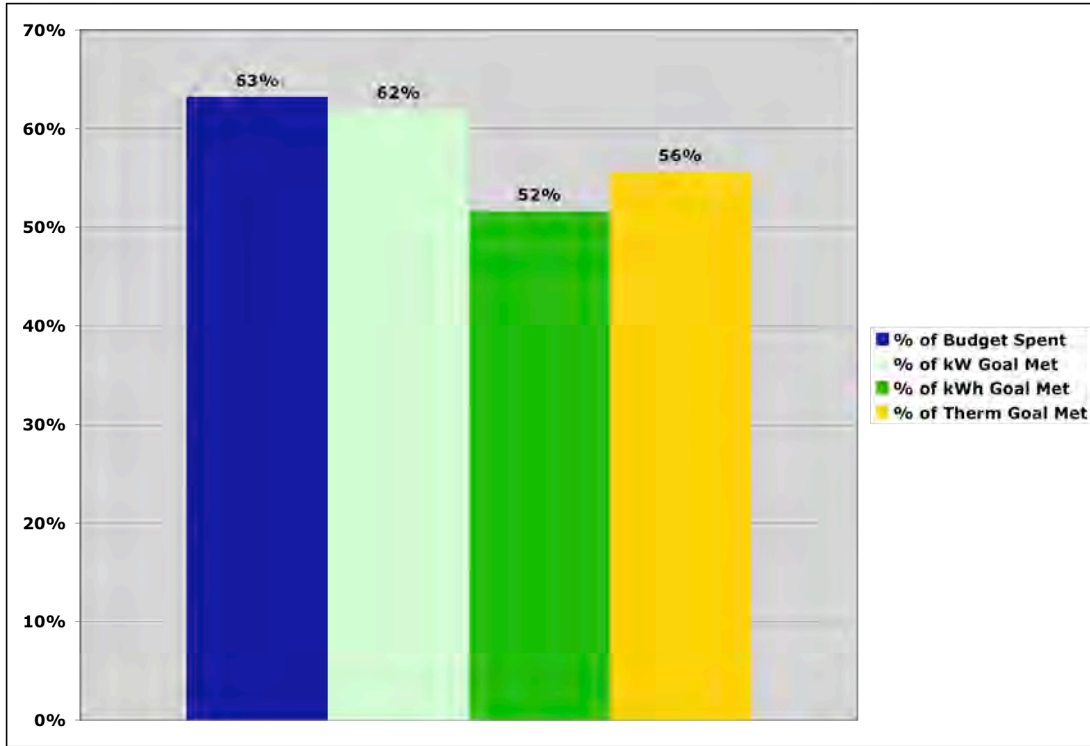
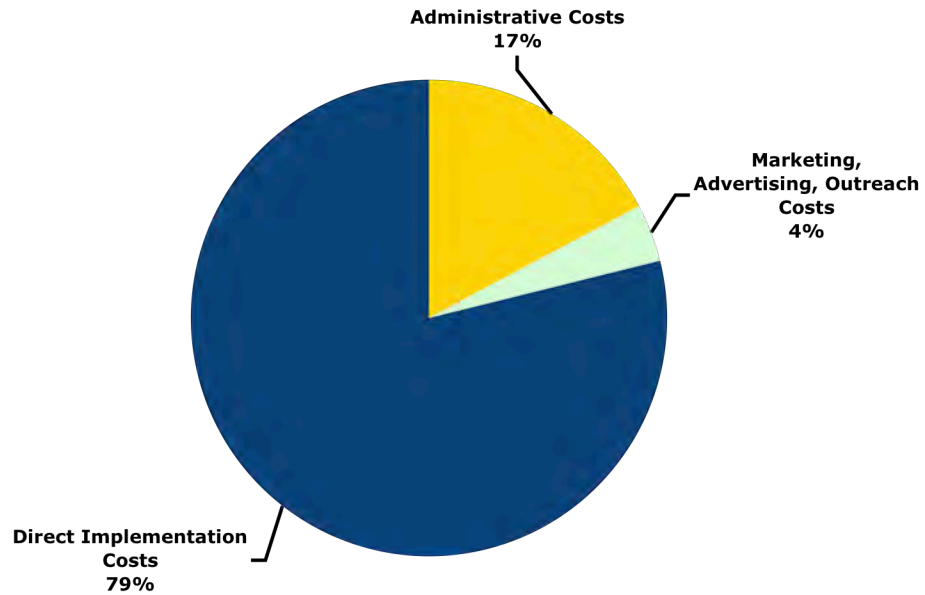


Figure 31: Mobile Home Program Expenditures by Category (Q1 2006 – Q3 2007)



7.2 MOBILE HOME PROGRAM LOGIC MODEL AND PROGRAM THEORY

The following program theory for the Comprehensive Mobile Home Program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. (The logic model diagram follows the program theory discussion.)

Activities

Program Outreach and Recruitment

The primary targets of the program are the residents of the mobile homes in SDG&E territory. Program staff identify target sites for program education and introduction, contact mobile home park managers and establish the credibility of the program and the implementers with park managers. Participants are identified and signed up to participate.

Education

As part of outreach activities, information is provided at neighborhood meetings, through brochures about energy efficiency, via walk through audits and through information provided about other programs.

Measure Installation

Program technicians treat mobile homes with duct testing and sealing, installation of aerators and low flow showerheads, pipe wrapping and installing water heater blankets.

Quality Assurance

Field testing, software verification of duct sealing, customer satisfaction surveys and random inspections confirm measures are installed and operating as expected, that participants are satisfied with their program experience and that measures remain in place.

Short Term Outcomes

Cost-effective therm savings and resulting reductions of greenhouse gas emissions from installation of measures.

Measures installed in participating mobile homes result in cost-effective gas savings and coincident reductions of GHG emissions.

Relationships built and communications established that improve the availability of energy efficiency services to residents of mobile homes.

Residents are more aware of energy efficiency measures and opportunities and more receptive to these measures following their experience with the program.

Marginalized, hard-to-reach population benefits from reduced energy cost burden.

Mobile home residents, often difficult to reach, receive valuable energy efficiency services and

measures, ultimately reducing their energy costs.

Quality assurance activities confirm satisfaction with the program and performance of measures.

Quality assurance findings allow the program to adjust any activities or measures not meeting the expectations of residents or any that are not meeting the energy savings expectations of the program calculations.

Long Term Outcomes

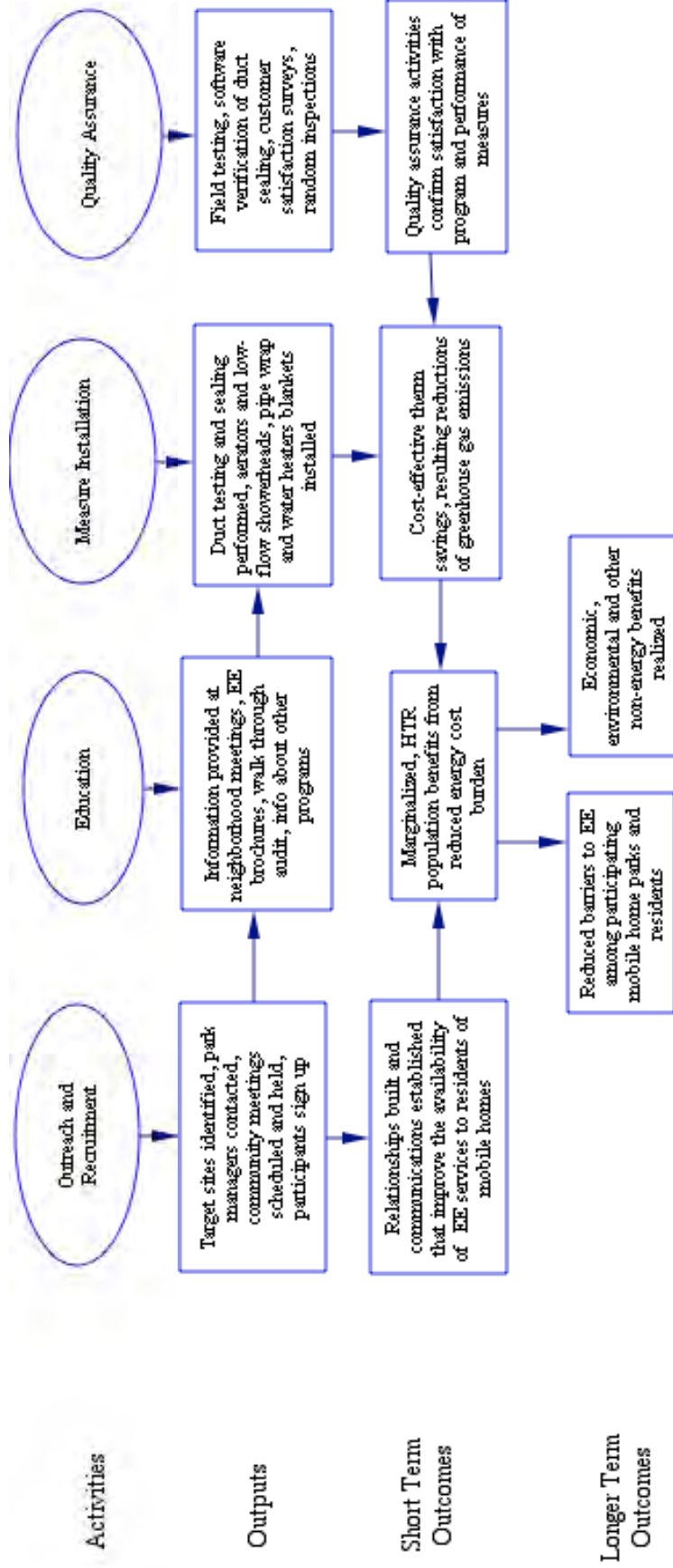
Economic, environmental and other non-energy benefits realized.

Participants spend less on energy due to the measures installed through the program, helping to reduce emissions, lowering peak demand and avoiding the need to purchase additional power to serve Southern California. Measures may also provide non-energy benefits (lowered maintenance, fewer bulb replacements, water savings).

Reduced barriers to energy efficiency implementation among participating mobile home parks and residents.

Barriers related to information and lack of experience are reduced through exposure to the program and the installed measures.

Figure 32: Mobile Home Program Logic Model



7.3 MOBILE HOME PROGRAM EVALUATION OVERVIEW

The first step in the evaluation was a review of Mobile Home Program promotional, training and educational materials and audit reports. The next step was interviews with Synergy program staff to collect additional background information and to develop a thorough understanding of the program design.

Using this information, the logic model and program theory were developed. Using the logic model as a starting point, a list of four researchable issues was created, from which testable hypotheses and research questions for Synergy program staff were selected.

Mobile Home Research Issues

Identify Effective Marketing Strategies

The Mobile Home program relies heavily upon the credibility of park managers and word-of-mouth to promote participation by residents of mobile home parks. Thus, a primary research area explores the effectiveness of this park-manager dependent marketing strategy. For the program to reach its greatest market penetration, there must be enthusiastic support for the program by the park manager or other neighborhood program representatives. In addition, participant satisfaction with measure installation and performance must be high.

Expansion of Program to Manufactured Homes

Manufactured housing presents energy efficiency opportunities and challenges that are similar to those that exist for mobile homes. However, locating appropriate manufactured housing sites is often difficult. Such homes are not always located in parks with a designated manager who can serve as the lead contact for the program.

Installers' Experiences

For installers to be effective program advocates, they must have the training and experience to install program measures correctly and with minimal inconvenience to home occupants. They must also be prepared to market the program while on site in order to encourage more widespread resident participation.

Utility's Role

The SDG&E brand name typically carries weight for customers and SDG&E's level of support for the program can affect program participation. This includes the degree to which the utility can accurately field customer inquiries regarding the program and verify American Synergy's role in program delivery. Additionally, the ability of the utility to provide concise guidelines regarding data reporting expectations can affect the rate of program delivery.

7.4 MOBILE HOME PROGRAM EVALUATION RESULTS

This section discusses implementation of the program and the experience of program staff and technicians with program marketing, program management and customer response.

In July 2007, the evaluators interviewed seven Synergy staff in person at program headquarters in Moreno Valley, CA and one by telephone. The evaluators also interviewed five Synergy technicians in person as they performed their work. Additionally, the evaluators surveyed 30 participating and 30 nonparticipating mobile home park managers, split equally between the SDG&E and Southern California Gas (SCG) service territories. The small sample in each utility service territory made it more meaningful to report results as a larger data set.

Program Marketing

The process evaluation explored the program marketing activities through the general marketing strategy, role of technicians and the utility, approach to saturation and opportunities for manufactured housing.

General Marketing Strategy

Synergy's General Manager uses an InfoUSA database to locate all manufactured and mobile home parks and residences within the SDG&E service territory. Following recommendations from a previous evaluation, Synergy targets mobile home parks in the warmest areas within each service territory, because they have the greatest demand for air conditioning, and therefore are likely to obtain the greatest energy and gas savings from the program measures.¹⁴ Project Coordinators then organize their efforts to cover the targeted parks within each geographical area most efficiently.

Understand Market Barriers

Synergy has identified three major market barriers to customer participation in this program:

- Refusal of park managers to allow personal contacts with park residents
- Reluctance of senior citizens to allow unfamiliar individuals into their homes
- Language barriers.

Most mobile home parks in Southern California do not allow door-to-door canvassing. Therefore, Project Coordinators begin their marketing efforts by gaining permission from each mobile home park manager to hold an open house or fair within the park. At

¹⁴ For example, the AC Diagnostic and Tune-up energy savings in Palm Desert (climate zone 15) is approximately five times greater than Rosemead (climate zone 8), and approximately twenty times greater than Torrance (climate zone 6). LaPalme, Glen, 2007, Comprehensive Hard-to-Reach Mobile Home Energy Savings Program Evaluation, Measurement and Verification Report.

neighborhood meetings, Project Coordinators describe the program offerings and recruit participants. The customer group targeted by this program typically is over the age of 55. Synergy's Senior Project Coordinator, who is over 55, reported that being a peer of this age group helped him establish a relationship of trust with Synergy's target population.

Program contacts reported that the most common reasons residents give for not participating are skepticism about "free" programs and concerns about scams. As one program contact stated, "Their biggest question is: 'Why is it for free?' and 'If it's not going to cost me anything, then what's the catch?'"

Synergy staff also reported that the most effective strategy to address residents' concerns about the legitimacy of the program is to convince them that Synergy is a direct contractor to the utility. Program contacts universally agreed that "co-branding" with the utility, such as using utility logos on promotional materials, also is an effective technique to reduce customer skepticism. According to one program contact, the utility's authorization of the limited use of their logos on Synergy marketing materials has a very positive impact on marketing the program.

Synergy's program materials state that, in order to address language differences among their targeted market, "Synergy has bilingual capable staff, including individuals who speak English, Spanish and Navajo." According to a Synergy Project Coordinator, "Sometimes we have a language barrier, but we have bilingual staff in just about every department. We work with people from setting an appointment to working with the technicians."

Synergy expanded its efforts to market the program via mobile home journals and trade publications. According to a Project Coordinator, "We had tried to get involved in these groups before and received limited reaction, but because we had a customer who was really excited about the program and was involved in these groups, we have made more progress in this area in the past two months than in the entire previous year." Following these efforts, one homeowners' group took the initiative to have its own managers present the program to residents. Synergy plans to do additional marketing within this category, including advertising in related trade publications and presenting the program at trade association conventions and meetings.

Technicians' Role in Marketing

In order to address the reluctance of residents to allow unfamiliar individuals into their homes, Synergy often introduces the technicians to residents at neighborhood meetings. In addition, while the technicians are working in the parks, they are expected to market the program. Technicians receive a checklist that outlines all of the steps necessary to complete a service appointment. The list includes obtaining customer referrals, which is one of the tools to increase saturation. Technicians are reminded about this at their monthly meetings.

Due to the importance of customer referrals in meeting marketing goals, one Synergy contact mentioned that ensuring that technicians are "doing good work" is vital to preserving

Synergy's reputation and the success of the program. According to one Synergy staff person, "Usually, most residents hear about the program through word-of-mouth. It's the most effective tool. Someone who has personal experience with it and is happy with the service, that's where we get the majority of people signing up."

Utility Support

Synergy staff noted that utilities play very important roles in program marketing efforts. Overall, Synergy and SDG&E reported a good relationship.

Synergy outreach staff had some concerns about the ability of utility customer service staff to field customer inquiries about the program and to verify Synergy's role in program delivery. As one program contact explained, "If the utility receives a call from someone who wants to check up on us, the telephone representative at the utility may have never heard of us."

Program staff reported that visual information, such as utility logos, is very effective in establishing Synergy's status as a direct contractor for the utility. The recent authorization by the utility to use their logos on selected marketing materials has been very valuable in reducing customers' skepticism about the program.

Utilities also can help third-party programs by identifying other programs that reach a similar market segment and encouraging cross marketing with those programs. According to Synergy contacts, SDG&E takes advantage of some cross-marketing opportunities, such as distributing Mobile Home program information at energy fairs and while performing energy audits. According to utility staff, however, cross-marketing opportunities are limited as there is not a lot of overlap between this market and others.

Activities to Improve Saturation Rates

One of Synergy's goals is to achieve a customer participation rate or "saturation rate" of 80 percent within parks. A recent study conducted by SDG&E indicated that Synergy had achieved an average saturation rate of 30-50 percent.

To achieve its goals, Synergy implements an initial round of marketing within a park and then follow-up strategies, including the following:

- Drafting an article for mobile home park community newsletters
- Organizing an additional "open house" within the park
- Sending individually addressed letters to mobile home park residents that explain the program.
- Getting help and representation for the program from management, associations and residents within the park, including "block captains"

- Enlisting individuals within the park to do door-to-door canvassing of residents who have not yet signed up for the program (Occasionally, these internal representatives will receive a commission for each individual they sign up for the program.)
- Arranging a mailing that demonstrates support from park management, association leaders or individual park residents.

Synergy has found that the most effective strategy is to demonstrate local support by arranging a mailing that explains the program, using park manager or mobile home park letterhead.

Synergy also has found that enlisting internal representatives to help market the program is effective. Synergy contacts reported that one park manager was so supportive of the program that she asked each resident if they wanted to sign up for it when they brought in their rent payments. Due to her efforts, 50 percent of park residents signed up for the program.

Expansion of the Program to Manufactured Homes

Owners and renters of manufactured homes are also eligible for the program, but Synergy contacts said it was more challenging to engage them in the program than residents of mobile home parks. Program staff said one explanation is that it is harder to find manufactured home owners because, unlike mobile home owners, they rarely are identified in public records. Additionally, there are few manufactured home networks comparable to the mobile home communities' program staff who can provide access for marketing purposes.

Therefore, Synergy focuses on identifying the manufactured housing communities in the geographical areas they target for mobile homes. This has resulted in a few potential opportunities but no large-scale solution.

Program Management

The process evaluation looked at the following components of program management: technician training, quality control, and data tracking and reporting.

Technician Training

All five Synergy technicians interviewed for this study reported receiving sufficient training to install program measures correctly. Technicians also reported receiving customer service and marketing training. Training protocols include all aspects of duct testing and sealing, air conditioning tune-ups and installation of energy efficient measures. Technicians learn about the importance of looking professional and creating a sense of trust with customers.

At monthly technician meetings, Synergy staff give technicians updated information about installation techniques, data-tracking protocols and customer service approaches. Program evaluators attended one technician meeting and observed that program staff reminded technicians that they are the “face” of the organization and encouraged them to pay close

attention to their personal appearance and to the level of customer service they provide. As one technician remarked, “We’re setting the standard for the program we run.”

Technicians reported that their work can be fairly routine at times, and difficult. As one technician said, “Going underneath to reconnect the ducts is difficult in older mobile homes, and in attics.” Another technician reported that excessive heat and other extreme weather conditions can make the work exceedingly difficult. One technician reported an occasional lack of instruction from supervisors about specific tasks: “Sometimes it’s like a treasure hunt looking for duct work – the notes field (on our forms) is often left blank.”

All of the technicians interviewed reported feeling that they were performing a service to the community. As a Synergy supervisor said, “I’ve had employees come to me and say, ‘I don’t know what it is about being a technician on your program, but I really love it. It’s the sense of doing a service for someone.’”

The evaluators noted that Synergy had fewer technicians than optimal during the spring and early summer of 2007, which lengthened the waiting periods between customer sign-up and installation. In order to address this problem, Synergy implemented an aggressive hiring strategy during the summer of 2007, by offering bonuses to employees who referred candidates for technician positions.

Quality Control

Synergy’s Quality Assurance Specialist physically inspects five percent of all completed jobs and tries to see a percentage of each technician’s work. The Operations Manager and Production Specialist analyze the data and use the findings from the inspections to improve training procedures and measure installation processes. If a technician’s numbers are inaccurate, Synergy staff recommend how best to complete the work, or take a disciplinary action.

Synergy offers productivity bonuses to qualifying technicians at the end of each month. If technicians receive any quality assurance failures, they can’t get the bonus. Technicians receive feedback about their performance via copies of their inspection reports.

Data Tracking and Reporting

Synergy technicians track all installations in mobile and manufactured homes. Other staff reviews the data for completeness and accuracy, enter it into the program tracking system and compare it to the platform. The tracking database lists completed jobs, including statistical samples of on-site measurements of installed measures. Synergy’s CEO uses the data to prepare the formal reports required by the utility.

Technicians manually record the installation of physical measures, such as CFLs, aerators, etc., on data-tracking worksheets. However, two of the measures – the Duct Test and Seal and the Air Conditioning Tune-up – are measured and tracked electronically. The system’s

sensors automatically load information into the computer or handheld datalogger, so technicians cannot manipulate it. The data then are uploaded to the Internet, and are processed and analyzed to verify the quality of measure implementation. This technology dramatically improves the acquisition of accurate energy savings data, because it reduces errors and intentional data manipulation.

When asked what issues have emerged regarding data tracking and reporting, a Synergy supervisor reported, “The paperwork that's out in the field is completed by technicians who are crawling under mobile homes, etc. Sometimes the paperwork can be a little hard to read or be incomplete in parts.” Therefore, Synergy contacts reported that they continually revise the format for technicians’ reports in order to increase the completeness and accuracy of the data.

Customer Response

For this report, customer response has two components: measure performance and customer satisfaction tracking.

Measure Performance

Customers’ feedback indicates that no specific measures provided by the program are prone to failure or customer complaint. In an evaluation of a previous mobile home program provided by Synergy to PG&E, the evaluators found that digital thermostats offered by the program were too hard for residents to understand or use effectively.¹⁵ In response, Synergy stopped providing digital thermostats. The evaluation also found that the 800-lumen CFLs offered by the PG&E program did not provide adequate illumination. As a result, the program switched to CFLs that produce 1,425 lumens.

Although customers did not indicate problems with measures provided by the program, Synergy’s staff expressed concern about two: attic duct sealing in mobile homes and pin-based CFLs. One Synergy contact said it was hard to service mobile homes with duct work in the attic, instead of underneath the structure, and felt that it would be useful for the “utility company to study what is the best way to do ceiling supply systems.” Another staff member noted that pin-style CFLs were not standardized, which might make it harder for customers to replace burned-out bulbs.

Customer Satisfaction Tracking

Synergy’s quality control office conducts telephone surveys of 20 percent of customers to determine customer satisfaction levels and obtain other important customer data. Table 105 summarizes customer quality assurance data from April 2006 through June 2007. These data

¹⁵ LaPalme, Glen, 2007, Comprehensive Hard-to-Reach Mobile Home Energy Savings Program Evaluation, Measurement and Verification Report.

indicate that participants were highly satisfied with the program.

Table 105: Quality Assurance Telephone Survey Results –April 2006 – June 2007 – Technician Activities

	SDG&E (N=1,659)
Technician was polite and looking presentable	99%
Technician was on time and correctly identified themselves	95%
Measures were installed correctly	95%

Table 106 summarizes the length of Synergy service appointments, as reported by customers of the program. In general, appointments took less than two hours to complete.

Table 106: Quality Assurance Telephone Survey Results –April 2006 – June 2007 – Technician Activities

Length of Synergy Service Appointment	SDG&E (N=1,659)
Technician took 0-1 hour to complete installation	35%
Technician took 1-2 hours to complete installation	44%
Technician took 2-3 hours to complete installation	18%
Technician took 3+ hours to complete installation	4%

Mobile Home Park Manager Perspectives

This section reviews market characteristics, pre-participation by both participating and nonparticipating park managers (sample of 30 each), current participation (participating managers), and ways to stimulate resident response (participants and nonparticipants). Pre-participation issues include program awareness, administrative authority regarding participation and concerns related to participation. Current participation issues include satisfaction levels with program information, Synergy and the program overall; managerial involvement with the program; residents' response at open houses; and managers' opinions of the program. The section on residents' responses describes park managers' willingness to support a similar program in the future and their views about effective ways to recruit

residents to participate in the program.

Market Characteristics

Participant and nonparticipant samples were compared per selected demographics (age and size of park and tenure of manager) as shown in Table 107 below.

Participating and nonparticipating contacts reported that their parks have been in operation between six and 50 years and that they have been a manager for periods ranging from less than one year to up to 30 years. These data suggest that the tenure of managers averages six years (for nonparticipants) and eight years (for participants).

Data reveal that the number of units in mobile home parks varies from 35 to over 500, although almost twice as many nonparticipating parks are in the 200-299-unit range and fewer are in the smallest range (eight percent fewer than participating parks). The differences between the samples are not statistically significant.

Synergy has experience working with parks of various ages and sizes and with managers with short to long tenures. Therefore, it is anticipated that Synergy will not have difficulty contacting park managers in the future.

Table 107: Participating and Nonparticipating Park Characteristics

Park demographics	Participants	Nonparticipants
Years Managing the Park (N= 30, 30 respectively)		
< 5 Yrs	33%	50%
5 to <10 Yrs	27%	30%
10 to <15 Yrs	17%	10%
15 to <20 Yrs	3%	3%
20 to <25 Yrs	10%	3%
25 to <30 Yrs	0%	3%
Age of Park (N=28, 30 respectively)		
6-34 Yrs	18%	37%
35-39 Yrs	25%	20%
40-44 Yrs	36%	7%
45-49 Yrs	14%	23%
50 + Yrs	7%	13%
Number of Units in Park (N=29, 30 respectively)		
35-99	31%	23%
100-199	38%	40%
200-299	17%	30%
300-399	3%	3%
400-499	0%	3%
500+	10%	0%

Pre-participation Issues

Pre-participation issues include program awareness, administrative authority regarding participation and concerns related to participation. Generally, in residential direct-install programs, the utility contractor is responsible for marketing the program to targeted residents. Although that is the case in the Mobile Home program, the program contractors also must consider park administration.

The program involves four actors: the utility company sponsor, utility contractor, park administration and park residents. Effective program administration depends on the flow of information across and between these actors (see the logic model diagram Figure 32). Program elements (measures and outcomes) must be outlined to managers first and then to residents. For Synergy to reach a high proportion of residents within a mobile home park actors must understand their role and responsibility vis-à-vis the program *and* they must

understand the roles and responsibilities of the three other actors. Responses regarding pre-participation illustrate if park managers understand these issues.

Program Awareness

The source of program awareness varied between participants and nonparticipating managers. As seen in Table 108 below, over half of the managerial contacts from participating parks (57 percent) reported becoming aware of the program from Synergy directly. Table 108 also shows that 14 percent of participating park managers learned about the program from other park managers and residents. It appears that the SDG&E website has limited use for initial program promotion. However, SDG&E’s role in providing information (including via bill inserts and mailings) was mentioned in “other specified” comments.

Table 108: Source of Program Awareness

Sources	Participant % (N=30)	Nonparticipant % (N=15)
Synergy	57%	20%
Other park managers	7%	7%
Resident mentioned it to me	7%	73%
SDG&E website	3%	0%
Friend or colleague	3%	0%
Other specified	23%	0%

Nonparticipating managers indicated that program/contractor awareness levels are high; over half (53 percent) of managers already are aware of Synergy or the Mobile Home Program without direct program marketing. Unlike participants, who reported hearing about the program from residents seven percent of the time, residents are the major source (73 percent) of program information for nonparticipating managers. This was a large difference between the two samples. It confirms that Synergy has not been marketing to these parks. Participating managers, on the other hand, said they heard about the program directly from Synergy. They reported being satisfied with the level of information provided by Synergy (see Table 110 and the discussion about the clarity of program information) and that utility sponsorship carried weight with residents, which increased the likelihood of their participation. Additional efforts to improve awareness of the program through available *manager* networks (e.g., trade press, associations, etc.) and the utility might help promote the program by providing credible program information in advance of direct marketing by Synergy.

Prior Program Experience

Just over half (53 percent) of participating park managers indicated that working with the Mobile Home Program was their first involvement with a utility-sponsored program. Among

14 participating park managers who had prior experience with utility-sponsored programs, over half (eight) participated within the past two years; the remaining six contacts had a prior experience from three to nine years ago. As for the type of previous program experience, 10 contacts identified participating in the following programs: weatherization (3), lighting (3), low-income rebate programs (1) and previous programs offered by Synergy (3). Somewhat fewer of the nonparticipating park managers (40 percent) reported experience with previous utility programs. Of these, very few mentioned the type of energy program with which they had previous experience, although nine mentioned the CARES program. Managers' concerns over participating in the Mobile Home Program were not correlated with prior program experience.

Decision Making

In the vast majority of cases (70 percent), participant managers said they were able to make the decision to participate in the Mobile Home Program by themselves. However, these managers also consulted with their community board (13 percent), the park owner (10 percent), a supervisor (three percent), and SDG&E (three percent). Overall, these managers agreed that they decided to participate to help residents save energy or money (27 cases or 90 percent) (see Table 109). Other reasons included: to help the environment, the fact that the program was free, and utility sponsorship.

Table 109: Reasons for Participating

Reasons	Percentage (N=30)
Save residents energy or money	90%
Because it was free	10%
Utility sponsorship	3%
Help the environment	7%

Multiple responses allowed

In contrast, fewer than half (43 percent) of the nonparticipating managers reported being able to make the decision themselves. The majority of nonparticipating managers said they would consult a park owner (40 percent), a general or regional manager (10 percent) or a board or association (seven percent).

These results demonstrate that the administrative level among parks varies. In many cases, not only the local manager but also off-site administrators share in making the decision to participate in a program. Therefore, marketing materials that describe benefits that appeal to various levels of administration may be effective (e.g., high resident satisfaction levels). Also, since the vast majority of managers (90 percent) decide to participate because the program saves residents energy and money, marketing information also should emphasize benefits to residents. This resonated with nonparticipating managers who heard about the program from their residents.

Concerns

Park managers were asked if any issues raised questions or concerns about participation in the program.

Participating managers overwhelmingly responded “no” (87 percent). Three of the four participating managers who had concerns described them as relating to the time involved or whether the program really was “free.” However, none of these concerns was serious enough to reverse the managers’ decision to participate in the program.

The types of concerns voiced by nonparticipating park managers reflected a lack of detailed information about the program. The following quotes provide a sense of the types of concerns voiced by nonparticipating park managers:

- “Difficulty of participating”
- “Concern about strangers coming to residents’ homes.”
- “Saving money on energy bill is not important.”
- “How to let people know”
- “Would need to see program in writing”

Concerns of nonparticipating park managers are not shared by participating park managers. This suggests that Synergy is successfully addressing such concerns in their marketing process.

Current Participation Issues

Current participation issues include satisfaction with program information, Synergy and the program overall; managerial involvement with the program; residents’ response at open houses; and managers’ opinions. This section draws upon only the participating managers’ survey responses.

Satisfaction with Program Information

As noted previously, to effectively administer a program that involves multiple actors, information must flow between the actors, and all actors must understand their roles during program implementation. To determine the perceived clarity of the information provided to participating managers, they were to rate the information they received regarding each of the following:

- Expectations about the managers’ role in the program
- How residents could apply to participate

- Which measures would be installed
- Expected energy savings from improvements
- How long the installations would take
- Synergy’s role as a contractor to the utility.

Managers rated the clarity of information on a five-point scale where 1 was “not at all clear” and five was “very clear.” Table 110 shows the responses. For the purposes of the table, “1” and “2” ratings were collapsed and reported as “not at all clear to somewhat clear” and “4” and “5” ratings were collapsed into “somewhat clear to very clear.” The generally positive responses across all categories of information, ranging from 73 percent to 85 percent with a rating of “somewhat clear to very clear,” show that Synergy has done a credible job of informing both administrators and residents.

Table 110: Clarity of Program Information by Subject

Subject	“Not At All Clear” to “Somewhat Unclear”	“Somewhat Clear” to “Very Clear”
Expectations of the manager’s role in the program (N=30)	4%	73%
How residents could apply to participate (N=27)	7%	85%
Which measures would be installed (N=27)	3%	85%
Expected energy savings from improvements (N= 27)	3%	81%
How long the installations would take (N=27)	7%	79%
That Synergy is a contractor for the utility (N=28)	7%	79%

Managers also rated several program outcomes and the Synergy staff using a five-point scale where “1” was “not at all satisfied” and “5” was “very satisfied.” In Table 111, “1” and “2” (and “4” and “5”) ratings were collapsed to give a general indication of satisfaction. Participating managers reported high rates of satisfaction across the listed aspects of the program. In terms of Synergy staff, only two managers mentioned a cause for dissatisfaction – getting the home inspection done right on the first try (only one case mentioned), and staff not being on time.

In some cases, managers indicated no opinion, for example in the areas of satisfaction with “energy savings from improvements” (where several managers reported “don’t know”) and “comfort of homes since improvements” (where five managers reported “don’t know”). Notable is the very high rating that the program received overall (13 percent of managers reported being “somewhat satisfied” while 67 percent reported being “very satisfied” (“4” and “5” rating, respectively).

Table 111: Satisfaction with Synergy and the Mobile Home Program

Subject	“Not At All” to “Somewhat” Satisfied	“Somewhat” to “Very” Satisfied
How Synergy staff treated residents (N=28)	7%	85%
How Synergy staff cleaned up after working (N= 27)	0%	85%
Energy savings from the improvements (N=21)	0%	81%
Comfort of homes since improvements were made (N=24)	0%	88%
Level of involvement in the program (N=29)	3%	83%
Program overall (N=29)	0%	93%

Overall, there is a very high level of satisfaction with Synergy and the Mobile Home program, but there is room for improvement. Although interview contacts ranked the clarity of information at over 80 percent in three areas, the levels fell below 80 percent in three other areas: “expectations for the manager’s role in the program,” “how long the installations would take,” and “that Synergy is a contractor to the utility.”

Participating Manager Involvement

As noted in Table 111, 83 percent of managers reported being satisfied with their role in facilitating residents’ participation in the Mobile Home Program. However, self-reported managerial involvement actually varied from no involvement to close involvement (see Table 112).

Table 112: Manager Level of Involvement, Beyond Allowing an Open House

Level	Percentage (N=30)
Closely involved	20%
Somewhat involved	57%
Not at all involved	23%

Over half of the participating managers (57 percent) said they were “somewhat involved” in the program. They described their involvement (mostly in their own words) to include:

- “Just helping out”
- “Passing out flyers and information to residents”
- “Newsletters (including program info)”

- "Going to meetings"
- "Putting info on the bulletin board."

The "closely involved" managers (20 percent) reported they also passed out flyers. However, in contrast to the "somewhat involved" managers, these participating managers made additional efforts to get program-related messages to residents by:

- "Including information in rent statements"
- "Making personal visits"
- "Answering questions about the program" (One took a class on energy efficiency in order to be knowledgeable)
- "Talking with residents (assuring them)"

Park manager involvement was self-reported; therefore, it is possible that managers reporting "no involvement" simply had a different definition of "involvement" than the others. For example, these managers may have hung up flyers or made program information available to residents at the office and simply not considered these noteworthy activities. Synergy encourages managers to be as involved as they wish, and it is likely that the self-reported high satisfaction, given the wide range in levels of involvement, is consistent with managers being able to decide how much they wanted to participate in the program.

Resident Response

This section discusses managers' perceptions of responses to the program in their park and their suggestions for how to effectively reach their residents.

Breaking the Ice with an Open House

Synergy uses open houses to familiarize park residents with aspects of the Mobile Home program, such as utility sponsorship, cost (free), Synergy's role as the installer, what residents must do to participate, measures that might be installed and expected outcomes from measures. Synergy held an open house at 48 percent of participating parks (13 out of 27 cases, excluding three "don't know" responses). Open house events did not correlate to the size of the park. As seen in Table 113, attendance varied from 10 percent to over 50 percent of residents.

Table 113: Attendance at Open House

Attendance	Percentage (N=12)
10% attending	17%
15% attending	17%
20% attending	17%
25% attending	0%
30% attending	33%
40% attending	8%
50% or more	8%

Participating managers suggested four ways to improve open house attendance, including offering refreshments (provided at some, but not all), giving managers at least a month notice to get the word out, improving Synergy’s advertising, and planning open houses in the summer. Open house attendance did not correlate to the manager’s level of involvement; oddly enough, the open house with 50 percent or more attending was held at a park where the manager reported not being involved with the program. Managers were positive about open houses; they felt that, whether small or large, they were well worth the time it took to arrange them.

Beyond the Open House

Synergy staff found two types of program support to be particularly effective at increasing the level of program participation within parks: the use of mobile home park letterhead for announcements, and promotion of the program by managers or other staff when residents come into the office to pay monthly fees. In addition, closed-circuit park television, where available, could be an effective tool.

To gauge the likelihood of the availability of these types of program support in the future, park managers were asked about their willingness to provide these resources. Table 114 shows that the majority of participating park managers and nonparticipating park managers surveyed said they would be willing to offer the use of mobile home park letterhead for flyers advertising the program and/or be willing to promote the program when residents come into the park office to pay monthly fees.

Table 114: Future Resource Availability

Future Resource	Participants	Nonparticipants
Letterhead for announcements (N=22, 23 respectively)	59%	70%
Closed-circuit TV (N=22, 28 respectively)	9%	4%
Staff promotion while fees are paid (N=19, 26 respectively)	68%	77%

It is interesting that most managers (68 percent) were more willing to support the program by *personally* promoting it as residents pay their fees. The low rate of willingness to use closed-circuit TV presumably reflects the low saturation of this service in the parks surveyed. Future support did not correlate to the self-reported levels of current Mobile Home Program involvement.

When asked if they could think of other ways to provide program support in the future, park managers reiterated current practices, such as: including the program information with the rent statement, posting flyers on bulletin boards or in the lobby, promoting the program when residents pay rent and announcing the program in newsletters or monthly magazines. In one instance, a manager suggested cold calling residents.

Compensation for Manager Assistance

Table 115 shows how nonparticipating park managers responded when asked how willing they would be to assist in resident recruitment if they were compensated for their time.

Table 115: Nonparticipant Willingness to Assist If Compensated

Opinion	Would Offer Help in Future (N=26)	Would Not offer Help in Future (N=2)
Very willing	19%	0%
Somewhat willing	42%	0%
Not at all willing	39%	100%

The data in Table 115 reveal that the majority of nonparticipating managers would be willing to offer future help with resident recruitment for programs such as the Mobile Home program; 26 managers predicted they likely would offer some type of help: use of letterhead, closed-circuit TV, asking residents about signing up when they come into the office. However, as shown in Table 116, offering managers compensation actually may *lower* future participation rates, since about 40 percent of nonparticipating managers refused that option. Although evaluators did not probe into the reason behind this “not at all willing if compensated” response, it may be that these managers consider compensation a conflict of

interest with their roles as park managers. Alternatively, there may be another barrier, such as park rules.

These findings suggest that the current tactics should continue and that offering compensation to increase manager participation (and program buy-in) is not an effective strategy. Other options, such as offering rewards directly to residents and/or professional recognition to park administration for high levels of participation, should be considered.

The most important addition to the program to increase participation would be to expand the involvement and awareness of utility sponsorship. This would be especially effective among current nonparticipating managers. Table 116 shows that non-participants place a higher value than participants on utility sponsorship for resident recruitment.

Table 116: Utility Sponsorship and Future Participation

Likelihood	Participants (N=21)	Non-participants (N=29)
More Likely	62%	86%
Less Likely	0%	3%
Just as Likely	38%	10%

7.5 MOBILE HOME PROGRAM ISSUES AND OBSERVATIONS

Synergy has operated the Mobile Home Program in the SDG&E service territory since August 2006. The program is well on its way to meeting its goals and is well received by customers and park managers. Nonparticipating mobile home park managers are aware of the program. Word-of-mouth among residents of mobile home parks increases interest in the program.

In conducting the process evaluation four issues of interest were identified:

1. What are effective strategies to market the program?
2. How can the Mobile Home program be expanded to manufactured homes?
3. What impact do technicians have on the program?
4. What is the role of the sponsoring utility in the program?

Answers to these questions do not reveal other resources Synergy can use to identify manufactured home communities. In general, Synergy appears to have developed an effective marketing strategy and there is no major need to revise or modify it in order to meet program goals. It also appears that Synergy uses their technical staff well and trains them sufficiently.

Responses to questions 1, 3 and 4 above could provide useful information for Synergy to meet program goals. There also is the potential increase saturation in parks that already are participating, since current saturation is around 30-50 percent and Synergy's goal is 80 percent. The following suggestions are targeted at these opportunities.

The Mobile Home Program relies on mobile home park managers to facilitate Synergy's entry into the mobile home parks. Multiple actors influence park managers' decision to participate in the program. In many cases, not only the local manager but also off-site administrators share in the decision-making process. Synergy has begun using trade publications, homeowners' associations and other media resources to help promote the program. This approach should help by providing credible program information in advance of direct marketing by Synergy.

Synergy long has used advocates within parks to help with outreach when Synergy staff is not in the park. Advocates have included park managers and residents. This approach seems to be valuable, and it is recommended that Synergy continue to invest in it. Eight recommendations emerge that can enhance marketing.

- **Clarify Responsibilities of Park Managers.** While park managers said the overall clarity of information provided by Synergy was high, responses from those surveyed indicate three areas for improved communication about the program:
 - How long the installations would take
 - Expectations for the manager's role in the program
 - That Synergy is a contractor to the utility.
- **Ensure That Marketing Materials Stress Factors Important to Residents and Manager.** Marketing materials should stress that the program saves residents energy and money. For residents, marketing materials should emphasize that the program is free, produces environmental benefits and is sponsored by the utility.
- **Strengthen the Impact of Neighborhood Meetings.** Neighborhood meetings were held at approximately half of participating parks surveyed and appeared to be very important to participation. The following could improve participation in neighborhood meetings: refreshments offered and noted on flyers, increased number of flyers advertising events and distribution of flyers at least one month prior to the meeting date.
- **Take Full Advantage of Park Managers' Willingness to Help Market the Program.** The majority of participating park managers (60-70 percent) and nonparticipating park managers (70-80 percent) surveyed said they would be willing to offer the use of mobile home park letterhead for flyers advertising the program and/or be willing to promote the program when residents come into the park office to

pay monthly fees. Synergy should take full advantage of the willingness of park managers to help market the program in these ways.

- **Do Not Compensate Park Managers for Participating.** Park managers clearly indicate that offering financial compensation as a strategy to increase their participation will not be effective. Synergy could explore other structures to boost participation in the program, such as offering rewards directly to residents and/or professional recognition of park administration for high levels of participation.
- **Ensure That Technicians Can Be Effective in Stimulating Referrals.** Mobile home parks are highly networked and the potential for customer referrals is very high. Synergy technicians are trained to ask for customer referrals, yet evidence of this practice was not noticeable during ride-alongs with Synergy technicians.
- **Make sure there is at least one Synergy technician present at *all* neighborhood meetings to address residents' concerns about strangers coming into their homes.** At the same time, it will be easy to assure residents that technicians are professionally trained and that they are certified by the State of California.
- **Give technicians a magnet or a lawn sign to give each resident when the job is done that has a phone number for referrals.** Have the technicians ask for a referral and provide the lawn sign or magnet at that time.
- **Maintain Optimal Staffing Levels.** Sub-optimal technician staffing levels created delays in program delivery and implementation. It is recommended that Synergy continue its strategy of offering bonuses to employees who refer candidates to fill technician positions. Additional recommendations to improve hiring procedures include: identifying training programs from which Synergy can recruit individuals with skills that closely match the skill set required by Synergy technicians, and advertising job vacancies in area newspapers and/or trade publications.
- **Consider Increasing Utility Market Support for the Program.** Responses from Synergy staff and park managers supported the importance of a prominent and visible utility role. Additionally, research conducted by Nadel, Pye, & Jordan (1994), suggests that interaction between the utility and customers (both in person and over the phone), contribute to high program participation.³ In order to enhance the success of the program, SDG&E can increase their marketing efforts. Suggested utility marketing efforts include: mailing program information to customers, authorizing Synergy's use of utility logos, cross marketing the Mobile Home program with other

³ Nadel, S., Pye, M., & Jordan, J., 1994, Achieving High Participation Rates: Lessons Taught by Successful DSM Programs, (Berkeley, CA: American Council for an Energy Efficient Economy).

utility programs and ensuring that customer service staff are familiar with the Mobile Home program in case customers ask for information. Synergy should also take full advantage of any support that SDG&E can provide, such as website links, market support and utility review of Synergy marketing materials.

7.6 MOBILE HOME PROGRAM BEST PRACTICES REVIEW

Program Theory and Design

- *Is the program design effective?* This resource acquisition program is well designed to deliver a comprehensive energy efficiency package to the unique mobile and manufactured homes market in a cost effective manner. This market segment is typically hesitant to participate in mainstream energy efficiency programs because of informational, language, and economic barriers. Many of the customers in this market are senior citizens, on fixed incomes, and often are physically unable to install the measures themselves. The program overcomes these barriers through direct, personalized marketing and direct installation of energy efficiency measures. The program packages popular measures with equipment and services that otherwise would not be requested or self-installed, and the overall package of measures and services is attractive to customers. When needed, the measures are adjusted to improve customer satisfaction and meet SDG&E savings goals.
- *Is the market well understood?* Yes. The program understands that much of the market is comprised of retirees and senior citizens that are unfamiliar with new measures (late adopters), skeptical about sales pitches and generally “set in their ways”. Other participation barriers the program recognizes and addresses are: restrictions on door-to-door canvassing, language barriers, and the reluctance of senior citizens to allow unfamiliar people into their homes.

Program Management

Project Management

- *Are responsibilities defined and understood?* The expectations of the contractor are clearly established and there is no evidence of implementation ambiguity or conflicts. This is likely because the contractor has a history of successfully delivering these program services and is skilled at writing contracts that work well for them.
- *Is there adequate staffing?* Yes. When the contractor temporarily had a shortage of technicians in early 2007, an aggressive hiring and training campaign was implemented to improve program responsiveness.

Reporting and Tracking

- *Are data easy to track and report?* Synergy technicians track all installations in mobile and manufactured homes. Other contractor staff reviews the data for completeness and

accuracy and enter it into the program tracking system. The tracking database lists completed jobs, including statistical samples of on-site measurements of installed measures. Synergy's CEO uses the data to prepare the formal reports required by the utility. While Synergy obtains comprehensive and real-time data that could be used for systematic analysis, we did not confirm what data SDG&E receives or how it is used.

- *Are routine functions automated?* Technicians manually record the installation of physical measures (e.g., aerators) on paper worksheets. However, tune-up and diagnostics services are measured and tracked electronically via handheld dataloggers. The data are then uploaded to the Internet so technicians cannot manipulate it, and are processed and analyzed to verify the quality of measure implementation.

Quality Control and Verification

- *Does the program manager have a strong relationship with vendors involved in the project?* In practice, the PM function has largely been outsourced to the contractor. Although this is often not advisable, in this case it seems to be a good thing as Synergy is very experienced and has a strong track record of delivering savings and running their programs well. That said, it would be good for SDG&E staff to increase its involvement by visiting with Synergy staff more and doing some field visits with them.
- *Does the program verify reporting systems (e.g., rebates, invoices)?* Not addressed in this evaluation.
- *Are customers satisfied with the product?* Customers' feedback indicates that no specific measures provided by the program are prone to failure or customer complaint. Overall, the program receives high satisfaction ratings.

Program Implementation

Participation Process

- *Is participation simple?* The one-stop-shop design makes it easy for customers to participate. They simply sign up for appointments at group meetings or schedule by phone.
- *Are participation strategies multi-pronged and inclusive?* By design, there are few ways to learn about and participate in the program, which is appropriate for this customer market.
- *Does the program provide quick, timely feedback to applicants?* Yes. Synergy has generally been able to schedule appointments immediately after program sign-ups, and technicians usually come out to the homes within two weeks after sign-ups. Customer questions and complaints are fielded by the Synergy staff person who initially scheduled the appointment, and responses are typically provided within 24 hours (and complaints

are formally logged). Installation issues are then addressed by the technician who originally did the work, or another technician if that will improve the response time.

- *Is participation part of routine transactions?* Not applicable for this market.
- *Does the program facilitate participation through the use of internet/electronic means?* No, but most of these customers are older and probably less comfortable using email and the Internet.
- *Does the program offer a single point of contact for their customers?* Yes, customers only deal with Synergy regarding scheduling and installations, although some marketing may also be conducted by other park residents (sometimes for commissions).
- *Are incentive levels well understood and appropriate?* Yes. Measures are provided free of charge, recognizing that many program customers have fixed or limited incomes.

Marketing and Outreach

- *Use target-marketing strategies?* Yes. Synergy targets mobile home parks in the warmest areas within each service territory, because they have the greatest demand for air conditioning, and therefore are likely to obtain the greatest energy and gas savings from the program measures. At that point, marketing efforts are heavily geared towards earning the trust of (often wary) park residents. Strategies that are used include: face-to-face community meetings utilizing peer-age presenters (where technicians are also introduced), endorsements from homeowner associations and park managers, neighbor referrals (word of mouth), and utility co-branding.
- *Are products stocked and advertised?* Not applicable.
- *Are trade allies and utility staff trained to enhance marketing?* On-site presentations are conducted by only a few contractor staff that are very experienced at marketing the program successfully. Technicians regularly receive updated checklists that outline all of the steps necessary to complete a service appointment. The list emphasizes obtaining customer referrals, which is one of the tools to increase saturation. Technicians are also reminded about this referrals goal at their monthly meetings.

8. APPLIANCE RECYCLING PROGRAM

8.1 APPLIANCE RECYCLING PROGRAM BACKGROUND

SDG&E's Appliance Recycling Program provides long term coincident peak demand reduction and annual electric energy savings in the residential and nonresidential (small commercial) sectors. The program is operated by Appliance Recycling Centers of America, Inc. (ARCA) under a contract with SDG&E. ARCA operates similar programs for other utilities. Its California operations are based in the City of Compton. The program provides energy savings by permanently removing and recycling SDG&E's customers' operating but inefficient refrigerators, freezers and room air conditioners. Customers call a toll-free number to schedule a pick-up within a two-hour time window.

As of the third quarter 2007, the Appliance Recycling program was falling short of expectations. Approximately \$3.2 million of the three-year \$6.9 million budget had been spent to recycle a total of 20,547 units: 17,567 refrigerators, 2,963 freezers and 17 room air conditioners, which represent 60 percent, 63 percent, 50 percent and 7 percent of the two-year goals for each appliance, respectively. The program's three-year goal is approximately 47,000 units¹⁶ total. Pick-up cancellations, customer recruitment and competition from the "grey market" (an informal market for used refrigerators described in further detail below) present the greatest challenges for the program.

Cancellations most typically occur when ARCA telephones the customer the day before the pick-up and learns that the customer no longer wants to have their appliance picked up. Customers usually cancel because they have found someone who wants the appliance or a way to sell it. ARCA and SDG&E recognize the importance of reducing this cancellation rate in order to increase the program's effectiveness. In fact, the cancellation rate did drop, from about 40 percent in May 2007 to approximately 20 percent at the end of 2007. This decrease has been the result, in part, of steps taken by ARCA to narrow the pick-up window for customers.

As noted above, customer recruitment also has posed challenges. ARCA markets the program through a variety of methods, including television, print media, bill inserts and retail point-of-sale (POS). In May 2007, ARCA negotiated a co-branding arrangement with SDG&E. SDG&E management was instrumental in navigating this process, and ARCA hoped it would pave the way for an on-going, cooperative marketing effort. Unfortunately, ARCA reported that this had not happened, so increasing customer awareness at the time of purchase continued to be a challenge. A new marketing campaign, with an Appliance Round-up theme, is scheduled to begin in early 2008.

¹⁶ ARCA believes SDG&E is using a Net-to-Gross rate that is too low (35 percent). They feel that if SDG&E were to use a higher rate that is more consistent with other California utilities' (such as 68 percent), the three-year unit goal would be considerably more realistic.

ARCA estimated that it was tapping just three percent of the potential eligible market for appliances through SDG&E's program. The program faces significant competition from appliance delivery drivers who often sell appliances they pick up during the day on the "grey market." Many of these appliances are bought by appliance dealers, who clean them up and resell them for approximately \$250 each. Because these appliances are put back into use, this works against the program's energy savings objectives.

Figure 33 and Figure 34 show the program progress toward savings goals and program spending to date by category.

Figure 33: Appliance Recycling Program Progress Toward Goals and Expenditures (Q1 2006 - Q3 2007)

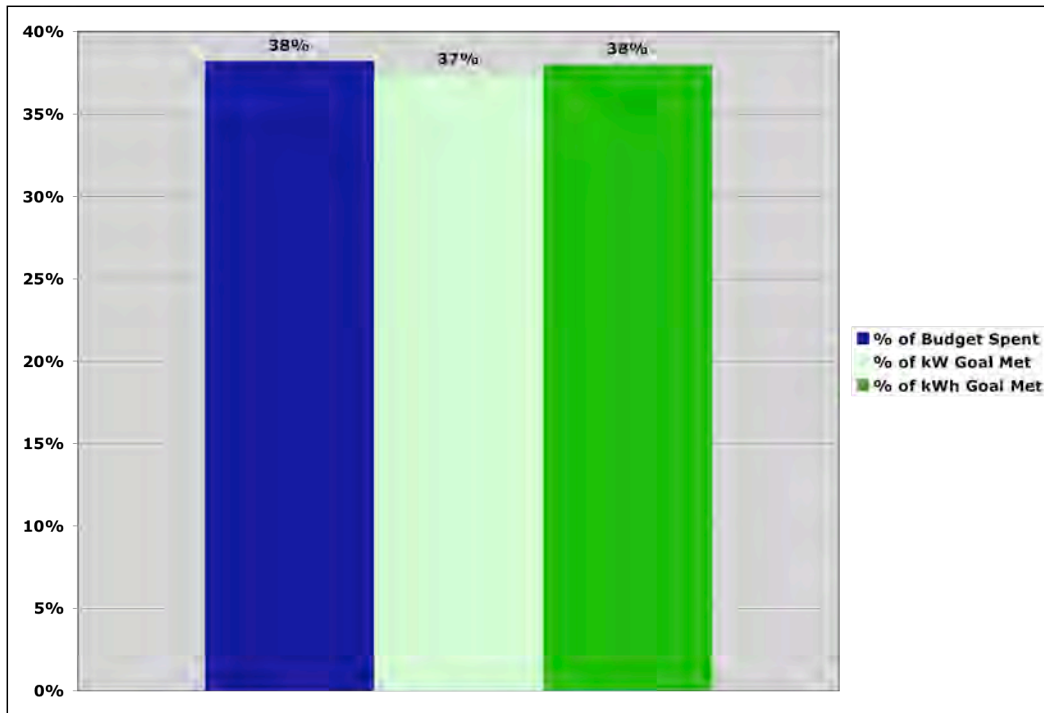
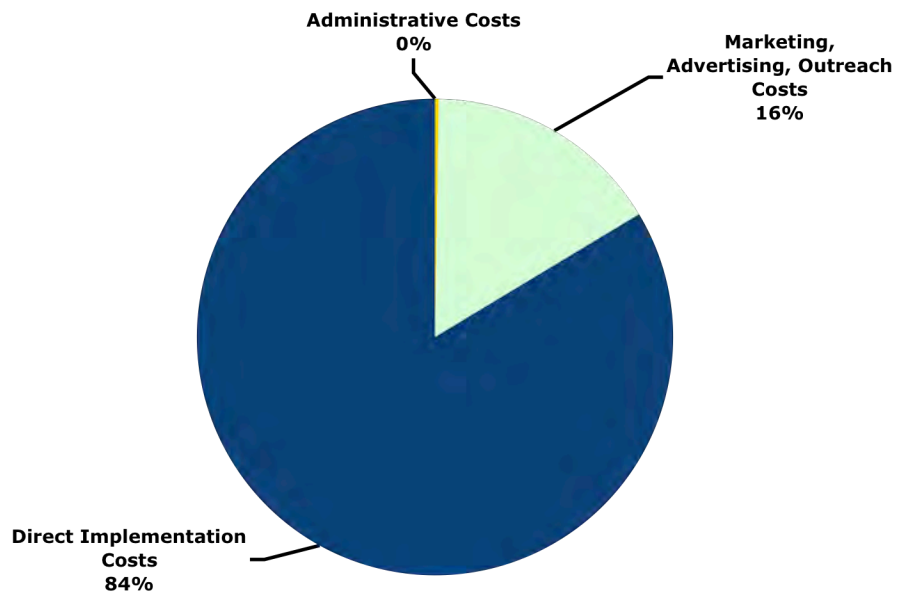


Figure 34: Appliance Recycling Expenditures by Category (Q1 2006 – Q3 2007)



8.2 APPLIANCE RECYCLING PROGRAM LOGIC MODEL AND PROGRAM THEORY

The following program theory for the Appliance Recycling program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. (The logic model diagram follows the program theory discussion.)

Activities

Advertising, marketing, and promotion

Potential appliance removal program users will be reached through an advertising and marketing campaign, which incorporates brochures, cable television ads, and local media coverage. Non-residential customers will also be targeted through communications with property management companies and new-appliance sales representatives. The campaign encourages early replacement of appliances and raises customer awareness of the program.

Collaboration with SDG&E's other energy efficiency programs

Collaboration with SDG&E's other energy efficiency programs will allow for more customers to be eligible for and participate in the Appliance Recycling program. This collaboration will expand the list of customer contacts and the program service area.

Appliance recycling

The primary activity of the Appliance Recycling program is removal and proper recycling of older, inefficient refrigerators, freezers, and room air conditioners from residential and small commercial customers. Removal of appliances is free and convenient for SDG&E customers, and includes pick-up and drop-off events. For 2006-08 the Appliance Recycling program is expanding to include more customers by adding room air conditioners and small commercial customers to its list of services.

Financial incentives

Incentive checks in the amounts of \$35 per refrigerator or freezer and \$25 per air conditioner are sent to customers 3-5 weeks after the qualified appliance has been collected. This helps retain customers, encourage participation, and discourage program drop-outs.

Short Term Outcomes

Increased public awareness of program opportunity

The advertising campaign and collaboration with other SDG&E efficiency programs will inform customers of the Appliance Recycling program and the rebates it offers.

Customers participate in the Appliance Recycling program and recycle inefficient appliances

The use of financial incentives and easy removal and disposal of appliances will encourage

customers to participate. In this program traditional appliance disposal methods are replaced by proper recycling techniques. Recycling the parts guarantees inefficient appliances will be removed from circulation while preventing damage to the environment.

Customers receive incentives and purchase new efficient appliances

In order to reduce energy consumption, one aspect of the Appliance Recycling program design is to encourage customers to purchase newer and more efficient appliances for their homes once they have properly disposed of inefficient equipment.

Energy savings to customers

Encouraging the early replacement of still functional but inefficient appliances will produce energy savings to SDG&E customers. Customers will see a reduction in the cost of their monthly energy bills.

Mid Term Outcomes

Reduce negative effect on environment from improper disposal of appliances

The Appliance Recycling program reduces negative effects on the environment through proper removal and processing of environmentally harmful substances found in the appliances. The remaining materials are recycled in accordance with federal, state, and local laws and regulations. The Appliance Recycling program also ensures that old, energy-inefficient appliances will not reenter the market through resale.

Customers value energy savings, incentives and recycling convenience, continue to participate

As customers replace their old appliances, customers will recognize the energy cost savings they are receiving and come to value the convenience of the recycling service, and continue to participate in the program.

Long Term Outcomes

Sustained energy savings

Continued participation of customers in the program will result in sustained, long term energy savings.

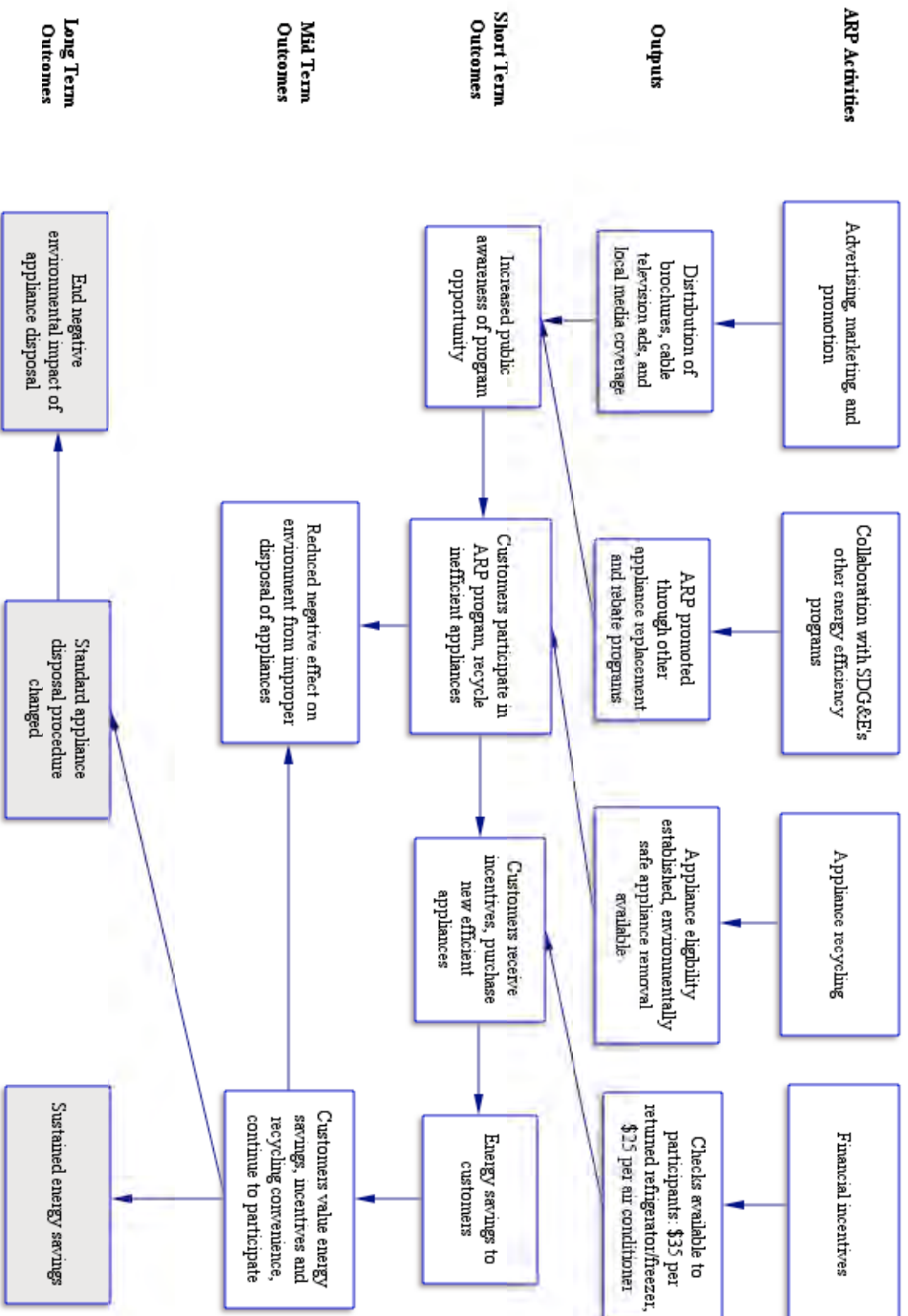
Standard appliance disposal procedure changed

As more customers adopt the recycling methods used by the Appliance Recycling program, it will become the standard disposal method for appliances.

End environmental impact of appliance disposal

With the expansion of the program, there will be fewer customers disposing of their appliances in the traditional way, opting for the environmentally sound option that the ARP offers instead. This will continue to lessen—and someday end—the negative impact of traditional appliance disposal on the environment.

Figure 35: Appliance Recycling Program Logic Model



Shaded boxes indicate induced outcomes that are outside of the direct program influence

8.3 APPLIANCE RECYCLING PROGRAM EVALUATION OVERVIEW

Based on in-depth interviews with Appliance Recycling program staff conducted at the beginning of the evaluation, several key research issues were identified that provided the focus of the evaluation activities. Additional research issues were identified as the program logic model and program theory were developed. The major evaluation research issues for the Appliance Recycling program are described below.

Appliance Recycling Research Issues

Assess Reasons for Cancellations

The program has experienced a high cancellation rate (40 percent), and gaining a better understanding of why this is happening will allow the program to develop targeted retention plans. Cancellation customers have been successfully reached by the program's marketing materials and indicate a willingness to participate. Thus, retaining these customers should be a top priority.

Determine the Extent to Which Increased Promotion and Scheduling By Retailers Might Increase Awareness

A key time to recruit customers for the Appliance Recycling program is when they are purchasing new replacement products.

Review the Incentive Level

The Appliance Recycling program currently provides a very nominal incentive, one that in some cases is a small fraction of the appliance's value on the grey market. One research issue will explore if increasing the incentive level might help to mitigate the high cancellation rates. One explanatory factor might be that the program competes with the unofficial market for used appliances.

The methods used in this evaluation to explore these issues as well as the evaluation results are discussed in detail in the following section.

8.4 APPLIANCE RECYCLING PROGRAM EVALUATION RESULTS

Five different interview efforts were completed to gather information about the Appliance Recycling Program.

- An in-depth interview with the SDG&E Appliance Recycling Program Manager, which focused on gathering high-level information about the program, participants, energy savings goals and other important issues
- An in-depth interview with the ARCA Program Manager, who is responsible for the third-party implementation of this program
- Telephone surveys with 100 program participants

- Telephone surveys with 51 SDG&E customers who requested an appliance pick-up but cancelled it and therefore did not participate in the program (cancellers)
- In-depth telephone interviews with five appliance retailers.

Information from the telephone surveys and in-depth interviews are summarized separately in the next two sections of this chapter. Key findings and program information are summarized at the end of the chapter, and are followed by recommended program improvements.

Telephone Surveys With Participants and Cancellers

Table 117 shows the types of appliances customers recycled through the Appliance Recycling Program. The vast majority of both participants and cancellers recycled or planned to recycle refrigerators/freezers. Less than five percent of those surveyed used the program for something other than a refrigerator/freezer or freezer.

Table 117: Type of Appliance Recycled

Type of Appliance Recycled	Participants (N=100)	Cancellers (N=51)
Refrigerator/freezer	81%	88%
Freezer	17%	8%
Air conditioner	1%	2%
Water heater, washer/dryer & refrigerator	1%	0%
Stove	0%	2%

As Table 118 shows, the greatest number of participants and cancellers heard about the Appliance Recycling program from television ads or bill inserts. A significant number also indicated hearing about the program through flyers, brochures and word-of-mouth.

Table 118: How Customers Learned of the Program

Source of Information	Participants (N=100)	Cancellers (N=51)
Television ads	34%	27%
Bill inserts	21%	33%
Other flyers or brochures	17%	10%
Word-of-mouth	16%	18%
Utility website	5%	8%
Someone in a store	5%	2%
Someone at SDG&E	4%	2%
Don't know	4%	2%
Television news stories	3%	0%
Radio	2%	0%
Other	2%	2%
Store postings	1%	6%
ARCA website	1%	0%
Had participated before	0%	2%

Table 119 shows the primary reasons customers recycled their appliance. The majority of participants (59 percent) and cancellers (71 percent) were replacing an existing unit, which likely reflects the program’s requirement that appliances be working at the time of pick-up. Cancellers were more likely than participants to be replacing an existing unit. A smaller number were getting rid of secondary units that were used occasionally or not at all.

Table 119: Reason for Recycling Appliance

Reason	Participants (N=100)	Cancellers (N=51)
Unit that you were replacing	59%	71%
No longer used	21%	22%
Secondary unit that was used occasionally	15%	8%
Don't know	2%	0%
40 years old	1%	0%
Moved	1%	0%
Too big	1%	0%

Table 120 presents information about where the appliance being recycled was located when last in use. Most appliances were used in the kitchen, which was not surprising as over 80 percent of

the appliances recycled through the program were refrigerator/freezers. A significant number also were located in the garage.

Table 120: Location of Appliance

Location of Non-secondary Appliance	Participants (N=83)	Cancellers (N=47)
Kitchen	55%	68%
Garage	22%	19%
Don't know	12%	0%
Other	11%	13%

Participants and cancellers were asked if they had considered any other options before choosing to recycle their appliance through SDG&E's program. Table 121 shows that customers from both groups had considered many different options. Some slight differences were observed between participants and cancellers. Participants were more likely to have considered donating their appliance to charity and less likely to have considered giving it to an acquaintance or having it go to the landfill.

Table 121: Other Options Considered

Option Considered	Participants	Cancellers
Donating appliance to a charity	20%	12%
Giving appliance to a friend, family member or neighbor	19%	33%
Having appliance go to a landfill	18%	29%
Don't know	17%	18%
Having appliance go to another recycler	12%	14%
Selling appliance	9%	14%
Paying the store where bought to remove it	9%	4%
None	4%	2%
Keeping it indefinitely	4%	0%
Putting it on the street	3%	2%

Table 122 shows the primary reasons why customers chose to recycle their appliance through the program. Participants were more likely to be interested in the cash rebate, while cancellers were more attracted by the convenience of the pick-up. The cash rebate may explain why participants did not seek another method of recycling their appliances, while cancellers may have been more interested in just getting rid of their existing units.

Table 122: Primary Reason for Recycling through Program

Primary Reason	Participants (N=100)	Cancellers (N=51)
Cash rebate	52%	29%
Convenience of pick-up	46%	49%
Environmental reasons	33%	37%
Had no other options to get rid of appliance	12%	12%
Other	3%	6%
Don't know	1%	0%

Table 123 presents the reasons why customers cancelled their pick-up. The top four reasons resulted in the customers getting rid of their appliance in another fashion, which suggests that cancellers were most concerned with getting rid of their appliance instead of the removal method.

Table 123: Reasons for Canceling Pick-up Appointment

Reasons for Canceling	Cancellers (N=51)
Gave appliance to family member/friend	18%
Left it outside and someone took it	14%
Sold it	10%
People delivering new appliance took it	10%
Other	10%
SDG&E took too long	8%
Was not working at time of pick-up	6%
Scheduling difficulty	6%
SDG&E did not show up/cancelled	6%
Appliance did not fit requirements	4%
Donated to charity	4%
Wanted to keep it until received new refrigerator	2%
Landlord got rid of it before SDG&E arrived	2%
Program had ended	2%

As Table 124 shows, over 80 percent of customers scheduled the pick-up on their own. Most of the remaining individuals had their pick-up scheduled through a retailer. This suggests that retailers were not playing a large role in the program, and could be used to help promote its services.

Table 124: Scheduling of Pick-up

Who Scheduled?	Participants (N=100)	Cancellers (N=51)
Customer scheduled pick-up	81%	88%
Retailer scheduled pick-up	17%	10%
Don't know	2%	2%

Table 125 shows that almost all participants and most cancellers said it was easy to schedule a pick-up. Cancellers were more likely to find it difficult, although the percentage was small (16 percent).

Table 125: Convenience of Scheduling a Pick-up

Convenience	Participants (N=100)	Cancellers (N=51)
Easy	94%	80%
Difficult	6%	16%
Don't know	0%	4%

The small number of customers who found it difficult to schedule a pick-up were asked a follow-up question to gather more detail about their experience. Responses for participants and cancellers are summarized in Table 126 below.

Table 126: Reason for Difficulty with Scheduling a Convenient Pick-up

Reason	Participants (N=6)	Cancellers (N=8)
Conflicted with schedule	100%	0%
SDG&E said program was over	0%	13%
They didn't show up when expected	0%	38%
Wasn't able to speak to a live person when scheduling	0%	13%
Took too long	0%	25%
Appliance was not working	0%	13%

As Table 127 shows, participants reported that almost all pick-ups occurred as scheduled. Neither of the two customers who reported that the pick-up was “not on time” experienced any difficulties with the delay.

Table 127: Punctuality of Pick-up

Punctuality	Participants (N=100)
On time	97%
Not on time	2%
Don't know	1%

Both participants and cancellers were asked if the requirement that the appliance be working at the time of pick-up presented any difficulties. Table 128 shows that while only three percent of participants experienced this problem, 22 percent of cancellers reported having difficulties with this requirement. Note that the vast majority of both participants and cancellers did not have any difficulties with this requirement. Table 129 presents the reasons customers had difficulties with the program requirement.

Table 128: Customers' Experience with Working Appliance Requirement

Difficulty?	Participants (N=100)	Cancellers (N=51)
Did not experience difficulties	97%	78%
Experienced difficulties	3%	22%

Table 129: Difficulties Experienced with Working Appliance Requirement

Reason for Difficulty	Participants (N=3)	Cancellers (N=5)
Was a hassle to keep it running until pick-up	100%	20%
Was not working	0%	80%

Participants were asked a series of questions about their opinions of the Appliance Recycling Program. Table 130 shows participants' overall satisfaction; ninety-five percent said they were either "very satisfied" or "extremely satisfied."

Table 130: Overall Satisfaction

Overall Satisfaction	Participants (N=100)
Extremely satisfied	58%
Very satisfied	37%
Somewhat satisfied	4%
Not very satisfied	1%
Not at all satisfied	0%

As Table 131 shows, about two-thirds of participants surveyed would either do nothing or didn't know what they would do to improve the program. Some would improve the financing, information and pick-up of appliances, though these percentages were small.

Table 131: Suggestions for Improvement

Suggestion	Participants (N=100)
Nothing	38%
Don't know	25%
More/better incentives	11%
More advertising and information	9%
Faster and more convenient pick-up	8%
Take other appliances and non-working appliances	6%
Other	3%

All 100 participants surveyed reported they would recommend the program to a friend or relative. This statistic shows that the program was run effectively and that customers found the service useful when getting rid of an existing appliance.

Participants and cancellers also were asked a series of demographic questions. Most of this data were similar for the two groups. It is summarized below.

Table 132 shows the breakdown of home owners and renters. Roughly 80 percent of participants and cancellers owned their home at the time of the survey.

Table 132: Housing Ownership

Own/Rent?	Participants (N=100)	Cancellers (N=51)
Own	80%	86%
Rent	18%	14%
Other	1%	0%
Refused	1%	0%

Table 133 shows the breakdown of housing type for participants and cancellers. Roughly 75 percent of participants and cancellers lived in single-family detached homes at the time of the survey; the rest of respondents lived in a variety of other housing types.

Table 133: Housing Type

Type	Participants (N=100)	Cancellers (N=51)
Single-family detached	80%	73%
Condominium	6%	4%
Apartment	6%	4%
Mobile/manufactured	3%	6%
Townhouse	2%	8%
Duplex	2%	4%
Other	1%	2%

Table 134 shows education levels for participants and cancellers. Distributions were similar, with about 30 percent of both groups reporting either a bachelor's, graduate or professional degree.

Table 134: Educational Attainment

Education	Participants (N=100)	Cancellers (N=51)
High school diploma or less	30%	25%
Some college	29%	22%
Associate's degree	9%	10%
Bachelor's degree	21%	14%
Graduate or professional degree	7%	20%
Refused	4%	10%

Annual income was difficult to compare between participants and cancellers since almost half (43 percent) of cancellers refused to give this information. When refusals are not considered, income distributions for both groups were similar. Table 135 presents these results.

Table 135: Annual Household Income

Income	Participants (N=100)	Cancellers (N=51)
Less than \$20,000	13%	12%
\$20,000 to less than \$40,000	16%	14%
\$40,000 to less than \$60,000	13%	4%
\$60,000 to less than \$80,000	16%	4%
\$80,000 to less than \$100,000	10%	8%
\$100,000 to less than \$150,000	16%	10%
More than \$150,000	4%	6%
Refused	12%	43%

As shown in Table 136, ethnicity/race frequencies were similar for participants and cancellers. Slightly over half of both groups were White or Caucasian.

Table 136: Ethnicity/Race

Ethnicity/Race	Participants (N=100)	Cancellers (N=51)
White or Caucasian	53%	55%
Hispanic/Latino	22%	14%
Black or African American	10%	6%
Asian	3%	6%
Native Hawaiian or Other Pacific Islander	2%	2%
American Indian or Alaska Native	1%	0%
Other	3%	4%
Refused	6%	14%

Table 137 shows the gender breakdown for participants and cancellers. While participants were split almost evenly between males and females, there was a much higher prevalence of females among cancellers.

Table 137: Gender

Gender	Participants (N=100)	Cancellers (N=51)
Female	56%	71%
Male	44%	29%

In-Depth Interviews with Retailers

In-depth telephone interviews were conducted with four appliance retailers and one staff person at a recycling center in SDG&E's service territory to gather information about the used appliance market. These interviews were intended to complement the customer telephone surveys and specifically, to help the evaluation team understand the local appliance recycling market, – including services provided by those offering used appliance pick-ups, the final destinations of used appliances and general characteristics of players in the used appliance market.

Interviews were completed with companies offering the following services:

- Appliance sales (four companies)
- Appliance repairs (two companies)
- Used appliance sales (two companies)
- Steel recycling center (one company)

Three of the four companies that sold appliances offered pick-up services for used appliances, and picked up both working and non-working refrigerators. All three of these companies offered same-day or next-day pick-ups and provided this service for free or for a charge of up to \$60. The one appliance retailer that did not offer pick-up services referred clients with working appliances to SDG&E's recycling program.

The two companies selling used appliances indicated that they repaired and resold 25 to 50 percent of the used refrigerators they picked up, and recycled the remaining 50 to 75 percent. Used refrigerators were sold for \$175 to \$400, depending on the size, model and condition. The one retailer who offered pick-up services but did not sell used appliances either recycled the refrigerator or used it for spare parts.

The steel recycling center indicated that they paid \$115 per ton of steel, or about \$10-\$15 per refrigerator. This recycling center offered pick-up services only for materials weighing three tons or more, so did not pick up individual appliances. The recycling center received refrigerators from other recycling centers, individuals who dropped them off at the center and stores dealing with refrigerator sales and repairs.

8.5 APPLIANCE RECYCLING PROGRAM ISSUES AND OBSERVATIONS

Since the program achieved only 60 percent of its goals, it clearly must increase participation. One avenue is to expand program marketing efforts. The wildfires in late 2007 had a detrimental impact on participation and, due in part to this impact, ARCA developed a new campaign for 2008 that should provide a needed boost. The success of the program likely will benefit from on-going *sustained* marketing support by SDG&E.

80 percent found it easy to schedule a convenient pick-up and 78 percent had no difficulties with the requirement that the appliance be working at the time of pick-up.

Despite this positive feedback, the program has experienced cancellation rates of approximately 20 percent. Each of these cancellations represents a tremendous opportunity lost; marketing efforts successfully reached these customers and they signed up to participate, but then they left

the system. It appears that one of the primary factors for this was time. Customers primarily were concerned with disposing their old appliance quickly and easily and did not really care about how this occurred. Therefore, SDG&E's program must continue to strive to offer quick and effective service in order to compete in the regional appliance recycling and pick-up market. The following recommendations provide strategies for the utility to reduce the number of cancellations and increase participation rates.

Recommended Program Improvements

- **Offer same-day or next-day pick-up service.** Several companies and individuals in the market offer same-day or next-day appliance pick-ups. Because the program is competing with them, its pick-up service must match competitive turnaround times. This may help reduce the number of cancellations, as customers will have less time to seek alternative disposal methods while waiting for SDG&E/ARCA to arrive.
- **Consider increasing incentive levels.** A recent KEMA study found the program to be very cost-effective even with a 35 percent realization rate. This suggests that incentive levels could be increased without compromising the program's cost-effectiveness. Higher incentive levels may reduce the cancellation rate by making SDG&E's program more attractive than alternative disposal methods.
- **Educate appliance retailers about the program.** Several appliance retailers do not resell used appliances. Appliance recycling does not represent a major source of income for these retailers and presents an opportunity for SDG&E to increase participation. By providing education about the program and encouraging retailers to promote program services, SDG&E can increase overall participation and exposure within their service territory.
- **Emphasize the *green* attributes of appliance recycling.** Since many people primarily want to get rid of their old appliance, SDG&E may wish to increase marketing efforts that emphasize the importance of what happens to the appliance if it is not recycled. Messaging should underscore the fact that truly recycling old appliances is necessary to ensure they are removed from the system, which has near-term benefits to SDG&E and long term benefits for stemming climate change.
- **Consider pick-ups from appliance retailers.** Several appliance retailers indicated they would be interested in picking up appliances from homes for SDG&E. SDG&E could offer the same incentive to appliance retailers for used appliances, with ARCA doing bulk pick-ups from dealers, in order to increase total participation and help meet unit goals.

8.6 APPLIANCE RECYCLING PROGRAM BEST PRACTICE REVIEW

Program Theory and Design

- *Is the program design effective?* Customers report high satisfaction rates with the program design. 80 percent found it easy to schedule a convenient pick-up and 78 percent had no difficulties with the requirement that the appliance be working at the time of pick-up. The turn-in measures are attractive to homeowners, as there were few suggestions to include other types of equipment for recycling.

However, a significant program setback is the delay between appointment scheduling and the actual pickup. During this interval many customers find other ways to dispose of their equipment and the program has experienced cancellation rates of approximately 20 percent. Each of these cancellations represents a tremendous opportunity lost; marketing efforts successfully reached these customers and they signed up to participate, but then they left the system. It appears that one of the primary factors for this was time. Customers primarily were concerned with disposing their old appliance quickly and easily and did not really care about how this occurred. Therefore, SDG&E's program must continue to strive to offer quick and effective service in order to compete in the regional appliance recycling and pick-up market. Potential methods to improve this cancellation rate include offering same-day or next-day pick-up service and increasing the incentive levels for customers.

- *Is the market well understood?* Yes, the program has a good understanding of the used appliance market and the challenges faced with getting working appliances recycled (i.e., competition from the used appliance market).

Program Management

Project Management

- *Are responsibilities defined and understood?* Appliance Recycling Centers of America (ARCA) manages this program. No ambiguity about implementer roles and responsibilities was reported.
- *Is there adequate staffing?* No staffing deficiencies were mentioned to the evaluation team.

Reporting and Tracking

- *Are data easy to track and report?* Not addressed by this evaluation.
- *Are routine functions automated?* Incentive checks in the amounts of \$35 per refrigerator or freezer and \$25 per air conditioner are sent to customers three to five weeks after the qualified appliance has been collected. The evaluation did not address the degree to which the rebate process is automated.

Quality Control and Verification

- *Does the program manager have a strong relationship with vendors involved in the project?* Not applicable, no vendors other than ARCA involved with the program.

- *Does the program verify reporting systems (e.g., rebates, invoices)?* Not addressed by this evaluation.
- *Are customers satisfied with the product?* Yes. 95 percent of participants said they were either “very satisfied” or “extremely satisfied” with the Appliance Recycling program overall. All 100 participants surveyed reported they would recommend the program to a friend or relative.

Program Implementation

Participation Process

- *Is participation simple?* This program offers a one-stop shop and participation is easy. Customers simply call and schedule an appointment or it is scheduled through an appliance retailer. Participants reported that almost all pick-ups (97 percent) occurred on time. The program requires that the appliance works at the time of pick-up and 97 percent of participants surveyed did not experience any difficulties with this requirement.
- *Are participation strategies multi-pronged and inclusive?* Customers may either call and schedule a pick-up on their own (over 80 percent of respondents), or arrange one through their participating appliance retailers. The low percentage of customers engaging in the program through the retail stores implies that retailers are not playing a large role in the program.
- *Does the program provide quick, timely feedback to applicants?* There is a delay between when a customer is scheduled and when his/her appliance is picked up. As a result, many customers seek other methods of disposal in this interim period and cancel their appointments. The program should adopt same-day and next-day pickups to address these drop-offs.

The incentive check requires three to five weeks for processing and delivery. Satisfaction levels with check processing were not addressed by this evaluation.

- *Is participation part of routine transactions?* Yes, participation can be done as part of any routine purchase of a new appliance included in the program.
- *Does the program facilitate participation through the use of internet/electronic means?* No.
- *Does the program offer a single point of contact for their customers?* Yes. All inquiries and issues are addressed by ARCA.
- *Are incentive levels well understood and appropriate?* Incentive checks are in the amounts of \$35 per refrigerator or freezer and \$25 per air conditioner. No confusion about the incentive levels was reported. Incentive levels could be increased without compromising the program’s cost-effectiveness. Higher incentive levels may reduce the cancellation rate by making SDG&E’s program more attractive than alternate disposal methods.

Marketing and Outreach

- *Use target-marketing strategies?* This mass-market program does not do extensive target marketing. A potential area of marketing growth can include working more extensively with appliance retailers in the SDG&E territory to advertise the recycling service to their customers. Appliance recycling does not represent a major source of income for retailers in general and presents an opportunity for SDG&E to increase participation. Moreover, several appliance retailers do not re-sell used appliances. By providing education about the program and encouraging retailers to promote program services, SDG&E can increase overall participation and exposure within its service territory. ARCA should also consider offering the same incentive to appliance retailers for used appliances, with ARCA doing bulk pick-ups from retailers, in order to increase total participation and help meet unit goals.

Since many people primarily just want to get rid of their old appliance, SDG&E may wish to increase marketing efforts that emphasize the importance of what happens to the appliance if it is not recycled. Messaging should underscore the fact that truly recycling old appliances is necessary to ensure they are removed from the system, which has near-term benefits to SDG&E and long term benefits for stemming climate change.

- *Are products stocked and advertised?* Not applicable.
- *Are trade allies and utility staff trained to enhance marketing?* More training should be done with contractors and appliance retailers to increase awareness and participation in the program.

9. RESIDENTIAL CUSTOMER EDUCATION AND INFORMATION (HEES/HECT)

9.1 RCEI PROGRAM BACKGROUND

The Residential Customer Education and Information (RCEI) program is an education/outreach program comprised of two survey tools, the Home Energy Efficiency Survey (HEES) and the Home Energy Comparison Tool (HECT). The primary intent of both is to increase customer awareness of household energy use and prompt the adoption of more energy efficient appliances and behaviors.

The HEES provides residential customers with a mail-in, on-line, or over-the-phone energy analysis of their home. The home energy assessment tool uses a series of questions to determine the energy efficiency opportunities that exist within the participant's home and offers behavioral tips and appliance upgrade recommendations. The survey findings identify approximately how much money will be saved with each recommendation, advertise SDG&E appliance rebate opportunities, and provide web links to the Energy Library for further information on energy efficiency. In addition, customers may type in their bill history over the past year to generate charts of their electric and gas usage and costs, including a breakdown by appliance. If the bill history is unavailable, the survey tool estimates energy use.

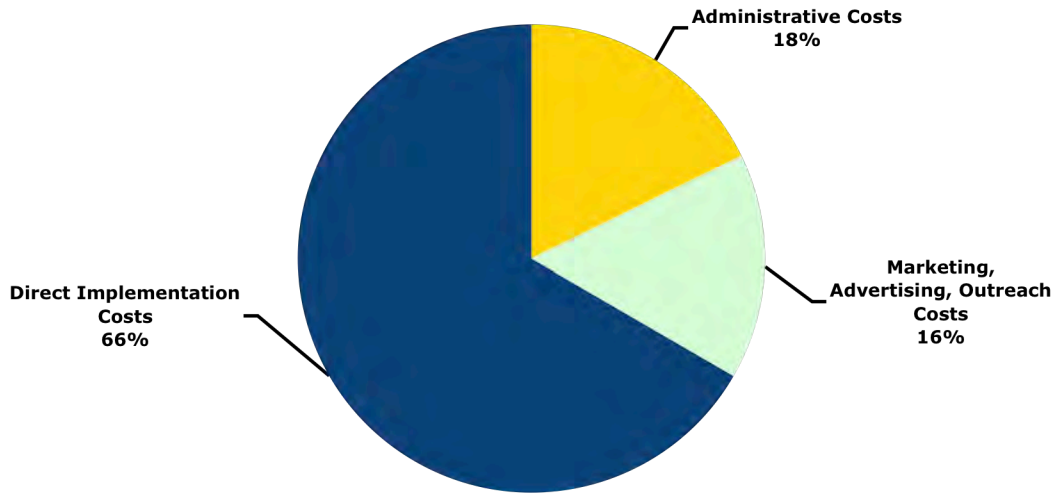
The HECT is an on-line survey tool that determines a participant's home characteristics (type, age, size, household size, pool, air conditioning) and then retrieves his/her bill information to compare the participant's energy usage and bill amounts to other customers in his/her area with the same household characteristics. The customer must have at least four months of billing to use the HECT. The HECT results offer comparison charts, personalized energy savings tips, and general web links to other SDG&E energy efficiency programs. Customers access the HECT through the SDG&E website My Account screen.

In Q3 2007, the RCEI program reported 194 HEES mail-in audits and 1099 on-line HEES audits year-to-date. The HECT launched on June 28, 2007 and recorded 2,800 customer visits in Q3 2007.¹⁷

Figure 36 shows the program expenditures to date by category.

¹⁷ SDG&E Program Narrative, Q3 2007, filed with CPUC (<http://eega2006.cpuc.ca.gov/>)

Figure 36: RCEI Expenditures by Category (Q1 2006 – Q3 2007)



9.2 RCEI PROGRAM LOGIC MODEL AND PROGRAM THEORY

The following program theory for the Residential Customer Education and Information program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. (The logic model diagram follows the program theory discussion.)

Activities

Marketing and outreach to residential customers

Informational brochures are distributed to residential customers through the SDG&E website, community events, branch offices, and other locations in the service territory. Customers will also be reached by online marketing and bill inserts. The surveys, audits, and efficiency information are also available on the SDG&E website. Surveys are offered in multiple languages to make the program more accessible to customers. Other demand response and incentive programs are also promoted through the RCEI program.

Customer education

Residential customers have access to various education programs, including the Home Energy Efficiency Survey (HEES) and the Home Energy Comparison Tool (HECT). The HEES is an online survey (also available by mail and telephone) offering energy audits and information for customers, including non-English speaking customers. The HECT is an online tool allowing customers to compare their energy use to that of similar households in their area.

Quality assurance and evaluation

Program evaluations are done on a regular basis to guarantee the program is useful and informational for customers. On a monthly basis, unique hits to the web surveys are also be

tracked and reported.

Short Term Outcomes

Inefficient energy consumption patterns and appliances/equipment identified

The energy audits and surveys delivered through the program allow customers to identify their least energy efficient appliances/equipment and energy consumption behaviors.

Customers made aware of energy efficient measures and behaviors to reduce energy use

Based on customers' current energy use, the education tools available in this program recommend ways to implement energy efficient behaviors. Energy efficient replacement equipment is recommended for customers depending on their individual appliance mix and unique energy needs. Customers are also informed about renewable energy opportunities for the home. Links on the results page of the HECT survey allow customers to access other SDG&E energy efficiency programs. The information is available in multiple languages to better serve Southern California's diverse population.

Customers give feedback on program

As part of the program evaluation customers will give feedback on the quality and pertinence of the information provided in the online surveys and audits.

Mid Term Outcomes

Customers make energy efficient changes in their homes

The online surveys and suggestions for energy efficient equipment encourage customers to choose energy efficient appliances for their homes and install retrofits. The surveys show the potential energy saving benefits of these retrofits and customers make the necessary changes in their homes.

kWh, kW, therm savings

The energy efficient changes residential customers make in their homes will produce savings in these areas that would not have occurred otherwise.

Energy cost savings to residential customers

Once customers install efficiency measures in their homes they will begin to see cost savings on their monthly energy bills.

Long Term Outcomes

Permanent change in energy saving purchases and behaviors

This program is designed to produce lasting changes in the attitudes and behavior of residential

customers with respect to energy efficiency measures. Customers have been educated on the positive impact of energy savings measures, which ensures smart energy choices in the future.

Reduced energy use in residential market

Widespread use of this program by SDG&E customers will cause a reduction in energy use in the residential market.

Sustained energy savings to residential customers

Energy savings will continue to occur as long as residential customers are using energy efficient products. Energy savings will increase as customers implement more energy efficient measures in their homes and adopt energy saving behaviors.

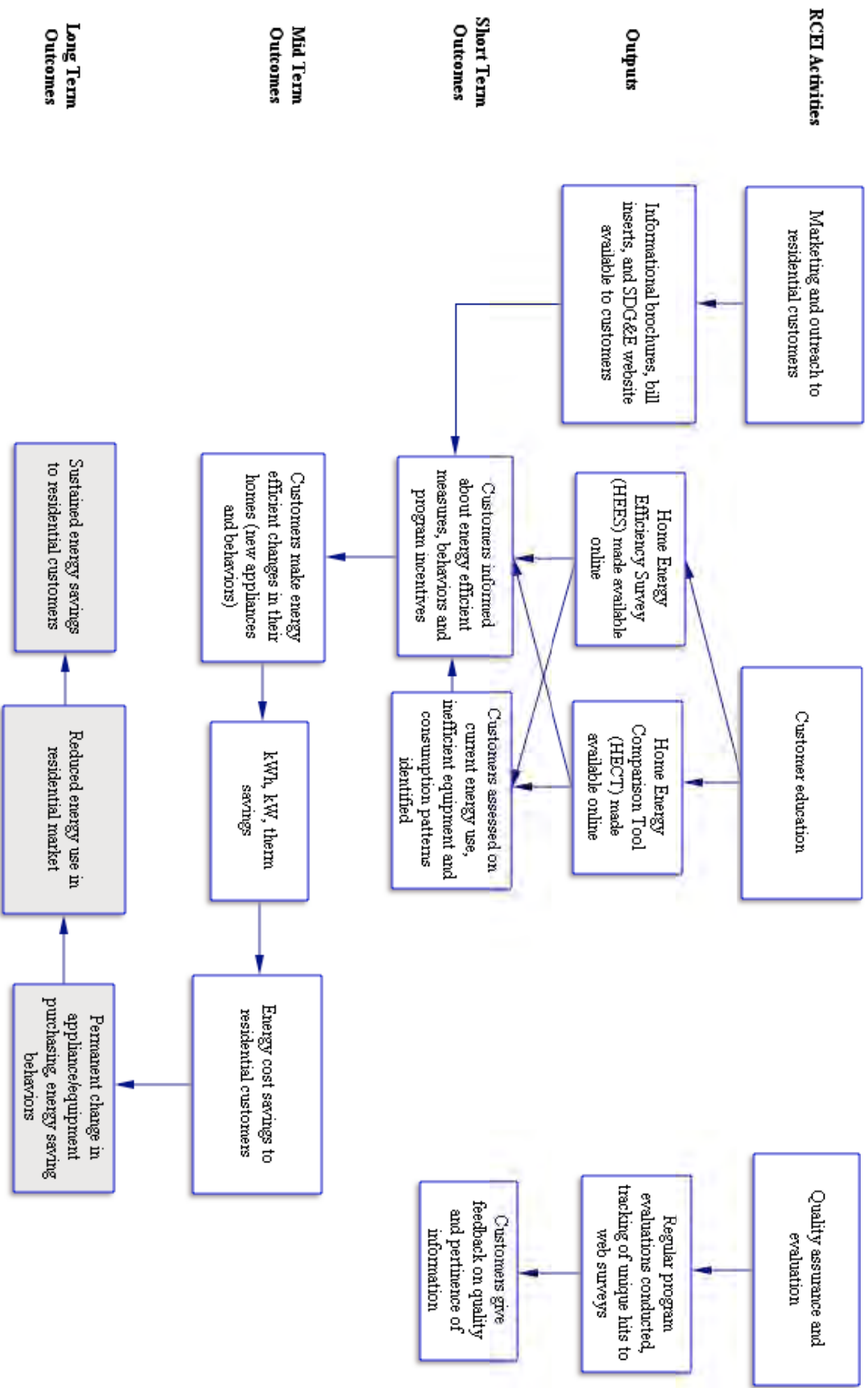


Figure 37: RCEI Program Logic Model

Shaded boxes indicate induced outcomes that are outside of the direct program influence

9.3 RCEI PROGRAM EVALUATION OVERVIEW

The evaluation team began its research by interviewing the RCEI program managers in order to better understand the program mechanics and to discuss potential research topics. The in-depth interview took about an hour to complete, and subsequent questions were addressed via email correspondence. The interviews were based on a series of open-ended questions, and issues that were discussed include:

- Program purpose (as perceived by the interviewee)
- How the program actually works
- Program goals
- Challenges that might make it difficult to attain the program goals

RCEI Program Research Issues

Based on the program theory, a review of program documents (e.g., quarterly reports, PIP), and the program manager interview, the following research issues were identified. These research issues are meant to direct the focus of all data collection tasks, including participant survey development, review of program documents, and subsequent interviews. The fundamental research question is to determine if the HEES and HECT programs are effectively designed to increase the residential adoption of more energy efficient practices. To that end, there are four categories of researchable issues.

Determine the effectiveness of the HEES recruitment strategies

The process evaluation can assess the efficacy of the HEES marketing program. The HEES on-line tool is available in Spanish and English and mail-in surveys are available in other languages. Marketing collateral for HEES includes bill inserts, e-mails, brochures, advertisements on the SDG&E website, and information provided at community events.

Determine the behavioral impact of HEES

HEES is meant to incite action via detailed information on how participants can adopt more energy efficient practices. However, HEES program staff members have not been tracking if participants actually implement the survey recommendations. It is important to know if the HEES report is successfully imparting useful knowledge and if this information results in the adoption of more energy efficiency behaviors. The process evaluation can assess if HEES elicits the desired behavior impact.

Determine the effectiveness of the HECT recruitment strategies

The process evaluation can assess the efficacy of the HECT marketing program. Marketing collateral includes e-mails, brochures, and advertisements on the My Account screen of the SDG&E website.

Determine the behavioral impact of HECT

The HECT report results screen links to personalized tips to improve energy management practices. The results screen also provides generic links to other SDG&E energy efficiency programs. However, the HECT program staff members have not been tracking if participants actually implement the personalized HECT tips or take part in other SDG&E energy efficiency programs (rebates, products, services). It is important to know if the HECT results are successfully imparting useful knowledge and if this information results in the adoption of more energy efficiency behaviors.

The methods used in this evaluation and the evaluation results are discussed in detail in the following section.

9.4 RCEI PROGRAM EVALUATION RESULTS

The primary evaluation instruments for the HEES and HECT program elements were participant surveys that address the research issues listed above. ECONorthwest fielded two separate on-line surveys through a third-party website “Survey Monkey,” one for on-line HEES participants, and the other for customers who completed the HECT. The evaluation team commissioned the e-mail marketing firm Silverpop to dispatch an e-mail invitation to program participants on December 6, 2007 and both surveys closed on December 18. The HEES participant survey collected 189 responses (out of 1895 e-mails sent) and the HECT survey collected 100 responses (out of 1289 e-mails sent). Both surveys took between five and 10 minutes to complete. HEES customer feedback surveys were fielded for on-line HEES participants only. The evaluation results are presented first for the HEES component, and then for the HECT.

HEES Participant On-Line Survey Results

The HEES participant survey was designed to assess the effectiveness of the various marketing methods and what behavioral impact, if any, that the on-line energy analysis prompted in its participants.

Early in the participant survey, respondents were asked how they learned about the HEES. Table 138 shows that 28 percent of respondents learned about the HEES program from searching around the SDG&E website, 23 percent learned about it from an e-mail blast, 16 percent learned about it from a bill insert, and 12 percent learned about it from a contractor. The most common comment in the “Other” response category was that the customer learned about the HEES from his/her solar energy installer because the HEES was a requirement to receive a solar energy rebate.

Table 138: How Participants Learned about HEES

Marketing Method	Percent (N=189)
SDG&E website	28%
E-mail	23%
Bill insert	16%
Contractor	12%
Utility representative	6%
Other flyer or brochure	2%
Community Event	1%
Other	13%

Table 139 shows that before they participated in the HEES program, most respondents were somewhat knowledgeable about opportunities for improving the energy efficiency of their homes (57 percent) and about energy efficiency program offerings for their homes (54 percent). The respondents reported to have more knowledge about opportunities for improving the energy efficiency of their homes than about the various energy efficiency program offerings.

Table 139: Base Level of Knowledge

Before taking the Survey, how knowledgeable were you about...	Very Knowledgeable	Somewhat Knowledgeable	Not Very Knowledgeable
Opportunities for improving the energy efficiency of your home (N=187)	32%	57%	12%
Energy efficiency program offerings for your home (N=188)	21%	54%	25%

Table 140 shows that most respondents took the HEES to save energy/reduce their bill (86 percent). 33 percent of respondents identified a concern for the environment as a motivating factor and 35 percent wanted information on energy efficiency programs they could participate in.

Table 140: Motivation for Completing the Survey

Marketing Method	Percent (N = 162)
Wanted to save energy/reduce bill	86%
Concern for the environment	33%
Wanted information on energy efficiency programs I could participate in	35%

Multiple responses were accepted

Table 141 shows that 75 percent of respondents took between five and 20 minutes to complete

the survey. When asked if they completed the standard Full Audit HEES or the abbreviated EZ Audit HEES, 45 percent of respondents said they took the Full Audit, 13 percent took the EZ Audit, and 42 percent did not know.

Table 141: HEES Length

Time to complete survey	Percent (N=186)
Less than 5 minutes	10%
5 to 10 minutes	26%
10 to 15 minutes	25%
15 to 20 minutes	24%
More than 20 minutes	16%

The core of the participant survey investigated if the HEES motivated its participants to implement its energy savings recommendations. For the participant survey, HEES recommendations were categorized among insulation, air conditioning, furnace and space heating, air distribution system, water heater, pool/spa, dishwasher, refrigerator/freezers, clothes washer, lighting, and home office measures. To better understand the baseline residential market, all participants were asked which measures within each category they had already implemented before they took the HEES survey. Furthermore, all participants were asked if they received any recommendations for a given category, such as insulation. The respondents in the subset who answered “yes,” were then asked to identify which insulation measures they implemented as a result of the HEES.

As shown in Table 142, 52 percent of respondents who recalled receiving insulation recommendations implemented at least one of the measures because of the HEES. As a result of the HEES, the insulation measures most commonly installed were to weatherize doors (22 percent), weatherize windows (20 percent), and install insulation in the attic (20 percent). These three measures were also the same ones that respondents had most frequently already implemented before they took the HEES; 34 percent of respondents had already weatherized their doors, 32 percent had already weatherized their windows, and 34 percent had already installed insulation in their attics.

Table 142: Installed Measures as a Result of HEES: Insulation

Insulation Measures	Implemented as a Result of HEES	Already Implemented Before HEES
	Percent (N=46)	Percent (N=173)
Weatherize doors – weather stripping and caulking	22%	34%
Weatherize windows – weather stripping and caulking	20%	32%
Install insulation in attic	20%	34%
Install storm windows or add plastic film or interior insulation to windows	15%	10%
Install insulation around perimeter of floor slab	7%	8%
Install insulation in basement walls	2%	6%
None	48%	48%

Multiple responses were accepted

As shown in Table 143, half percent of respondents who recalled receiving air conditioning tips implemented at least one of the recommendations. As a result of the HEES, 28 percent of respondents claimed that they added a whole house fan, 22 percent installed a new high-efficiency air conditioning system, and 11 percent replaced their window/wall air conditioner with an Energy Star room air conditioner. Within the overall HEES survey sample, roughly 10 percent of respondents had installed each of these measures before they took the HEES.

Table 143: Installed Measures as a Result of HEES: Air Conditioning

Air Conditioning Measures	Implemented as a Result of HEES	Already Implemented Before HEES
	Percent (N=18)	Percent (N=169)
Add a whole house fan	28%	11%
Install a new high-efficiency air conditioning system	22%	12%
Replace window/wall air conditioner with Energy Star room air conditioner	11%	7%
None	50%	74%

Multiple responses were accepted

Table 144 shows that 77 percent of respondents who recalled receiving furnace or space heating recommendations followed-through with at least one of the suggestions. Due to the HEES, the measures most commonly implemented were to install a programmable thermostat (50 percent) and to buy a new gas heating system instead of repairing the old one (14 percent). In parallel, these were the top two measures that respondents claimed they had already implemented before they took the HEES.

Table 144: Installed Measures as a Result of HEES: Furnace or Space Heating

Furnace or Space Heating Measures	Implemented as a Result of HEES	Already Implemented Before HEES
	Percent (N=22)	Percent (N= 64)
Install programmable thermostat	50%	37%
Buy new gas heating system instead of repairing your old one	14%	14%
Replace existing electric furnace with new electric heat pump	0%	1%
Replace your heat pump with new high-efficiency heat pump	9%	1%
None	36%	58%

Multiple responses were accepted

As shown in Table 145, 62 percent of respondents who recalled receiving air distribution (duct) system recommendations implemented at least one of the suggestions as a result of the HEES. Notably, only 8 respondents (four percent) remembered receiving duct recommendations from their survey results. Due to the HEES, 63 percent of respondents in this group insulated their ducts, 38 percent tested their ducts for leakage, and 25 percent sealed their ducts. Moreover, before they took the HEES, roughly only 10 percent of respondents had implemented each of the measures.

Table 145: Installed Measures as a Result of HEES: Air Distribution (Duct) System

Duct System Measures	Implemented as a Result of HEES	Already Implemented Before HEES
	Percent (N=8)	Percent (N=160)
Insulate ducts	63%	8%
Test ducts for leakage	38%	13%
Seal ducts	25%	10%
None	38%	83%

Multiple responses were accepted

As shown in Table 146, 68 percent of respondents who recall receiving water heater recommendations installed at least one of the measures as a result of the HEES. Due to HEES, the most frequently implemented measures were to turn down the thermostat to 120 degrees or lower (54 percent), install low flow showerheads (46 percent), and to wrap the water heater (25 percent). These three measures were also the same ones that respondents had most commonly already implemented before they took the HEES. 41 percent of respondents had already turned down their thermostats to 120 degrees or lower, 38 percent had already installed low flow showerheads, and 32 percent had already wrapped their water heaters.

Table 146: Installed Measures as a Result of HEES: Water Heater

Water Heater Measures	Implemented as a Result of HEES	Already Implemented Before HEES
	Percent (N=28)	Percent (N=155)
Turn down thermostat to 120 degrees or lower	54%	41%
Install low flow showerheads	46%	38%
Wrap water heater	25%	32%
Install aerators	11%	21%
Keep waterbeds covered with comforter, quilt, or blanket	4%	3%
None	32%	34%

Multiple responses were accepted

Table 147 shows that 88 percent of respondents who recalled receiving pool/spa recommendations installed at least one of the measures because of the HEES. As a result of the HEES, 71 percent of respondents avoided filtering their pools between noon and 6:00 p.m., 47 percent replaced their pumps and motors that were over 10 years old, and 18 percent covered their pools/spas when not in use. Moreover, before they took the HEES, roughly only 15 percent of respondents had implemented each of the measures.

Table 147: Installed Measures as a Result of HEES: Pool/Spa

Pool/Spa Measures	Implemented as a Result of HEES	Already Implemented Before HEES
	Percent (N=17)	Percent (N=155)
Avoid filtering pool between noon and 6:00 p.m.	71%	19%
Replace pump and motors that are over 10 years old	47%	12%
Cover when not in use	18%	14%
None	12%	72%

Multiple responses were accepted

Table 148 shows that 63 percent of respondents who recalled receiving dishwasher recommendations installed at least one of the measures because of the HEES. As a result of the HEES, the most frequently implemented measures were to operate dishwashers during cool times of day/evening (40 percent), wash full loads (27 percent), and to use the Energy Saver cycle on the dishwasher (27 percent). Before they completed the HEES, most respondents were already washing with full loads (61 percent) and already using the Energy Saver cycle on their dishwasher (50 percent). Many respondents were also already operating their dishwashers during the cool times of the day/evening (38 percent) and turning off the dishwasher during the dry cycle (30 percent).

Table 148: Installed Measures as a Result of HEES: Dishwasher

Dishwasher Measures	Implemented as a Result of HEES	Already Implemented Before HEES
	Percent (N=15)	Percent (N=154)
Operate during cool times of day/evening	40%	38%
Wash full loads	27%	61%
Use Energy Saver cycle	27%	50%
Turn off during dry cycle	7%	30%
None	27%	27%

Multiple responses were accepted

Table 149 shows that 57 percent of respondents who recalled receiving refrigerator/freezer recommendations installed at least one of the measures because of the HEES. As a result of the HEES, about one-third of respondents avoided opening the refrigerator door unnecessarily, maintained the refrigerator temperature at 37-40 degrees F, maintained the freezer temperature at 0 degrees F, and replaced their older refrigerator or freezer. These four measures were also the same ones that respondents had most commonly already implemented before they took the HEES.

Table 149: Installed Measures as a Result of HEES: Refrigerator/Freezer

Refrigerator/Freezer Measures	Implemented as a Result of HEES	Already Implemented Before HEES
	Percent (N=43)	Percent (N=148)
Avoid opening the refrigerator door unnecessarily	35%	50%
Maintain the refrigerator temperature at 37-40 degrees F	35%	41%
Maintain the freezer temperature at 0 degrees F	28%	35%
Replace your older refrigerator or freezer	28%	24%
Eliminate your second refrigerator	12%	13%
Replace worn or damaged refrigerator/freezer door gaskets	9%	7%
None	33%	25%

Multiple responses were accepted

Table 150 shows that 83 percent of respondents who recalled receiving clothes washer recommendations installed at least one of the measures because of the HEES. As a result of the HEES, the most frequently adopted measures were to replace the clothes washer with an energy efficient model (48 percent), wash full loads (44 percent), and to use cool/warm water instead of hot when possible (44 percent). Most respondents claimed they were already doing most of the clothes washer measures.

Table 150: Installed Measures as a Result of HEES: Clothes Washer

	Implemented as a Result of HEES	Already Implemented Before HEES
Clothes Washer Measures	Percent (N=23)	Percent (N=151)
Replace clothes washer with qualified energy efficient model	48%	34%
Wash full loads	44%	72%
Use cool water instead of hot when possible	44%	64%
Operate during cool time of day/evening	26%	46%
None	17%	16%

Multiple responses were accepted

Table 151 shows that 79 percent of respondents who recalled receiving lighting recommendations installed at least one of the measures as a result of the HEES. Due to the HEES, the majority of respondents replaced incandescent light bulbs with CFLs (65 percent) and turned off lighting they were not using (57 percent). 16 percent installed timers/photocells on security lighting. However, before they took the HEES, most respondents had already implemented the lighting measures. 60 percent had already replaced their incandescent light bulbs with CFLs and 84 percent were already turning off lighting they were not using. Furthermore, many respondents had already installed timers/photocells on their security lighting (39 percent).

Table 151: Installed Measures as a Result of HEES: Lighting

	Implemented as a Result of HEES	Already Implemented Before HEES
Lighting Measures	Percent (N=92)	Percent (N=152)
Replace incandescent light bulbs with CFLs	65%	60%
Turn off lighting you're not using	57%	84%
Install timers/photocells on security lighting	16%	39%
None	21%	8%

Multiple responses were accepted

Table 152 shows that 67 percent of respondents who recalled receiving home office recommendations installed at least one of the measures as a result of the HEES. Due to the HEES, 57 percent of respondents powered off their printers when not in use, 48 percent powered off their computers when not in use, and 43 percent powered off their scanners when not in use. About half of respondents had already implemented each of these measures before they took the HEES.

Table 152: Installed Measures as a Result of HEES: Home Office

	Implemented as a Result of HEES	Already Implemented Before HEES
Home Office Measures	Percent (N=21)	Percent (N=150)
Power off your printer when not in use	57%	46%
Power off your computer when not in use	48%	54%
Power off your scanner when not in use	43%	43%
None	33%	37%

Multiple responses were accepted

On the HEES results screen, the energy efficiency recommendations often reference SDG&E rebates that may be available for the suggested equipment upgrades. Participants are asked to visit www.sdge.com or call the general SDG&E customer service phone number that is provided to learn more. Links to the SDG&E Energy Library are also paired with most recommendations; this resource provides further information about implementing the suggested measures.

Program theory suggests that participants will explore the SDG&E website and talk to SDG&E customer service agents in order to obtain information about appropriate energy efficiency program offerings. Table 153 shows what further actions respondents took once they received their survey results. The most common next step (34 percent of respondents) was to visit a utility website to get additional information on energy efficiency programs. 24 percent of respondents called a contractor to install energy efficient equipment, 13 percent called the utility to get additional information on energy efficiency programs, and 11 percent followed the embedded links to the SDG&E Energy Library.

Table 153: Action Taken After HEES

As a Result of HEES...	Percent
Visited a utility website (N=152)	34%
Called a contractor (N=152)	24%
Called the utility (N=149)	13%
Visited the Energy Library (N=151)	11%

As shown in Table 154, 40 percent of respondents joined other energy efficiency programs as a result of the HEES. 27 percent of respondents participated in the SDG&E Rebate program (but could not identify the program name), 10 percent participated in the Appliance Recycling program, 10 percent participated in the Lighting Exchange program, and seven percent participated in the 20/20 program.

Of the respondents that joined a program as a result of the HEES, the equipment most frequently purchased through the programs was lighting (30 percent), clothes washers (20 percent), and

refrigerators (16 percent). Within this same group, 56 percent of respondents received a rebate for their purchases. Rebates were most often collected for clothes washers (38 percent), refrigerators (24 percent), dishwashers (24 percent), and lighting (24 percent).

Table 154: Programs Joined as a Result of HEES

Participate in...	Percent (N =139)
SDG&E Rebate	27%
Appliance Recycling	10%
Lighting Exchange	10%
20/20 program – Summer Savings Rewards	7%
Received a rebate but don't remember the program name	6%
None	60%

Multiple responses were accepted

In order to yield a more accurate analysis of the customer's energy use, the HEES prompts customers to type in their energy bill history for each month of the past year (kWh and bill dollar amount). Table 155 shows that majority of respondents (66 percent) typed in their bill histories, 17 percent did not type in their bill histories, and 17 percent did not know.

Table 155: Typed in Bill History

Typed in Bill History	Percent (N =151)
Yes	66%
No	17%
Don't know	17%

Table 156 shows that respondents had mixed reactions to the section of the HEES report that provided charts with the customer's energy costs, by month and by appliance. Most respondents (65 percent) found them to be very useful or somewhat useful, but 21 percent of respondents found them to be not very useful or not useful at all. In parallel, 66 percent of respondents found the charts to be very influential or somewhat influential on their decision to implement the HEES recommendations, while 35 percent of respondents found them to be not very influential or not at all influential.

Notably, half of respondents that typed in their bill history found the charts very or somewhat useful, while only seven percent of respondents that did not type in their bill history found the HEES very useful or somewhat useful. Furthermore, over half of the respondents (54 percent) that found the charts very or somewhat useful also found the charts very or somewhat influential on their decision to implement the HEES recommendations.

Table 156: HEES Energy Use Charts

Useful	Percent (N=151)	Influential	Percent (N=151)
Very useful	29%	Very influential	19%
Somewhat useful	36%	Somewhat influential	47%
Not very useful	15%	Not very influential	20%
Not at all useful	6%	Not at all influential	15%
Don't know	15%		

As shown in Table 156, respondents were also asked to indicate their satisfaction levels with various aspects of the HEES tool. About half of respondents offered favorable reviews of the HEES program, while the remaining respondents gave more tepid assessments. 52 percent of respondents were very satisfied or moderately satisfied with the amount of time it took to complete the survey and 13 percent were dissatisfied. 51 percent of respondents were either very satisfied or moderately satisfied with the clarity of the recommendations and 15 percent were dissatisfied. 50 percent of respondents were either very satisfied or moderately satisfied with the usefulness of the recommendations provided and 20 percent were dissatisfied.

Respondents were also asked about the HEES on-line tool's ease of use. Most found the survey tool somewhat easy to complete (51 percent), 33 percent found it very easy, 14 percent found it somewhat difficult, and two percent found it very difficult.

Table 157: Satisfaction with the HEES Tool

Level of satisfaction with...	Very Satisfied	Moderately Satisfied	Slightly Satisfied	Neutral	Slightly Dissatisfied	Very Dissatisfied	Moderately Dissatisfied	N/A
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Amount of time it took to complete the survey (N=151)	17%	35%	9%	23%	7%	3%	3%	3%
Clarity of the recommendations provided by the survey (N=149)	18%	33%	18%	13%	6%	4%	5%	3%
Usefulness of the recommendations provided (N=151)	21%	29%	17%	12%	8%	5%	7%	3%
Information provided in the Energy Library (N=149)	10%	18%	7%	19%	1%	2%	2%	41%
Overall satisfaction with the Home Energy Efficiency Survey (N=150)	16%	35%	15%	15%	4%	7%	5%	3%

Table 158 shows that one-quarter of respondents recommended the HEES to others.

Table 158: Recommended HEES to Others

Recommended	Percent (N=147)
Yes	25%
No	76%

The following four tables provide basic demographic information about the 189 program participants who were surveyed for the HEES evaluation. Due to the nature of a web survey in which participants are able to skip past some questions, the sample size for each question varies slightly. As shown in Table 159, most respondents live in single-family detached homes (82 percent). Seven percent live in apartments, five percent live in condos, five percent live in townhomes, one percent live in mobile or manufactured homes, and one percent live in duplexes.

Table 159: Type of Home

Housing Type	Percent (N=147)
Single-family detached	82%
Apartment	7%
Condo	5%
Townhouse	5%
Mobile home/ manufactured home	1%
Duplex	1%

Furthermore, Table 160 shows that most respondents own their homes. 84 percent of respondents own their homes, while only 16 percent rent their homes.

Table 160: Home Ownership

Housing Status	Percent (N=149)
Own	84%
Rent	16%

Table 161 shows that the highest level of education reached by the respondents is widely distributed. Overall, 61 percent of respondents have at least a Bachelor's degree while eight percent of respondents said their highest level of education reached was a high school diploma or less.

Table 161: Highest Level of Education

Highest Level of Education	Percent (N=148)
High school diploma or less	8%
Some college	23%
Associates degree	9%
Bachelors degree	26%
Graduate or professional degree	35%

As shown in Table 162, the annual household income of respondents is also widely dispersed. The lower income categories (less than \$40,000) account for nine percent of respondents. Each of the middle and higher income categories account for roughly 15 to 20 percent of respondents.

Table 162: Annual Household Income

Income	Percent (N=136)
Less than \$20,000	2%
\$20,000 to less than \$40,000	7%
\$40,000 to less than \$60,000	12%
\$60,000 to less than \$80,000	16%
\$80,000 to less than \$100,000	20%
\$100,000 to less than \$150,000	25%
More than \$150,000	18%

At the end of the survey, respondents were asked three open-ended questions to provide general feedback on the HEES program. The most common responses are summarized below.

Open-End 1) If you could change one thing about the Home Energy and Water Efficiency Survey, what would that be? (out of 57 valid responses)

- Utility bill history should be automatically filled in (13).
- There should be more in-depth information about energy efficiency programs, rebates, and solar energy (10).
- The survey could be better tailored to renters who have less information about their appliances and less ability to implement energy efficiency measures (3).
- There should be an in-home consultation available (3).

- There should be discounts or other incentives for completing the survey (3).

Open-End 2) What was the most difficult thing about completing the Home Energy Efficiency Survey? (out of 50 valid responses)

- Entering in the bill history (23)
- Gathering all the requested information about the household appliances and estimating energy usage (14)
- Finding time to take the survey (6)

What other programs or offerings could the utility provide to help you manage your energy use better? (out of 48 valid responses)

- Information on and incentives for alternative energy sources, such as solar and wind (22)
- In-home energy consultations (5)
- Information on demand-response programs (3)

9.5 HEES ISSUES AND OBSERVATIONS

Participants are implementing a share of the recommendations that they receive from the HEES survey. Categories with the highest adoption rates are air ducts, pools/spas, clothes washers, and lighting and the lowest adoption rates occur in the insulation, air conditioning, and refrigerator/freezer categories. Consistently, the most commonly adopted recommendations are ones that most other respondents were already doing anyway, especially evident among insulation, furnace and space heating, water heater, and refrigerator/freezer measures.

Furthermore, the base level of knowledge about energy efficient practices in the SDG&E territory varies by category. In some categories, such as dishwashers, clothes washers, and lighting, most respondents were already implementing most of the possible HEES recommendations. There are the lowest levels of market penetration in the areas of air conditioning, duct systems, and pools/spas.

The HEES is successfully channeling some participants toward other energy efficiency programs that can subsidize more expensive equipment upgrades – 40 percent of respondents claimed to have participated in other energy efficiency programs as a result of the HEES. Respondents most frequently purchased lighting, clothes washers, and refrigerators through these programs. About half of the respondents that bought new equipment through these programs received rebates for their purchases, primarily for clothes washers (38 percent), refrigerators (24 percent), dishwashers (24 percent), and lighting (24 percent).

The HEES design that requires participants to manually type in their bill histories impedes program progress and the program theory assumes that the energy charts included in the HEES results will help customers to better understand their energy usage. However, the energy charts

are only accurate if participants manually enter in their energy consumption (kWh and therms) and bill dollar amounts for each month of the past year. 66 percent of respondents typed in their bill histories and half of these respondents found the energy charts very or somewhat useful, while only seven percent of respondents that did not type in their bill history found the HEES very useful or somewhat useful. Furthermore, about half of respondents who found the useful also found the charts influential on their decision to implement the HEES recommendations. Notably, when asked about the most difficult part of the survey or what they would change about the HEES program, many respondents (46 percent) said that they wished that SDG&E could automatically link their bill information to the survey. Many HEES participants omit the account information because it is unavailable or too big of a hassle to locate. Therefore, this technical barrier limits the accuracy and credibility of the energy analysis results.

Overall, satisfaction levels with the HEES program are mixed. About half of respondents were very or moderately satisfied with the various aspects of the HEES program, while about 15 percent were slightly, moderately, or very dissatisfied. 84 percent of respondents found the HEES tool very or moderately easy to use and one-quarter of respondents reported that they recommended the program to others.

Based on the evaluation findings, potential program changes that should be considered include:

- **Offer more specific information about other energy efficiency programs within the HEES recommendations.** The HEES program could increase the rate at which participants implement its equipment recommendations by more extensively advertising other SDG&E energy efficiency programs that can alleviate upgrade costs. Currently, the results page includes only the generic SDG&E homepage suggestion (notably not a hotlink) and the general SDG&E customer service line. The results page would benefit from direct hotlinks to the various energy efficiency program websites and by offering up-to-date and specific information about the appliance rebate offerings. This may require increased coordination efforts with other energy efficiency programs.
- **Include more advanced recommendations for the well-informed customer.** About half of respondents mentioned that they would like SDG&E to offer more information and services for alternative energy options (i.e., wind and solar) and demand response programs. The HEES could target this type of information to advanced customers who have already implemented most of the standard energy efficiency recommendations. This may also require increased coordination efforts with other energy efficiency programs.
- **Create an automatic bill history retrieval system.** Currently, many HEES participants omit their bill history because it is too much of a hassle to locate the necessary information and then type it in. A tool that automatically accesses the customer's billing information will increase the accuracy and usefulness of the energy charts.
- **Re-assess the value of the EZ Audit.** Few participants (13 percent) take the EZ Audit. The program managers should decide if the more cursory audit tool is able to generate valuable results for its participants, and thus if it is an important program element to maintain.

- **Create a tracking database to document program progress to assist further evaluation efforts.** Implement follow-up activities to verify which of the recommended HEES measures each customer has actually implemented. The tracking database should also record which energy efficiency programs the customer has joined as a result of the HEES. This type of tracking and verification will be required if SDG&E ever decides to claim energy savings from the HEES program.

HECT Participant On-Line Survey Results

A similar online survey was fielded for the HECT participants as part of this evaluation. As with the HEES participant survey, due to the nature of a web survey in which participants are able to skip past some questions, the sample size for each question varies slightly.

Early in the participant survey, respondents were asked how they learned about the HECT. Table 163 shows that the core marketing effort for the on-line HECT, advertising on the My Account screen of the SDG&E website is effective. 60 percent of the respondents reported that they learned about the HECT program from the “My Account” screen, 10 percent said they found out about it from an e-mail blast, and 11 percent said they learned about it from a bill insert. However, no e-mail blasts or bill inserts for HECT have been sent out, and so these respondents do not accurately recall where they learned about the tool.

Table 163: How Participants Learned about HECT

Marketing Method	Percent (N=100)
SDG&E website My Account screen	60%
E-mail	10%
Bill insert	11%
Other flyer or brochure	3%
Contractor	3%
Utility representative	3%
Other	10%

Table 164 shows that 89 percent of respondents took 10 minutes or less to use the HECT. Over half of respondents took five minutes or less.

Table 164: HECT Length

Time to complete survey	Percent (N=95)
Less than 5 Minutes	56%
5 to 10 Minutes	33%
10 to 15 Minutes	3%
More than 15 Minutes	8%

Respondents were also asked where the HECT benchmarked their gas and electric use in comparison with the energy use of similar households in their areas. Table 165 shows that responses are fairly evenly distributed. However, a higher share of respondents reported above-average electric use (36 percent) than the share of respondents who reported above-average gas use (20 percent). This suggests that the HECT is being completed by customers with at least an average potential for energy savings.

Table 165: HECT Energy Use Comparison with Similar Households in the Area

How did your energy use compare with similar households in your area?	Lower than average	About average	Higher than average	Don't know
Gas usage (N=87)	33%	36%	20%	11%
Electric usage (N=99)	31%	23%	36%	9%

Like the HEES participant survey, the core of the HECT participant survey investigated if the HECT motivated its participants to implement its energy savings tips. The HECT instrument database contains a total of 16 possible savings tips within the categories of air conditioning, pool/spa, lighting, insulation, windows, and vacation. Based on their answers to the HECT survey questions, each participant receives a subset of these tips. However, HECT participants must click on the Energy Savings Resources button on the bottom of the results screen to view these tips.

Only 47 percent of 100 respondents used the Energy Savings Resources link to view the energy savings tips while 28 percent did not use the link. Of the respondents in this group that clicked on the link, 68 percent implemented some of the HECT savings tips. Next, respondents who implemented some of the HECT tips were asked if they received any recommendations for a given category, such as air conditioning. The respondents who answered “yes,” were then asked to identify which air conditioning measures they implemented as a result of the HECT.

In addition, to better understand the baseline market, all survey participants were asked which measures within each category they had already implemented before they took the HECT survey

As shown in Table 166, 69 percent of respondents who recalled receiving air conditioning tips implemented at least one of the measures because of the HECT. As a result of the HECT, 62

percent of respondents used fans in place of air conditioners, 35 percent kept their temperature down by employing shading measures, and 27 percent set their air conditioner to 78 degrees or higher. In the same descending order of popularity, many respondents had already implemented air conditioning measures before they took the HECT. Before they used the HECT, 64 percent were already using fans in place of air conditioners, 41 percent were already keeping their temperature down by employing shading measures, and 38 percent of respondents had already set their air conditioner to 78 degrees or higher.

Table 166: Installed Measures as a Result of HECT: Air Conditioning

Air Conditioning Measures	Implemented as a Result of HECT	Already Implemented Before HECT
	Percent (N=26)	Percent (N=84)
Using fans in place of air conditioners	62%	64%
Keep the temperature down by taking advantage of trees, awnings, solar window, shade screens, sun-control window film, or closing the drapes	35%	41%
Setting your air conditioner 78 degrees or higher	27%	38%
None	31%	25%

Multiple responses were accepted

Table 167 shows that all four of the respondents who recalled receiving pool/spa tips installed at least one of the measures because of the HEES. As a result of the HEES, 75 percent of respondents filtered their pools and spas before 11:00 a.m. or after 6 p.m., and 50 percent replaced their old inefficient pump/motor assembly with a new energy efficient model. Before they took the HECT, very few respondents (less than 15 percent) had already implemented the pool/spa tips.

Table 167: Installed Measures as a Result of HECT: Pool/Spa

Pool/Spa Measures	Implemented as a Result of HECT	Already Implemented Before HECT
	Percent (N=4)	Percent (N=74)
Filter pools and spas before 11:00 a.m. or after 6 p.m.	75%	7%
Replace your old inefficient pump/motor assembly with a new energy efficient model	50%	4%
Keep the pool and/or spa covered when not in use to minimize heat loss	0%	15%
None	0%	80%

Multiple responses were accepted

Table 168 shows that 93 percent of respondents who recalled receiving lighting tips installed at least one of the measures as a result of the HECT. Due to the HECT, the most commonly adopted lighting measures were to turn-off the lights when leaving a room (82 percent) and to

replace incandescent lights with CFLs (71 percent). 14 percent of respondents installed timers or photocells on their exterior lights. These two measures were also the same ones that respondents had most frequently already implemented before they took the HEES. 82 percent of respondents were already turning-off the lights when they left a room and 62 percent had already replaced their incandescent lights with CFLs.

Table 168: Installed Measures as a Result of HECT: Lighting

Lighting Measures	Implemented as a Result of HECT	Already Implemented Before HECT
	Percent (N=28)	Percent (N=92)
Turn-off lights when you leave a room	82%	82%
Replace incandescent lights with CFLs	71%	62%
Install timers, time clocks, or photocells to ensure that exterior lights are turned-off at the appropriate time	14%	25%
None	7%	10%

Table 168 shows that 69 percent of respondents who recalled receiving tips about sealing their homes installed at least one of the measures as a result of the HECT. Due to the HECT, most respondents (69 percent) weather-stripped and caulked their homes. However, only eight percent insulated their walls and none insulated their ceilings. Before they took the HECT, the most common measure already implemented was also to weather-strip and caulk the home (31 percent of respondents).

Table 169: Installed Measures as a Result of HECT: Sealing Your Home

Sealing Your Home Measures	Implemented as a Result of HECT	Already Implemented Before HECT
	Percent (N=13)	Percent (N=85)
Weather-stripping and caulking your home	69%	31%
Insulate your walls (R-11 insulation recommended)	8%	19%
Insulate your ceilings (R-19 insulation recommended)	0%	19%
None	31%	57%

Table 168 shows that 15 percent of respondents who recalled receiving windows tips installed the measure as a result of the HECT. Due to the HECT, only 15 percent of respondents purchased Energy Star windows. Before they took the HECT, 26 percent of all respondents reported that they had already installed Energy Star windows for their homes.

Table 170: Installed Measures as a Result of HECT: Windows

	Implemented as a Result of HECT	Already Implemented Before HECT
Windows Measures	Percent (N=13)	Percent (N=87)
Purchase spectrally selective low-e Energy Star Qualified Windows	15%	26%
None	85%	74%

Table 171 shows that 31 percent of respondents who recalled receiving vacation tips implemented at least one of the measures as a result of the HECT. The most frequently adopted measures due to HECT were to set gas appliance pilot lights to the pilot position (31 percent) and turn off the electric heaters at the breaker (19 percent). These two measures were also the same ones that respondents had most frequently already implemented before they took the HECT.

Table 171: Installed Measures as a Result of HECT: Vacation

	Implemented as a Result of HECT	Already Implemented Before HECT
Vacation Measures	Percent (N=16)	Percent (N=89)
Set your gas appliance pilot lights to “pilot” position	31%	25%
Turn your electric water heaters and electric ceiling heaters off at the breaker	19%	20%
Turn off your pool, spa, and waterbed heaters	13%	16%
None	69%	62%

The HECT program theory indicates that HECT participants will be motivated by the HECT results to explore other SDG&E offerings to increase the energy efficiency of their homes. Table 172 shows what further actions respondents took once they received their survey results. The most common next step (30 percent) was to search the SDG&E website to get additional information on energy efficiency programs. Nine percent of respondents called the utility to get additional information on energy efficiency programs and 12 percent called a contractor to install energy efficient equipment.

Table 172: Action Taken After Survey

As a Result of HECT...	Percent
Visited a utility website (N=91)	30%
Called the utility (N=92)	9%
Called a contractor (N=91)	12%

Notably, HECT recommendations are not paired with specific links to SDG&E rebates and other energy efficiency programs. Instead, there are generic links to other SDG&E energy efficiency programs such as the Single Family Rebate program, the HEES program, and the 20/20 program located on a different page of the results screen. Table 173 shows that the majority of respondents (72 percent) did not participate in another energy efficiency program as result of HECT. Due to HECT, 12 percent of participants joined the 20/20 program, 10 percent joined the SDG&E Rebate program (specific program name unknown), and 10 percent joined the Appliance Recycling.

Of the respondents that joined a program as a result of the HECT, the equipment most frequently purchased through the programs was refrigerators (23 percent of respondents), lighting (19 percent), and clothes washers (16 percent). Within this same group, 28 percent of respondents received a rebate for their purchases. Rebates were most often collected for equipment within these same categories—lighting (16 percent of respondents), refrigerators (16 percent), and clothes washers (12 percent).

Table 173: Programs Joined as a Result of HECT

Participate in...	Percent (N=94)
20/20 program – Summer Savings Rewards	12%
SDG&E Rebate	10%
Appliance Recycling	10%
Lighting Exchange	1%
Received a rebate but don't remember the program name	8%
None	72%

Multiple responses were accepted

Table 174 shows that respondents had mixed reactions to the section of the HECT results that benchmarked the customer's energy use with similar households in the area. Most respondents (73 percent) found it to be very useful or somewhat useful, but 20 percent of respondents found them to be not very useful or not useful at all. In parallel, 65 percent of respondents found the charts to be very influential or somewhat influential on their decision to implement the HECT recommendations, while 36 percent of respondents found them to be not very influential or not at all influential.

Table 174: HECT Energy Use Benchmarking

	Percent (N=86)	Influential	Percent (N=85)
Very useful	30%	Very influential	18%
Somewhat useful	43%	Somewhat influential	47%
Not very useful	13%	Not very influential	25%
Not at all useful	7%	Not at all influential	11%
Don't know	7%		

As shown in Table 175, respondents were also asked to indicate their satisfaction levels with various aspects of the HECT tool. The majority of respondents offered favorable reviews of the HECT program. 77 percent of respondents were very satisfied or moderately satisfied with the amount of time it took to complete the survey and only three percent were dissatisfied. 78 percent of respondents were either very satisfied or moderately satisfied with the clarity of the results screens and only seven percent were dissatisfied. 62 percent of respondents were either very satisfied or moderately satisfied with how accurately HECT benchmarked their energy use with similar households and 12 percent were dissatisfied. 67 percent of respondents were either very satisfied or moderately satisfied with the clarity of the energy efficiency tips provided by the Tool and eight percent were dissatisfied. 62 percent of respondents were very satisfied or moderately satisfied with the usefulness of the tips provided and eight percent were dissatisfied. 70 percent of respondents were very satisfied or moderately satisfied with the HECT overall and only five percent were dissatisfied.

Respondents were also asked about the HECT's ease of use. Most found the survey tool very easy to use (62 percent of 87 respondents), 31 percent found it somewhat easy, five percent found it somewhat difficult, and two percent found it very difficult.

Table 175: Satisfaction with the HECT Tool

Level of satisfaction with...	Very Satisfied	Moderately Satisfied	Slightly Satisfied	Neutral	Slightly Dissatisfied	Moderately Dissatisfied	Very Dissatisfied	N/A
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Amount of time it took to use the Tool (N=87)	45%	32%	2%	10%	3%	0%	0%	7%
Clarity of the Results Screens (N=87)	41%	37%	3%	5%	5%	0%	2%	7%
How accurately the Tool benchmarked your energy use (N=86)	35%	27%	6%	14%	5%	1%	6%	7%
Clarity of the tips provided by the Tool (N=86)	37%	30%	12%	6%	6%	1%	1%	7%
Usefulness of the tips provided (N=86)	29%	33%	13%	9%	2%	2%	4%	8%
Overall satisfaction with the Tool (N=86)	37%	33%	5%	13%	2%	1%	2%	7%

Table 176 shows that 28 percent of respondents recommended the HECT to others.

Table 176: Recommended HECT to Others

Recommended	Percent (N=87)
Yes	28%
No	72%

As shown in Table 177, most respondents live in single-family detached homes (63 percent). 16 percent live in apartments, 10 percent live in condos, five percent live in townhomes, five percent live in duplexes, and one percent live in mobile or manufactured homes.

Table 177: Type of Home

Housing Type	Percent (N=87)
Single-family detached	63%
Apartment	16%
Condo	10%
Townhouse	5%
Duplex	5%
Mobile home/ manufactured home	1%

Furthermore, Table 178 shows that most respondents own their homes. 74 percent of respondents own their homes, while only 26 percent rent their homes

Table 178: Own or Rent

Housing Status	Percent (N=88)
Own	74%
Rent	26%

Table 179 shows that highest level of education reached by the respondents is widely distributed. Overall, 55 percent of respondents had at least a Bachelor's degree while eight percent of respondents said their highest level of education reached was a high school diploma or less.

Table 179: Highest Level of Education

Highest Level of Education	Percent (N=88)
High school diploma or less	8%
Some college	30%
Associates degree	8%
Bachelors degree	22%
Graduate or professional degree	33%

As shown in Table 162, the annual household income of respondents is also widely dispersed. The lowest income category (less than \$20,000) accounts for seven percent of respondents. Each of the six middle-income categories account for roughly 15-20 percent of respondents.

Table 180: Annual Household Income

Income	Percent (N=82)
Less than \$20,000	7%
\$20,000 to less than \$40,000	20%
\$40,000 to less than \$60,000	10%
\$60,000 to less than \$80,000	18%
\$80,000 to less than \$100,000	15%
\$100,000 to less than \$150,000	13%
More than \$150,000	17%

At the end of the survey, respondents were asked three open-ended questions to provide general feedback on the HECT program. The most common responses are summarized below.

Open-End 1) If you could change one thing about the Home Energy Comparison Tool, what would that be? (out of 30 valid Responses)

- The survey could be better tailored to renters who have less information about their appliances and less ability to implement energy efficiency measures (3).
- There should be more questions beyond just if you have a pool and air conditioning to provide a more accurate analysis of my home (2).
- There should be more information about what to do and who to contact to increase the energy efficiency of my home (2).
- There should be an in-home energy consultation available (2).

Open-End 2) What was the most difficult thing about completing the Home Energy Comparison Tool? (out of 15 valid responses)

- Guessing square footage (2)

Open-End 3) What other programs or offerings could the utility provide to help you manage your energy use better? (out of 25 valid responses)

- Information on and more incentives for solar energy (7).
- In-home energy consultations (2)
- More equipment rebates and free services—such as weather-stripping (2)

9.6 HECT ISSUES AND OBSERVATIONS

Program theory expects the HECT will help its participants to better understand their energy usage in comparison with other similar households, and consequently encourage its 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 HECT program effectively promotes a behavioral response. The following are some of the key findings of this program evaluation:

About half of HECT respondents clicked on the Energy Savings Resources link to view personalized HECT energy efficiency tips. 68 percent of respondents who received the tips implemented at least one. Tip categories with the highest adoption rates are air conditioning, pool/spa, lighting, and sealing your home. The lowest adoption rates occur among windows and vacation measures. Consistently, the most commonly adopted tips are ones that most other respondents were already doing anyway, especially evident among air conditioning, lighting, sealing your home, and vacation measures.

In addition, the base level of knowledge about energy efficient practices in the SDG&E territory varies by category. Most respondents were already implementing the air conditioning and lighting tips, indicating that there is a high level of market penetration in these areas. However, fewer respondents were already implementing the recommended pool and spa, sealing your home, windows, and vacation tips before they used the HECT.

The HECT is successfully channeling a small portion of participants toward other energy efficiency programs that can subsidize more expensive equipment upgrades. Due to HECT, 12 percent of participants joined the 20/20 program, 10 percent joined the SDG&E Rebate program, 10 percent joined the Appliance Recycling, and only one percent joined the Lighting Exchange. Most commonly, respondents purchased refrigerators, lighting, and clothes washers through these programs.

Overall, satisfaction levels with the HECT program are generally high with 60 to 70 percent of respondents are very or moderately satisfied with the various aspects of the HECT tool. Similarly over 70 percent of respondents found the HECT benchmarking with the energy use of similar households useful and 65 percent found the benchmarking influential on their decision to implement the HECT energy savings tips. Most respondents found the HECT tool easy to use and one-quarter of respondents reported that they recommended the program to others.

Potential program changes that should be considered include:

- **Integrate direct links to energy efficiency programs into the energy saving tips section.** The HECT could be designed with a more direct linkage to other SDG&E energy efficiency program offerings that can subsidize the recommended equipment upgrades. For example, savings tips should be paired with up-to-date information, web links, and phone numbers for appropriate energy efficiency program offerings (similar to the HEES design). It would also be helpful to connect the savings tips to the SDG&E Energy Library, when appropriate, to provide the customer with more information. Connecting the savings tips directly to the means to implement them creates a more

cohesive and accessible Tool. This type of design would more effectively provoke action.

- **Eliminate the need to click on the Energy Saving Resource button to read the energy savings tips.** Many participants do not click on the Energy Savings Resource button, and therefore, never receive any energy efficiency tips. Re-design the results pages to create a more fluid path to the energy savings tips.
- **Create a tracking database to document program progress to assist further evaluation efforts.** Implement follow-up activities to verify which of the recommended HECT measures each customer has actually implemented. The tracking database should also record which energy efficiency programs the customer has joined as a result of the HECT. Better tracking and verification will be required should SDG&E choose to start claiming savings for this program.

9.7 RCEI BEST PRACTICES REVIEW

Program Theory and Design

Is the program design effective? The RCEI program consists of two energy efficiency audit tools, the Home Energy Efficiency Survey (HEES) and the Home Energy Comparison Tool (HECT). Both audit tools span a wide variety of appliances and package popular behavioral tips along with less-common measures, such as replacing large appliances with energy efficient models.

However, program improvements are needed in other areas. The HEES and HECT audit results could flow more seamlessly into the adoption of recommended measures. Currently, there is no direct link from the HECT energy savings tips to other SDG&E program offerings. HEES energy efficiency recommendations are paired with only the generic sgd&e.com website and the SDG&E customer service phone. To prompt action, a better design for both audit tools would match energy efficiency tips with up-to-date information about appropriate rebate opportunities and launch participants directly to specific energy efficiency program websites.

In addition, the RCEI program does not track customer satisfaction, what measures the participant has implemented as a result of the survey, or what other energy efficiency programs the participant has joined as a result of the audits (metrics addressed by this process evaluation). A follow-up call system is not in place to verify what measures have been installed. Without a comprehensive tracking database, it is difficult to assess if the program is effective and what can be done to improve the audit design. A good tracking database also integrates survey results with other energy efficiency program information systems.

- *Is the market well understood?* This residential mass-market program tries to promote a comprehensive range of energy efficient equipment and behaviors to a diverse customer base. It does not focus on specific target markets.

Program Management

Project Management

- *Are responsibilities defined and understood?* The HECT is delivered through a single prime contractor, KEMA. The HEES on-line tool is run by Enercom and the mail-in version is managed by KEMA. No ambiguity about implementer roles and responsibilities was reported.
- *Is there adequate staffing?* No staffing deficiencies were mentioned to the evaluation team.

Reporting and Tracking

- *Are data easy to track and report?* Although good records are kept on HEES and HECT participation, the program does not systematically track which measures participants subsequently implement as a result of the survey, or which energy efficiency programs participants subsequently join.
- *Are routine functions automated?* Some steps are automated but not others. The HECT automatically accesses a customer's billing history and immediately integrates this data with survey results to generate an online report that compares the participant's household with similar households in the area.

Alternatively, for the on-line HEES, customers must manually type in their bill histories for the past year—both kWh and bill dollar amounts. Many respondents said that typing in their bill histories was the most difficult part of completing the HEES. If no information, or an insufficient amount of data is typed in, the HEES tool estimates gas and electric usage. Then, the tool instantly creates a report that identifies approximately how much money will be saved with each recommendation, advertises SDG&E appliance rebate opportunities, and provides web links to the Energy Library for further information on energy efficiency. Notably, the estimated energy use values reduce the accuracy and usefulness of the HEES results, and therefore the program should investigate methods to automatically access a customer's bill history in the 2009-2011 cycle.

All information for the mailed-in HEES survey is entered by-hand and a final report is mailed to the customer. Satisfaction levels with the mail-in survey process was not addressed by this report.

Quality Control and Verification

- *Does the program manager have a strong relationship with vendors involved in the project?* Not applicable.
- *Does the program verify reporting systems (e.g., rebates, invoices)?* Not applicable.
- *Are customers satisfied with the product?* The RCEI program does not systematically track customer satisfaction. The survey conducted for this evaluation, however, showed that most respondents have favorable perceptions of various aspects of the HEES and HECT (usage

charts, clarity of recommendations, usefulness of recommendations, information on other energy programs, time to complete survey).

Program Implementation

Participation Process

- *Is participation simple?* Yes. The HECT is currently only offered in English, on-line. The on-line HEES is offered in Spanish and English on-line, in both a full-length and an abbreviated easy-audit length. The full-length mail-in HEES is also available in multiple languages. In the feedback survey conducted for this evaluation, most respondents indicated that HEES and the HECT are “very” or “somewhat” easy to use.
- *Are participation strategies multi-pronged and inclusive?* The HEES survey is available in multiple languages and multiple modes (electronic, paper). However, the HECT is only offered on-line through the My Account screen. This limits participation.
- *Does the program provide quick, timely feedback to applicants?* Yes. The on-line HEES and the HECT provide instantaneous feedback. The mail-in HEES survey has a longer turn-around for the results to be processed and mailed-back.
- *Is participation part of routine transactions?* Not applicable.
- *Does the program facilitate participation through the use of internet/electronic means?* Yes, an on-line version of the HEES is available, and is the most popular option. The HECT is on-line.
- *Does the program offer a single point of contact for their customers?* For HECT, all inquiries and issues are addressed by KEMA. However, the on-line HEES is managed by Enercom and the mail-in HEES is managed by KEMA.
- *Are incentive levels well understood and appropriate?* Not applicable.

Marketing and Outreach

- *Use target-marketing strategies?* This mass-market program does not do extensive target marketing. Primary marketing strategies include advertising at community events, e-mail blasts, mailers, advertisements on the utility website, and incentive gifts.
- *Are products stocked and advertised?* Not applicable.
- *Are trade allies and utility staff trained to enhance marketing?* Not applicable.

10. THIRD PARTY TIME OF SALE ENERGYCHECKUP PROGRAM

10.1 TIME OF SALE PROGRAM BACKGROUND

The Time of Sale EnergyCheck Up (Time of Sale) program is designed to work with California's real estate trade associations and the California Department of Real Estate (DRE) to target REALTORS® (licensed sales agents and brokers, hereafter referred to as "realtors") and qualified home inspectors active in the SDG&E territory. Qualified agents/brokers and home inspectors receive energy efficiency training and incentives, enabling agents to recommend and inspectors to provide time of sale EnergyCheckup (or audit) ratings. The program targets the core participants in the existing home "time of sale" event: home buyers and sellers (of single-family units, multi-family condominiums and mobile homes), and the home inspectors and real estate professionals who serve them.

Specifically, the program is designed to:

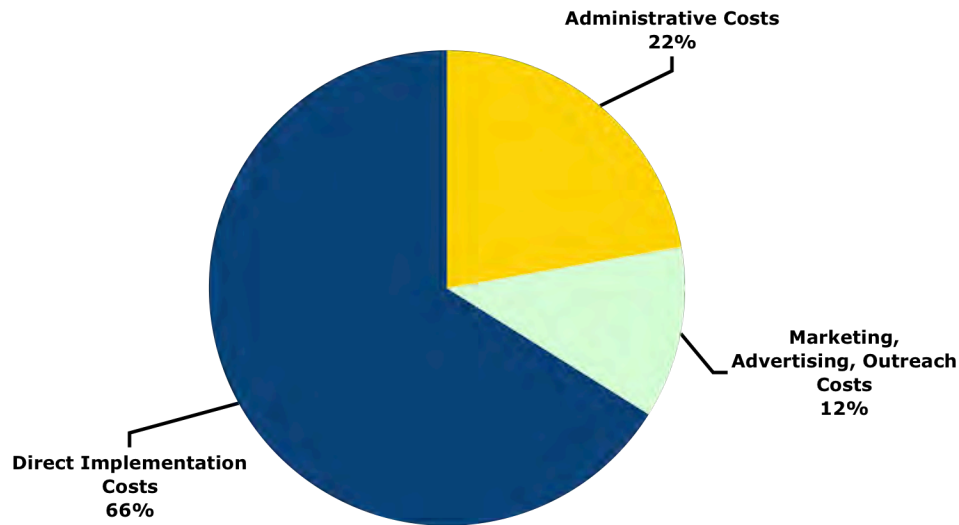
- Educate all three targeted groups about the financial, comfort, safety and environmental benefits of an energy efficient home, and motivate consumers to retro-commission and/or replace inefficient end-use equipment
- Train inspectors to provide, and give real estate professionals incentives to recommend that their clients get an energy audit and implement its recommendations
- Provide consumers with direct-installed "free" measures and critical time of sale and follow-up tie-ins to the integrated demand-side management programs of the IOUs, third-party program providers and other organizations (e.g., Flex Your Power, EPA ENERGY STAR®, California Building Performance Contractor Program and local government residential initiatives, etc.).

Monthly reports for the Time of Sale program consistently have noted that the program is falling short of expectations. This can be confirmed by comparing Time of Sale results to the Program Implementation Plan (PIP), which noted that the goal of the program was to train 50 inspectors, recruit 500 realtors, and conduct 7,000 audits between 2006 and 2008. By June of 2007, it was expected that monthly audits in SDG&E territory would exceed 300.

In actuality, through August 2007, 48 inspectors had been trained (although far fewer were actively conducting audits), approximately 500 audits had been conducted and no realtors had been recruited. Moreover, the monthly rate of inspections had leveled off at about 100 as the six to eight inspectors who were actively conducting EnergyCheckUps reached the limit of their capacity. In addition, no compact fluorescent bulbs (CFLs) had been installed because of delays in developing the promotional kit to be used for direct installation in inspected homes and in the homes of participating realtors. These shortfalls in results were among the key issues to be researched through the evaluation activities.

Figure 38 shows program expenditures to date by spending category.

Figure 38: Time of Sale Expenditures by Category (Q1 2006 – Q3 2007)



10.2 TIME OF SALE PROGRAM LOGIC MODEL AND PROGRAM THEORY

The following program theory for the Time of Sale program builds on the program logic model and provides additional detail about program activities, outputs and outcomes. (The logic model diagram follows the program theory discussion.)

Activities

Marketing and outreach to realtors and home inspectors

Program targets are home buyers and sellers, realtors and home inspectors in the SDG&E service territory. Realtors and qualified home inspectors are contacted and recruited into the program through California’s largest residential real estate trade associations and the California Department of Real Estate.

Education and training

The Time of Sale program educates home inspectors and real estate professionals about the financial, comfort, safety and environmental benefits of owning an energy efficient home. Realtors are trained to encourage sellers to get an energy audit before they put their home on the market and buyers to get an energy audit as part of the regular home inspection, and to learn about energy efficient brands and ways to close deals more quickly. Home inspectors are educated about efficiency measures and equipment and are trained to provide comprehensive EnergyCheck-ups for the home buyers/sellers during the regular inspection process. To encourage participation, the training for realtors and inspectors is subsidized, and both receive continuing education credits. SDG&E plans to train 500 realtors and 50 home inspectors through the program.

Incentives

A direct incentive strategy is used to encourage realtors and home inspectors to participate and conduct energy audits. Eligible home inspectors receive a \$35 incentive for each EnergyCheckUp they conduct and realtors receive free efficiency measures (an Energy Efficiency Gift Kit) to install in their own homes. Both groups also receive free sales and marketing aids.

Measure installations

Inspectors install the free efficiency measures (the Energy Efficiency Gift Kit) at the time of the EnergyCheckUp.

Short Term Outcomes

Increased awareness of energy efficient homes and energy ratings

For inspectors and realtors, participation in the training program will increase their awareness of energy efficient homes, the opportunities for energy cost savings and improved marketability of energy efficient homes. The training also will teach inspectors to conduct an energy audit, which they can offer as a new value-added service.

Realtors recommend energy audits to home buyers, receive incentives

Once realtors learn about energy efficient homes and understand the incentive program, they will see that it benefits all participants and will recommend energy audits for their clients at the time of sale.

Home inspectors conduct energy audits, present results to home buyers

The home inspectors will conduct an energy audit while doing their regular time of sale inspection to identify cost-effective opportunities to improve energy efficiency. Alternatively, the EnergyCheckUp can be done for the home seller to help improve the home's marketability. The program's goal is to conduct 7,500 energy audits in the SDG&E territory. The results of the audits are presented to the homeowners, including specific measures to improve home efficiency.

Homeowners adopt suggested efficiency measures

After the energy audit is completed and homeowners are shown the potential benefits of improved energy efficiency, they will install the recommended measures in their newly purchased or soon-to-be-sold homes, in addition to the free measures they are given through the program.

kWh, kW, therm savings

Installation of the free and recommended energy efficient measures will cause customers to realize kWh, kW and therm savings.

Mid Term Outcomes

Realtors and inspectors recognize benefits, pursue additional energy efficiency opportunities

Realtors and inspectors will see that the program benefits everyone involved. This will motivate them to recommend and conduct energy efficiency audits for new clients, follow up with their prior clients to encourage them to adopt the recommended energy efficiency measures, and seek additional energy education opportunities.

Network of trained realtors and inspectors established

Over time, local networks of realtors and inspectors trained in energy efficiency will be established, and the program will have an ongoing relationship with experienced EnergyWise realtors, much like they already have with ENERGY STAR® homebuilders who affect time-of-construction decisions. Some realtors will become recognized as energy “experts” who consistently recommend superior vendors, materials and installers.

Evidence exists that time of sale energy audits do not hinder home sales

Voluntary published testimonials from prominent real estate and home inspection representatives will document that time of sale Home Energy Rating System (HERS) information does not impede real estate transactions and that energy-audited homes actually are easier to sell.

Energy cost savings to new homeowners

The installation of energy efficient measures will result in reduced energy costs to the new homeowners.

Long Term Outcomes

Reduced energy efficiency transaction costs

Home buyers and sellers will have reduced search/hassle costs associated with finding an impartial energy assessment, qualified contractors and payback information for cost-effective home energy improvements.

Standard home inspection method changed

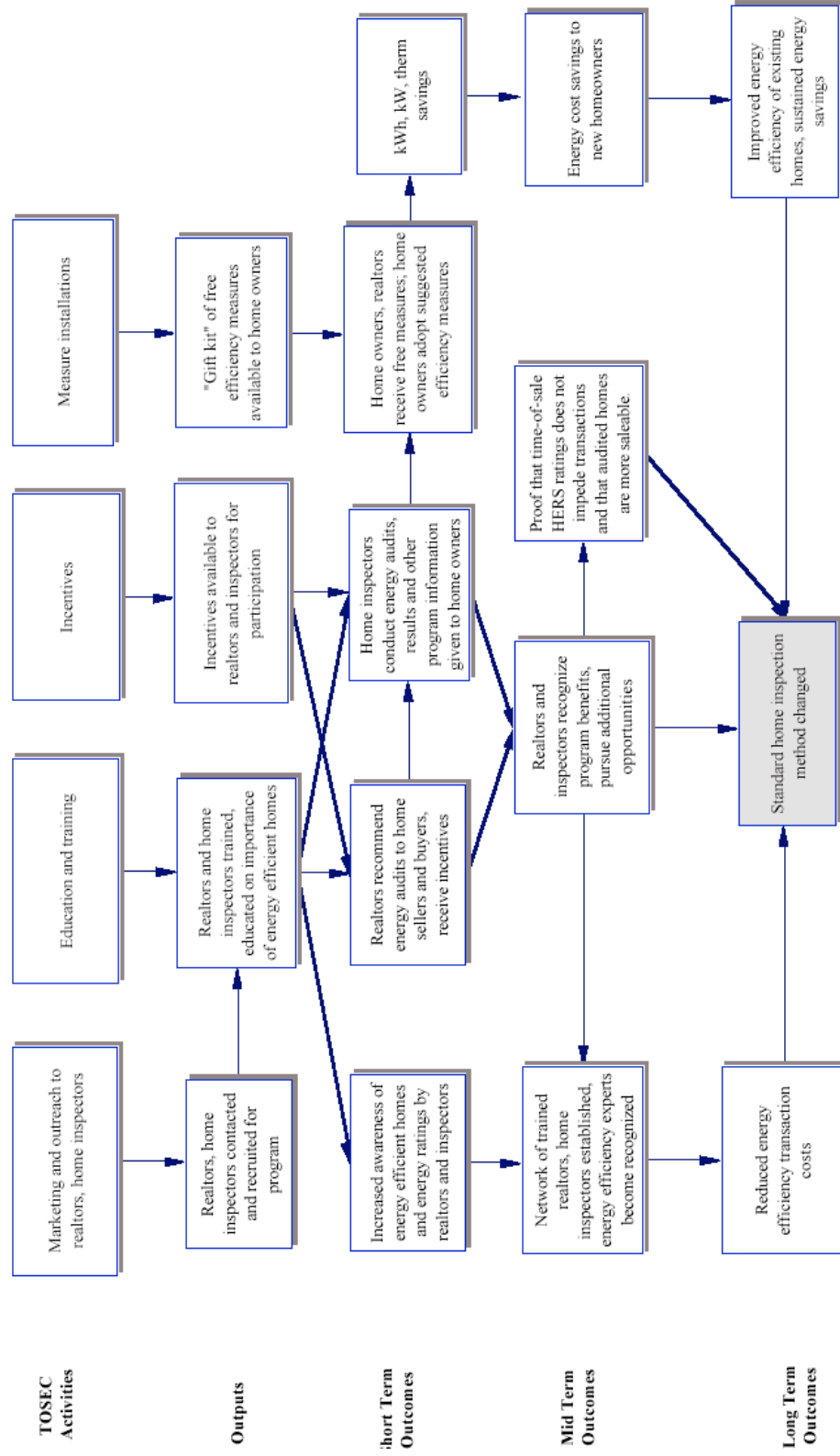
As more realtors and home inspectors participate in the program and offer energy audits – either as part of their standard inspection or as a value-added extra service – customer expectations for standard home inspections will change.

Improved energy efficiency of existing homes

Homeowners have been educated by this program to make energy efficient changes in their homes either before they sell or when they buy. Since many homeowners replace and upgrade equipment in the first year following a sale, the energy efficiency of existing homes will be improved by participation in this program. Continued participation of customers in the program will result in sustained, long term energy savings and help change standard inspection procedures.

Figure 39: Time of Sale Energy Checkup Program Logic Model

Logic Model for the 2006-08 Time of Sale Energy Checkup (TOSEC)
Draft 2 6-28-07



Shaded boxes indicate induced outcomes that are outside of the direct program influence

10.3 TIME OF SALE PROGRAM EVALUATION ACTIVITIES

In addition to a review of program materials and interviews with both the current and past SDG&E program managers and with the GeoPraxis program manager, surveys were conducted with participating inspectors, nonparticipating inspectors and a limited number of homeowners/buyers. Data collection activities are summarized in Table 181.

Table 181: Time of Sale Data Collection

Data Collection Activity	Sample Size
In-depth interviews	4
Participant inspector survey	8
Nonparticipant inspector survey	24
Home buyer survey	10

In setting evaluation goals, the evaluation team knew that the Time of Sale program has been active in other utility service territories for several years, but was not launched in the SDG&E territory until 2006, and was somewhat slow to gain momentum. Therefore, research questions for the evaluation centered on how the program could build market awareness and acceptance of the EnergyCheckUp to encourage home inspectors and realtors to offer the EnergyCheckUp, and buyers and sellers to undertake energy efficiency actions at the time a home changes hands, either as part of or in addition to other SDG&E residential programs. To that end, several researchable issues were identified.

Key Research Issues

Based on the program theory and the in-depth interviews, the following research issues were identified. These directed all data collection tasks, including participant survey development, review of program documents and marketing materials and subsequent interviews.

Assess Effectiveness of Infrastructure Development for EnergyCheckUps

As a first step, the Time of Sale program has had to train home inspectors to perform energy audits and encourage them to offer the EnergyCheckUps, and encourage realtors to promote energy audits as part of the existing-homes sales process.

Assess Customer Interest in and Response to the Offer of an EnergyCheckUp by Inspectors or Realtors

The Long Term effectiveness of the EnergyCheckUp will depend in part on whether customers value the information offered by this energy audit. While a few home inspectors are generating most of the EnergyCheckUps, it is not clear whether all of their customers choose to have an audit.

Determine the Extent to Which Customers Are Informed About SDG&E

Programs by the EnergyCheckUp

The EnergyCheckUp offers an excellent opportunity to cross-sell other SDG&E residential energy efficiency programs, but it is not clear whether specific programs are being linked to individual recommended measures.

Determine the Extent to Which Customers Install Efficiency Measures Suggested by the EnergyCheckUp

The EnergyCheckUp gives customers detailed information about the costs and expected savings associated with recommended energy efficiency measures. Is this information encouraging the home buyer to make recommended improvements?

10.4 TIME OF SALE PROGRAM EVALUATION RESULTS

Discussions with both SDG&E and Time of Sale program managers provided some insights into the reasons for the Time of Sale's slower than expected rollout. First, efforts to expedite 2006 program start-up in mid-2006 to make up for contract delays were overly optimistic, and the simultaneous launch of Time of Sale in SDG&E's territory and in the northern part of the state left program design personnel over-allocated for this critical phase. The amount of effort required to implement technology and security enhancements, and set up administrative forms and procedures (measure definitions, secure transfer of customer data, program tracking systems, etc.) also was somewhat underestimated. In addition, the significant slowdown (>30 percent) in real estate transfers in the San Diego area had a negative effect on the volume of home inspections that could be used as a basis for EnergyCheckUp marketing.

Home Inspector Survey

For this survey the evaluation team interviewed 34 home inspectors, including eight of the nine inspectors who had participated in the program at the time of the survey and 24 of the 42 inspectors who received Time of Sale training but decided not to participate in the program.

Participant Inspector Survey Results

Some results are presented in percentage terms for ease and consistency of analysis, but it must be recognized that these results are from a very small population (eight) of inspectors who had conducted EnergyCheckUps at the time of the interviews.

The eight interviewed inspectors had performed a total of 458 EnergyCheckUps and averaged approximately 300 conventional home inspections per year. Seven inspectors received their EnergyCheckUp training in late 2006 or early 2007; one participant originally was trained in 2000 and had refresher training in spring 2007. Only one participant said he received supplemental EnergyCheckUp training. One inspector who performed only two inspections did not participate in the survey, but provided some overall comments on the program, which are captured in the appropriate sections below. Only two participants had done any EnergyCheckUp inspections before they provided any in SDG&E's service territory; one had performed two, and the other 10.

Of the 458 total inspections, only 19 (4 percent) were not done as part of a traditional home

inspection; 95 percent were performed for prospective home buyers; 2 percent were performed for sellers; and 3 percent were performed for homeowners who were not selling.

The Inspection and Report

Participants stated that the average time required for a conventional inspection of a typical 2,000-square-foot house was 214 minutes, at an average cost of \$375 per inspection. The average EnergyCheckUp inspection took 28.7 minutes. The inspectors reported that they spent an average of 15 extra minutes to enter and submit the data for the EnergyCheckUp report. Only one inspector had been given the CFLs that were to be provided with every EnergyCheckUp; he reported that it took him 10 minutes to install them. An EnergyCheckUp inspection that was not done as part of a regular home inspection took only slightly longer: five inspectors who had done such inspections reported they took an average of 31 minutes at each site.

Participants reported that it took an average of four days from the time of the EnergyCheckUp until the customer received the report, compared to an average of one day with a standard home inspection. None of the inspectors reported that they reviewed the report with the home buyer to explain the EnergyCheckUp recommendations. Most (85 percent) said they did not go over the report with homeowners because the report is available on the Internet. One inspector (15 percent of this small sample) said he explained the recommendations to the owner on site; he reported that this took about 15 minutes.

Table 182 summarizes participants' perceptions of program elements.

Table 182: Inspector Perceptions of Program Elements

Program Element (N=8)	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)
The EnergyCheckUp recommendations are easy to explain to home buyers.	14%		57%	29%
Information contained in the EnergyCheckUp report is informative to home buyers.			72%	29%
The estimated energy savings from the recommended measures are reasonable.		29%	57%	14%
Estimated costs of recommended measures are reasonable.			86%	14%

Only one or two inspectors agreed strongly with each of the positive statements regarding the program, and several appeared to be somewhat dissatisfied with elements of the EnergyCheckUp report: Two said they did not think the estimated energy savings from the recommended measures were reasonable, and one felt strongly that the recommendations were not easy to explain to home buyers. Participants reported that the easiest measures to explain were new windows, insulation, CFLs, appliances and water heaters. They felt that the measures customers are most likely to follow up on are CFLs and other low-cost items; the measure they are least

likely to follow up on is new windows.

Seven of the eight (88 percent) of participating inspectors were aware that SDG&E might have other programs to offset the cost of some of the recommended energy efficiency measures.

Inspector awareness of specific programs is as follows:

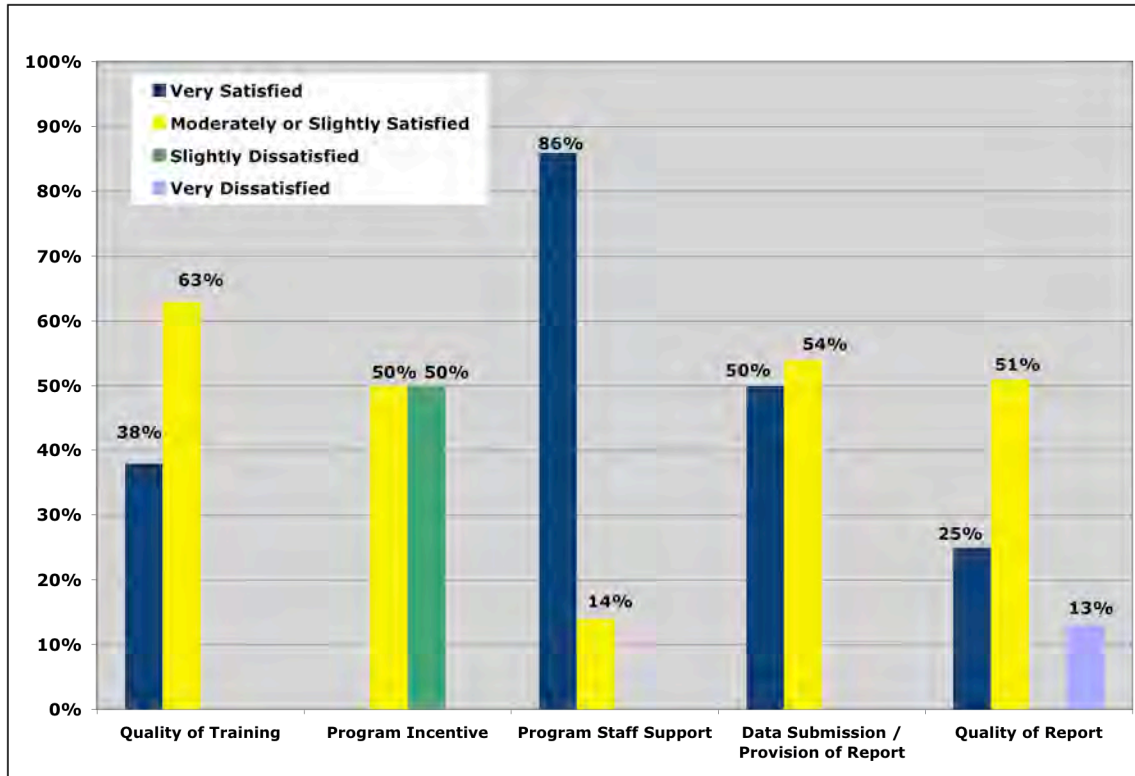
- Home Rebate 43% (3 of 7)
- Flex Your Power 43% (3 of 7)
- 20/20 29% (2 of 7)
- Lighting Exchange 72% (5 of 7)
- Appliance Recycling 72% (5 of 7)

Five participating inspectors said they informed customers that SDG&E might have programs to offset the cost of the recommended energy efficiency measures. Those who did not inform customers said they did not do so because they lacked information about the programs; one participant recommended that the Time of Sale program provide this information to inspectors in summary form on a regular basis. In general, participants stated that the program and SDG&E could do the following to encourage more customers to install the recommended measures: 1) more and better advertising, 2) more promotions and 3) better incentives for participation.

Program Satisfaction

Overall, participants were satisfied with the Time of Sale program. Five inspectors gave it a three rating on a one-to-four scale (with four being “very satisfied”); the remaining three gave it a four rating. Inspectors’ satisfaction with individual facets of the program is presented in Figure 40.

Figure 40: Participating Inspector Satisfaction with Program Elements



Four inspectors (50 percent) reported being slightly dissatisfied with the incentive level, and none were very satisfied with it. In addition, one inspector was very dissatisfied with the quality of the report, while another was neutral. The only program element with which a majority of inspectors were very satisfied was program staff support.

Specific participant inspector suggestions for improving the program included:

1. With regard to the report: a) “The report is a little redundant; the one-page summary is all buyers really want”; b) The data input area for inputting furnace model numbers needs to be fixed to accommodate more models; and c) The data input area should have a field for quality of insulation; it now takes only the quantity of insulation.
2. Keep listening to inspector feedback and provide more publicity for the program.
3. Provide CFLs for inspectors to install.
4. Increase advertising of incentive programs.
5. Fix glitches in the inspection software and improve the software/hardware interface.
6. Make the inspections more detailed and provide more compensation for the extra effort.
7. Base incentive/compensation on the size and complexity of a home.
8. Reimburse participants via direct deposit.
9. Change the incentives for the inspectors. Eight-five percent of the inspectors thought that an appropriate incentive level per inspection would be \$50; 15 percent considered \$60 appropriate.

Inspector Marketing of EnergyCheckUp

Half of the surveyed inspectors offer EnergyCheckUp inspections to all of their home inspection customers in the SDG&E service territory, and 90 percent plan to continue offering EnergyCheckUp inspections. Currently, 99 percent of customers accept the EnergyCheckUp when it is offered. The only reason a customer cited for not having the EnergyCheckUp was that it took too much time.

None of the participants currently charge their customers extra for the EnergyCheckUp and there was very little expectation that customers who currently accept the EnergyCheckUp would be willing to pay extra for it in addition to the cost of the regular home inspection.

Market Barriers for the Time of Sale Home Inspection Program

Seven of the eight participants (88 percent) reported that when they offered the EnergyCheckUp to a customer, they also informed the realtor. The single participant who did not do this said his company's policy might prohibit it. Participants stated that on average only 28 percent of realtors were aware of the program and that few, if any, buyers' or sellers agents' recommended the program to their clients. Participants believed it would help if more realtors promoted EnergyCheckUp inspections and if the program had better advertising to home buyers and realtors.

Nonparticipant Inspector Survey Results

Inspector Profile

Of the 42 home inspectors who received EnergyCheckUp training but who had not done any inspections, 24 were interviewed. These 24 nonparticipants inspected an average of 220 homes per year and stated that the average time for the inspection of a typical 2,000-square-foot house was 228 minutes, with an average cost of \$380 per inspection – figures that closely match those reported by participants. These nonparticipants estimated that the extra time required to perform an EnergyCheckUp inspection as part of a normal home inspection would be 40.5 minutes, which is higher than the 31-minute average inspection time reported by participating inspectors.

Ninety percent of nonparticipating inspectors said they had not offered to do an EnergyCheckUp for any of their customers since they attended the EnergyCheckUp training; however, 74 percent said they plan to offer EnergyCheckUp inspections in the future. Of that group, 52.3 percent plan to charge their customers an average of 16 percent more per inspection (about \$60) for performing the EnergyCheckUp.

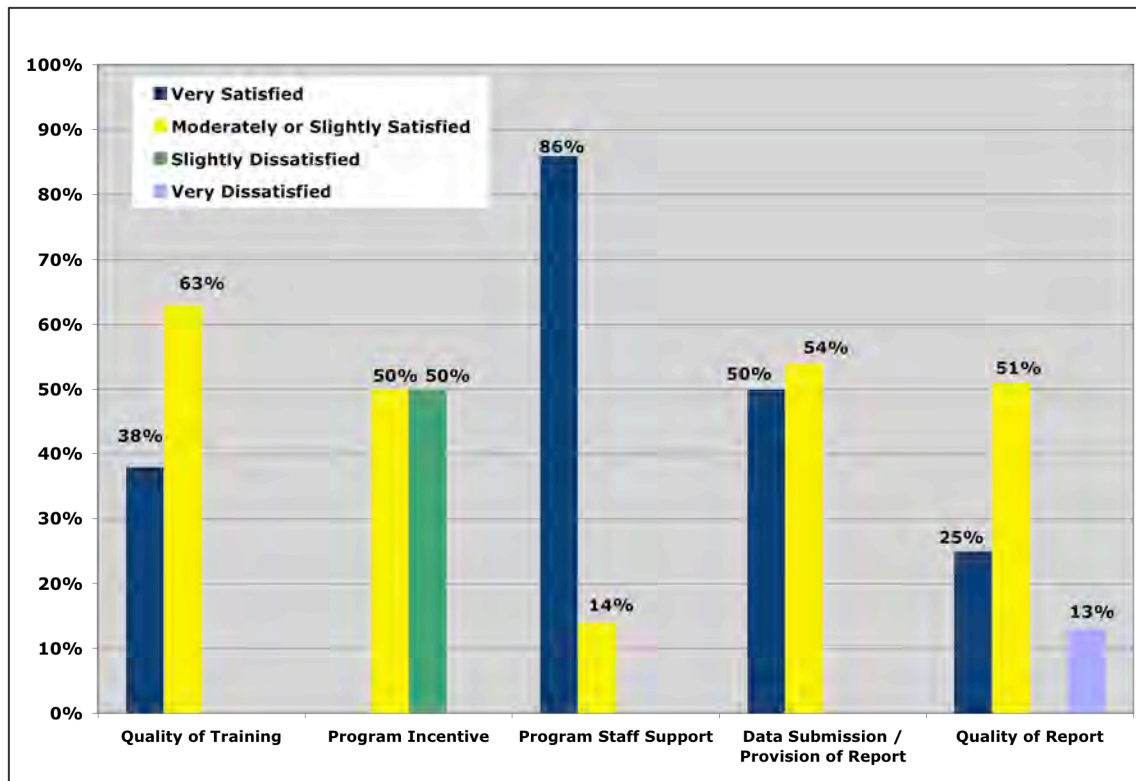
Reasons for Nonparticipation

When asked why they had not conducted any EnergyCheckUp inspections, 60 percent of these inspectors said an insufficient incentive was their major reason for not participating in the program. Other reasons cited include lack of customer/realtor interest, inadequate training and that EnergyCheckUps take too long. When asked what they considered an appropriate range of incentives, 59 percent said \$50-75, 29 percent said \$76-100 and 12 percent said more than \$100.

Program Satisfaction

Nonparticipating inspectors' satisfaction with the aspects of the program they were able to comment on are presented in Figure 41. Note that more than 60 percent of nonparticipants were dissatisfied with the program incentive, which confirms the above response that this is the primary reason these inspectors were not participating.

Figure 41: Nonparticipating Inspector Satisfaction with Program Elements



While most respondents were satisfied with the quality of the training they received, several expressed reservations and offered suggestions for improvement, including: “The training could have been better organized with a more formal agenda and a review/wrap-up at the conclusion.” and “I would have preferred a two-day versus a half-day course.”

Other specific suggestions to improve the program made by the nonparticipants included:

1. More compensation
2. Base incentive on size of home
3. More aggressive marketing to realtors
4. More hands-on support for those just getting started, such as a video or checklist
5. More communication with inspectors; provide updated program information
6. Simplify the inspection; measuring the exterior of the home can be difficult
7. Increase the training dealing with the program's paperwork requirements
8. Establish a forum at which inspectors could share "lessons learned" with builders and developers

9. Introduce a similar program for existing homeowners.

Market Barriers for the Time of Sale Home Inspection Program

Sixteen nonparticipants estimated that zero percent to 50 percent of realtors (average 11 percent) were aware of the program. All of the nonparticipants stated that it would help if more realtors promoted EnergyCheckUp inspections, while 95 percent said it would help if the program had better advertising to home buyers and realtors. Five percent were uncertain. Over half (56 percent) of respondents reported that they called their customers' attention to potential energy efficiency improvements in their regular home inspection reports. However, only 31 percent said they informed customers that SDG&E might have additional programs to offset the cost of the recommended energy efficiency measures. Inspectors cited lack of familiarity and education as the major reasons for not informing homeowners of SDG&E programs and requested that SDG&E provide regular, succinct program information and updates, either by email or hard copy, so they can share this information with prospective homeowners.

Home Buyer Survey

Surveys were completed with 10 homeowners/buyers who had EnergyCheckUps conducted on their home or the home they were purchasing. The limited number of completed customer surveys was disappointing, given extensive efforts to reach additional participants. The list of homeowners or buyers who authorized the EnergyCheckUp inspection consisted of 106 names, none of which included phone numbers. Directory assistance and cross-directory lookups were used to assign telephone numbers to as many of the names or addresses as possible. Unfortunately, while 80 unique phone numbers were found, 15 of those were wrong or had been disconnected. Eventually, contact was made with 60 individuals. About one-third said they never had participated in the program, while others did not recall receiving the report or were not interested in completing the survey. Therefore, just five surveys were completed. In a first effort to improve response and reach the correct participant, emails were sent to 208 email addresses to which SDG&E had sent the EnergyCheckUp reports for all participants through June 2007, with the offer of a \$20 incentive for customers who called in and completed the survey. This yielded only two additional responses from the first group of participants.

Finally, because participation in the program had increased substantially during the summer, a second email was sent to customers who participated in July and August 2007, in the hopes that these recent participants would recall the program better and be more receptive to completing a survey. A total of 224 additional emails were sent, offering the same \$20 incentive and targeting customers who had received the EnergyCheckUp within the last two months. A link to the EnergyCheckUp website and a toll-free number for the program were included. Approximately 10 percent of the emails were returned as undeliverable, indicating that more than 200 were sent successfully. Nevertheless, only three additional owners/buyers called in to complete the survey.

In part because of the response bias inherent in this self-selected sample of participants, but even more because of the very small number of responses, limited quantitative significance can be attached to the results of these participant surveys. While they do provide some insight into customer motivations, perceptions and follow-up actions, these results should be treated as anecdotal rather than definitive measures of program effectiveness.

Sources of Awareness

Of the 10 customers who were surveyed, seven were home buyers, two were sellers and one was not engaged in a transaction. Seven respondents found out about the Time of Sale program through their home inspector, and nine decided to participate only after talking to their inspector. Two said that their realtor mentioned the program, but that this was not how they learned about it.

Reasons for Participation

As shown in Table 183, four of the 10 participants surveyed said they chose to have an EnergyCheckUp to save energy or reduce their utility bill, and three of the 10 cited this as their most important reason. Environmental concerns and friend or family recommendations also were mentioned as reasons for participating.

Table 183: Reasons for Participation

Reasons (N=10)	Mentioned as Reason for Participating	Most Important Reason
Wanted to save energy/reduce bill	4	3
Friend or family member recommended it	2	2
Concern about the environment	3	2
Recommended by home inspector	1	1
It was available	1	1
Older home	1	1
Recommended by contractor	1	
I did not think I had a choice	1	

Measures Recalled and Installed

Although the Gift Kits of low-cost energy efficiency measures appear not to have been widely available in the first year of the Time of Sale program, two respondents said they received Gift Kits, although neither could recall the inspector installing the measures. In all, six respondents were able to recall a total of 14 measures that had been recommended by the EnergyCheckUp.

Only two respondents recalled being told about other SDG&E programs to help them install these measures or save energy; two said they were not sure, and six said they had not been told about these programs. Six of the 10 participants said they were aware of the Flex Your Power and Appliance Recycling programs, but only two reported being aware of the Home Rebate, Lighting Exchange and 20/20 programs.

Four homeowners said they did not install any recommended measures. Among the six who did install measures, three recalled installing lighting and receiving rebates from SDG&E; one

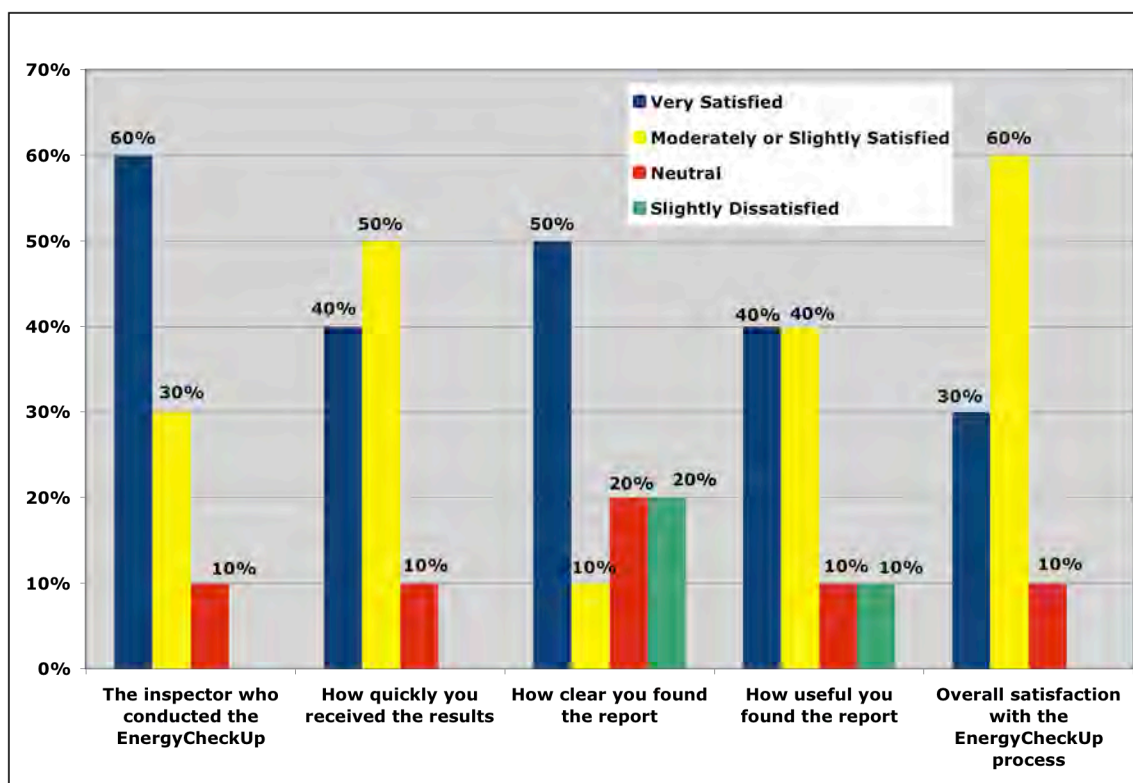
installed a whole-house fan; and two installed appliances and received rebates, including one who received rebates for a washer, dryer and refrigerator. One participant said he planned to install additional CFL bulbs in the future, while another planned to replace a heater.

Participants who did not install any recommended measures typically said they had no reason or did not know why they did not install them, although one reported that, “most of my appliances are already energy efficient.”

Program Satisfaction

Homeowner/buyer satisfaction with aspects of the EnergyCheckUp is presented in Figure 42. Note that most customers were very satisfied with their home inspector; the primary source of dissatisfaction centered on the EnergyCheckUp report. One respondent said that the report he received was missing some of the information included in the sample report, while another said the report contained redundant or extraneous information. Respondents also expressed concerns about the need to seek information from the website in addition to the information in the report.

Figure 42: Participant Satisfaction with Program Elements



10.5 TIME OF SALE PROGRAM ISSUES AND OBSERVATIONS

The Time of Sale program appropriately targets a market event that offers significant opportunities for energy efficiency that otherwise would be missed. By informing home buyers about the efficiency characteristics of the home they are buying and providing recommendations for cost-effective action, the program should be able to encourage the installation of both low-cost measures and – through participation in other SDG&E programs – higher-cost measures that

are eligible for incentives.

The greatest strength of the program is that it provides detailed audit information at a time when buyers should be in a position to act on it. Most participating inspectors and homeowners/buyers found the reports useful and thought they were provided to the buyer in a timely manner. Moreover, customers who had EnergyCheckUps were very satisfied with their inspectors, while participating inspectors were very satisfied with the support provided by program staff. Both participating customers and inspectors reported a relatively high level of satisfaction with the Time of Sale program overall.

Program weaknesses hinge more on actual program delivery than on program design. Several features of the program described in the PIP either were not incorporated into the EnergyCheckUp inspections or were very slow to ramp up. Specifically:

- Both the distribution of Gift Kits of low-cost measures and the active involvement of realtors in marketing the program had not been fully implemented by late summer of 2007, more than a year after the program was rolled out. Inclusion of realtors in the process should enhance the visibility of EnergyCheckUps, while the Gift Kits should show home buyers the immediate benefits of energy efficiency actions. Gift Kits were supposed to be available for inspectors and realtors by fall 2007, but the Q3 program narrative indicates that no CFL bulbs were installed in SDG&E territory.
- The PIP indicated that the program would provide “critical time of sale and follow-up tie-ins to the integrated demand-side management programs of the Investor Owned Utilities (IOUs), third-party program providers and other organizations....” This does not appear to be happening consistently. Fewer than half of the participating inspectors were aware of several key SDG&E incentive programs, and only two of the 10 homeowners who had EnergyCheckUps recalled being told about SDG&E programs.
- The PIP suggests that the EnergyCheckUp report “most often...is printed and provided to them directly by their inspector or real estate agent.” Surveys of inspectors and homeowners did not find this to be the case; the reports are delivered via the Internet, and none of the participating inspectors said they reviewed the completed report with the customer. Moreover, one-third of contacted participants who were listed in the program database did not recall receiving a report.
- About six inspectors accounted for most of the EnergyCheckUps. Both participating and nonparticipating inspectors said the \$35 incentive was too low to encourage their participation. The low incentive presumably also discourages inspectors from more detailed follow-up calls to review the reports with customers.

Based on the evaluation findings, the following are recommendations to help improve the Time of Sale program.

Short Term (2008) Recommendations:

- **Immediately and aggressively market the Gift Kit CFLs and other measures.**

- **Ensure more active involvement by realtors, through the use of the Gift Kits and other strategies.** For example, many realtors send newsletters or other mailings to a base of potential clients, and the Time of Sale program could provide publication-ready copy about EnergyCheckUps for these marketing pieces. Links to Time of Sale’s website also could be provided from participating realtors’ websites.
- **More directly promote SDG&E programs through the EnergyCheckUp report, including a link to the SDG&E website or specific pages.**
- **When sending the email link to the customer, ask that the customer acknowledge receiving and reading the report, and provide a feedback form allowing the customer to indicate both the usefulness of the report and their plans for implementing specific measures.** Customers who do not provide the requested acknowledgement/feedback should be contacted by program staff or their inspector.
- **Increase the incentive to the inspector to \$50, with the possibility of a \$10 increase for homes 3,000 square feet and larger.** As part of the increase, require inspectors to make a follow-up phone call to answer customers’ questions about the EnergyCheckUp report.
- **As part of the training, provide new inspectors with detailed guidance about how long the inspection should take.** If possible, have program staff accompany inspectors on one of their first inspections to offer suggestions and make recommendations.

Longer-term (2009 and Beyond) Recommendations:

- **It is of the highest importance that the Time of Sale program fully integrates personal contact between the home buyer/owner, realtor and home inspector through some of the recommended actions described above.** In the longer term, the Time of Sale program will continue to have the potential to play a valuable role in taking advantage of the time of sale “golden hour” for making homes more energy efficient. However, it should be recognized that while the time of sale event provides an excellent opportunity to encourage energy efficiency, it also is a time when a customer’s attention must be devoted to a host of other activities related to the sale or purchase. Simply relying on emails and Internet downloads does not seem as likely to encourage the homeowner to buy in to the results of the EnergyCheckUp and pursue all cost-effective efficiency options.
- **The Time of Sale program can and should be more closely integrated with the rest of the SDG&E residential program offerings.** This would include linkages between the EnergyCheckUp report and the other SDG&E programs and Web pages described above. For example, customers who use the SDG&E website for a Home Energy Efficiency Survey could be referred to the Time of Sale program if they are in the market to buy a house or put their current home up for sale. Greater integration of Time of Sale and other third-party programs also would mean a commitment by SDG&E to market Time of Sale prominently and assign a higher priority to contractual and fulfillment issues, which contributed to delays in the distribution of Gift Kits for the 2006-2008 program years.

10.6 TIME OF SALE PROGRAM BEST PRACTICES REVIEW

Program Theory and Design

- *Is the program design effective?* The Time of Sale program appropriately targets a market event that offers significant opportunities for energy efficiency that otherwise would be missed. By informing homebuyers about the efficiency characteristics of the home they are buying and providing recommendations for cost-effective action, the program should be able to encourage the installation of both low-cost measures and – through participation in other SDG&E programs – higher-cost measures that are eligible for incentives.

On the plus side, almost all customers accept the EnergyCheckUp when it is offered, showing that the program is offering a valued service. Furthermore, based on a very small sample, it appears that about half of the homebuyers are installing at least some of the recommended measures. However, the program is not achieving its potential (even in a slow housing market) due to two main deficiencies. First, not all inspectors are aware of SDG&E's programs, and some lack the latest information, so they don't refer homebuyers to them. Homebuyers and sellers are left to find out about SDG&E programs on their own. Secondly, participating and non-participating inspectors indicate that their financial incentives are too low to stimulate broad participation and sustain the program. In addition, the one-time incentives for realtors to participate (free training and a package of low-cost measures) may also prove to be too low to stimulate participation and audit referrals. This can be assessed as program marketing to realtors continues to increase.

- *Is the market well understood?* As noted above, homebuyers seem to appreciate the energy information and generally sign up when offered an audit. However, the incentives for inspectors are too low to sustain the program. In addition, some selling realtors worry about generating more negative information about the property that will hamper the sale in a tough market.

Program Management

Project Management

- *Are responsibilities defined and understood?* Yes. Geopraxis delivers the program very efficiently, but there needs to be a stronger tie-in to utility programs.
- *Is there adequate staffing?* Since the program's (delayed) rollout there have been no program staffing deficiencies.

Reporting and Tracking

- *Are data easy to track and report?* Data on customers' audit recommendations and expected savings are not systematically integrated or shared with other SDG&E programs. Geopraxis has the results of every EnergyCheckup available but there is no systematic analysis of the types of recommendations and associated costs and savings. SDG&E gets the audit results for program monitoring purposes, but the data are not integrated with their own tracking system in any way, and no one does follow-up with the audit customers to encourage them to

act upon the recommendations. Some of the participant data that SDG&E gets (phone numbers, emails) is often incorrect.

- *Are routine functions automated?* Yes. Inspectors send the data electronically to GeoPraxis which generates the EnergyCheckup report, and which then sends an email to the home owner with a link to their report.

Quality Control and Verification

- *Does the program manager have a strong relationship with vendors involved in the project?* Yes. There were problems early on because Geopraxis is based in the northern part of the state (and also runs its program there) so southern California was slower to get attention. However, communications between SDG&E and Geopraxis now seem to be good.
- *Does the program verify reporting systems (e.g., rebates, invoices)?* This was not evaluated.
- *Are customers satisfied with the product?* Yes. The program gets favorable overall ratings from participating inspectors and homebuyers. Customers who had EnergyCheckUps were very satisfied with their inspectors, while participating inspectors were very satisfied with the support provided by program staff.

Program Implementation

Participation Process

- *Is participation simple?* No. On the customer side, the flow from the audit to customer understanding to subsequent measures adoption is cumbersome. Customers must use the Internet to look up the results of their audit and learn about available SDG&E programs, steps that are often not taken during the busy and stressful home buying/selling period. None of the participating inspectors said they reviewed the completed report with the customer. Instantaneous and direct information through inspector discussions and hard-copy materials would be more useful to many customers.
- *Are participation strategies multi-pronged and inclusive?* By design, this program serves a very discrete market – customers buying or selling homes.
- *Does the program provide quick, timely feedback to applicants?* Although inspectors say it takes an average of 4 days for the homeowner to get the report, this is probably understated. The audit data are transmitted electronically, but it isn't done immediately. In many cases the time between the audit date and the date the report was generated was well over a week. The delays are because the auditors are finalizing the data entered -- sometimes waiting a couple of days to process a batch at one time to minimize the cost per report. Although most participating inspectors and homeowners/buyers thought the reports were provided to the buyer in a timely manner, quicker submission of the audit data to GeoPraxis would be beneficial.
- *Is participation part of routine transactions?* Yes. Customer participation is linked to an existing routine transaction (home purchases/sales), which creates natural opportunities for customers to opt for audits.

- *Does the program facilitate participation through the use of internet/electronic means?* Yes, but as discussed previously, there is an over-reliance on the Internet for this particular program.
- *Does the program offer a single point of contact for their customers?* Yes. The program has a single implementer and SDG&E point of contact (Geopraxis), which greatly simplifies program delivery and reporting. However, GeoPraxis is fairly invisible to the homebuyer, since they deal with their inspector and buyers/sellers their reports from EnergyCheckup.com.
- *Are incentive levels well understood and appropriate?* See Program Theory and Design.

Marketing and Outreach

- *Use target-marketing strategies?* There really is no mass marketing to customers; instead the program is almost exclusively driven by home inspectors, with the hope that it will also become realtor-driven. Although Spanish language audits are offered, there is no strategic or direct targeting of hard-to-reach customers. Inspectors often said it would help if the program had better advertising to homebuyers and realtors to increase demand for their services.
- *Are products stocked and advertised?* No compact fluorescent bulbs (CFLs) had been installed because of delays in developing the promotional kit to be used for direct installation in inspected homes and in the homes of participating realtors.
- *Are trade allies and utility staff trained to enhance marketing?* GeoPraxis has marketed mostly through the inspectors. Realtors were meant to be a primary marketing channel, but that was slow to get going. GeoPraxis maintains the EnergyCheckup website and has done some brochures, but the plan was for realtors to use those resources.

11. ADVANCED HOME RENOVATION PROGRAM

Note: The Advance Home Renovation program did not have significant program activity in time to be addressed extensively in this evaluation (the open house for this project was tentatively scheduled for December 2007, when the draft of this report was being developed). Consequently, the only evaluation activities completed were the creation of the logic model and program theory and identifying potential researchable issues. These are included in this chapter for use in program planning and future evaluations.

11.1 ADVANCED HOME RENOVATION PROGRAM BACKGROUND

The Advanced Home Renovation program, marketed as the “Xtreme Energy Makeover,” aims to demonstrate energy efficiency opportunities available in single family and low- and high-rise multiple family homes built before the implementation of California’s Title 24 residential energy standards. The 2006-2008 phase of this program has focused all resources to a renovation of one single family home. The program seeks to achieve energy savings through the replacement and retrofit of existing inefficient appliances and systems in pre-Title 24 homes. In tandem, the program attempts to validate the economic benefits of such upgrades and therefore first determines the cost-effectiveness of each proposed measure. Once a renovation plan is established, the Advanced Home Renovation program sponsors builders and contractors to install the measures and solicits donations (materials and services) from the building community.

The Advanced Home Renovation program is marketed to the building industry primarily through SDG&E account executives. The target audience includes both the suppliers of energy efficiency retrofits and their clients: building industry professionals and mid- to high-income SDG&E residential customers with pre-Title 24 homes. The program aims to show the potential value of energy efficiency retrofits in older homes and thus expand the market for these services. The renovation website www.xtremeenergymakeover.com/ tracks the progress of each home renovation project and Open House events are scheduled for the public after each project is completed. Marketing materials include brochures, press releases for major media outlets in Southern California, and the Xtreme Energy Makeover website.

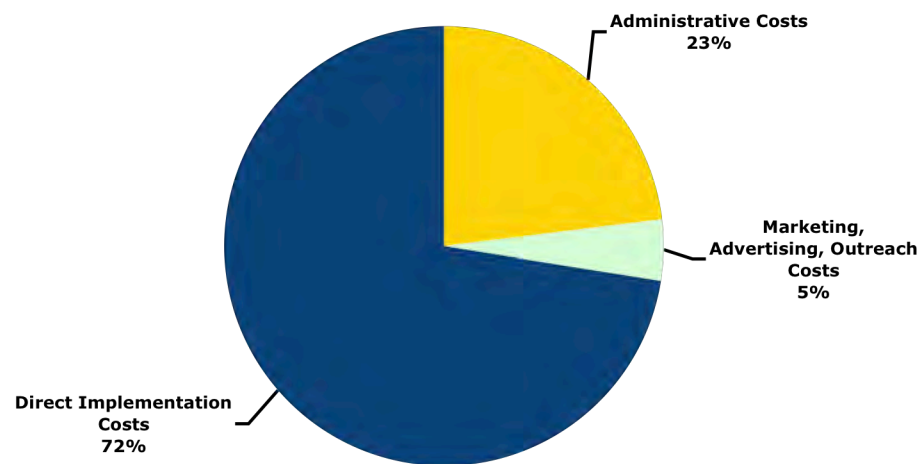
The program offers two methods of participation, a performance based approach and a prescriptive based approach. The performance approach increases the overall energy efficiency of the project to at least 15 percent higher than compliance with the Title 24 Standards. Alternatively, the prescriptive approach addresses specific individual elements that support changes in support of Title 24 Standards, improving the construction and comfort of residential dwelling units.

As of Q3 2007, the program had initiated a renovation of a single-family home (66 upgrades identified), and was in the process of locating partners to donate materials and services for the remaining retrofit measures.¹⁸

Figure 43 shows the program spending to date by category.

¹⁸ SDG&E Program Narrative, Q3 2007, filed with CPUC (<http://eega2006.cpuc.ca.gov/>)

Figure 43: Advanced Home Renovation Program Expenditures by Category (Q1 2006 – Q3 2007)



11.2 ADVANCED HOME RENOVATION PROGRAM LOGIC MODEL AND PROGRAM THEORY

The following program theory for the Advanced Home Renovation program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. (The logic model diagram follows the program theory discussion.)

Activities

“Xtreme Energy Makeover” renovation project

Selection criteria are developed and used to select a project house in the San Diego Gas & Electric Company's service region. An energy analysis will be done on the house and a project design developed that considers the homeowner's needs and the cost-effectiveness of each measure. Contractors and builders are selected once the renovation plan is determined.

Collaboration with trade allies

Partnerships are formed with trade allies to reduce material costs of the renovation. Allies will be asked to donate energy efficient appliances, equipment and expertise in exchange for advertising and promotional materials developed for the project.

Public outreach and education

A website is created to increase public awareness of the project and track progress of the renovation as it proceeds, including real-time energy consumption information. Promotional and educational brochures are also distributed to inform customers of the renovation project. The Advanced Home Renovation “Xtreme Energy Makeover” how-to guide will encourage homeowners to make energy efficient changes in their own homes and will help educate contractors and builders.

Short Term Outcomes

Energy efficient renovation completed in cooperation with homeowners

The selected home will undergo a comprehensive energy efficient renovation taking into account the homeowner's lifestyle and needs. The renovations and retrofits done on the home will make many aspects of the house more energy efficient including appliances, lighting, and water heating. Hired builders and contractors will install efficient appliances and equipment provided by trade allies in the home.

kWh, kW, and therm savings achieved

The efficiency renovation will lead to demand and energy savings for the project home that would not have occurred otherwise.

Open House events held

After completion of the renovation a series of "Open House" events will be held for both the media and the public showcasing the energy saving renovations. The how-to guide will be available at these Open House events as well as other promotional events conducted by SDG&E.

Public aware of renovation project and energy conservation

The project website and brochures distributed through SDG&E will inform customers of the renovation project. These materials will advertise the Open House events and get customers interested in the project. The Open House events and media publicity for the project will educate the public about energy efficient homes. The how-to guide highlights the specific changes homeowners can make to reduce their energy consumption.

Mid Term Outcomes

Energy cost savings to the owners of the project home

The energy efficient renovations done on the home will translate into energy cost savings for the homeowners

Evaluation of cost effectiveness after one year

One year after the completion of the renovation another energy analysis will be done on the house to evaluate the actual cost savings. The energy analysis will also determine which changes were most effective in conserving energy in the home.

Results of energy saving renovation presented to contractors, builders, and homeowners

Once the results of the renovation are evaluated they will be made available to the public. The savings created by energy efficient equipment, materials, and methods in the renovation of the project home will educate homebuilders as well as homeowners about increasing energy efficiency in their homes.

Public recognizes benefits of energy efficient renovations

Homeowners will perceive the benefits of efficiency renovations through the project website, how-to guide, and Open House events, and will consider making energy efficient improvements to their own homes.

Long Term Outcomes

Builders and contractors knowledgeable about most energy efficient equipment and practices

After completion of the renovation project and distribution of the follow-up energy analysis, builders and contractors will be more aware of effective energy-saving equipment, materials and installation methods, and will be prepared to integrate these on their other home construction and renovation projects.

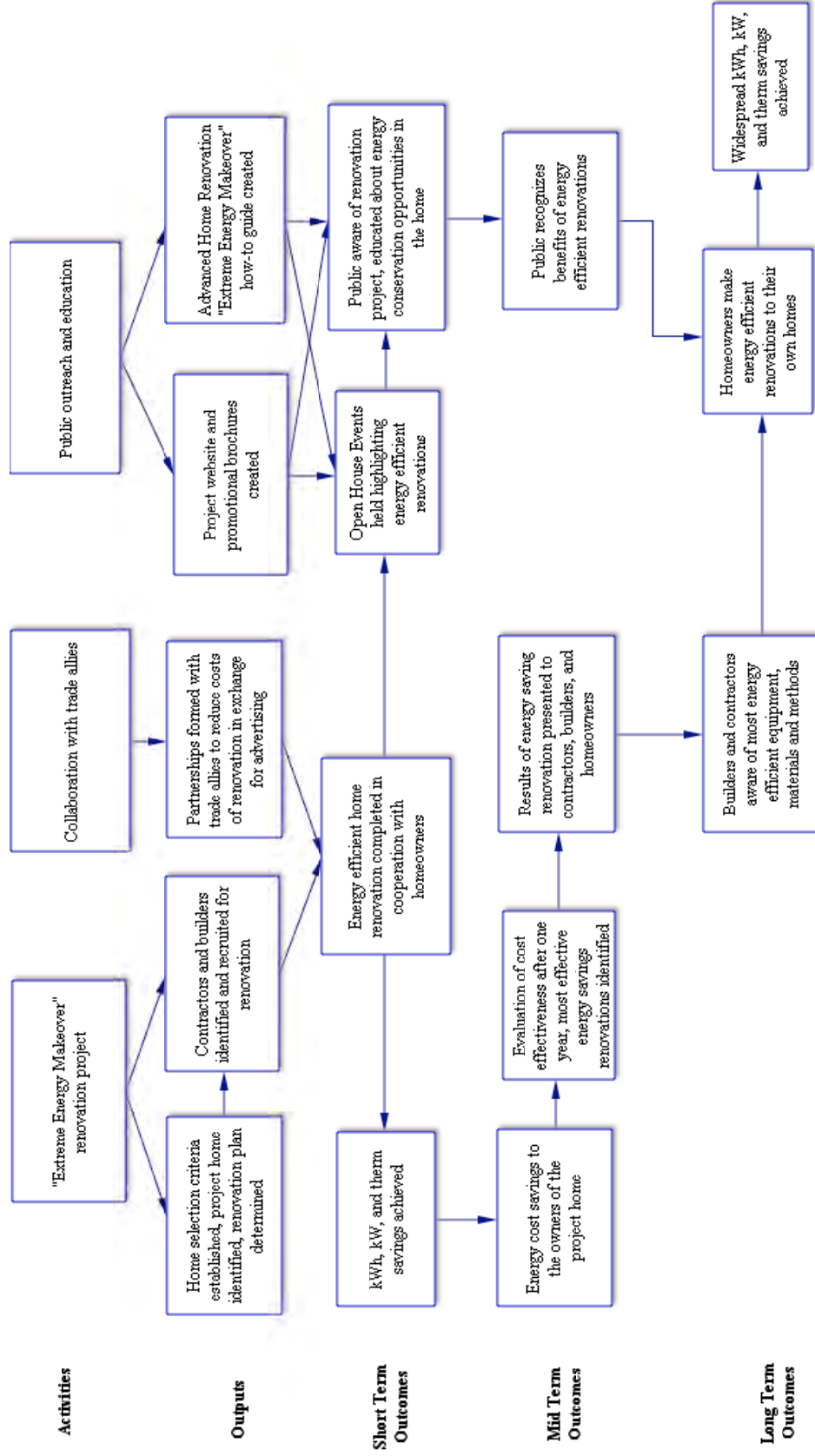
Homeowners make energy efficient renovations to their homes

Homeowners will apply the changes seen in the project home and other changes described in the educational materials to their own homes in order to conserve energy and reduce energy costs.

Widespread kWh, kW, therm savings achieved

As more customers adopt the energy efficient practices used in this project there will be increased savings in these areas.

Figure 44: Advanced Home Renovation Program Logic Model



Key Research Issues

Based on the program theory and an interview with program staff, the following research issues were identified. These research issues are meant to direct the focus of all data collection tasks, including participant survey development, review of program documents and marketing materials, and subsequent interviews. The evaluation team was not able to address these issues because of the program's late launch, but they are listed here for future consideration and evaluation.

Assess Home Selection Process

One of the challenges of the program was to select a demonstration home in the right location. The program tried several different methods before targeting particular neighborhoods that looked like they had pre-Title 24 homes that would work for this program. When homeowners were approached about the project, some were suspicious and felt that the offer of a free home renovation was too good to be true.

Evaluate Effectiveness of Renovated Home as a Marketing Tool

The current phase of the program is relying on using a single renovated home to educate customers on the potential value of energy efficiency retrofits in older homes. This is being done by inviting realtors and other interested people to an open house as well as showing remodel progress on the program website.

Assess Effectiveness at Reaching Middle Income Household, High Income Households, Pre-title 24 Homes

One of the underlying assumptions of this program is that the current portfolio of efficiency program offerings misses middle income and high income households, as well as missing pre-Title 24 homes.

12. K-12 ENERGY EFFICIENCY EDUCATION PROGRAM (E3)

Note: The K-12 Energy Efficiency Education program did not have significant program activity in time to be addressed in this evaluation. Consequently, the only evaluation activities completed were the development of the logic model and program theory and identifying potential researchable issues. These are included in this chapter for use in program planning and future evaluations.

12.1 E3 PROGRAM BACKGROUND

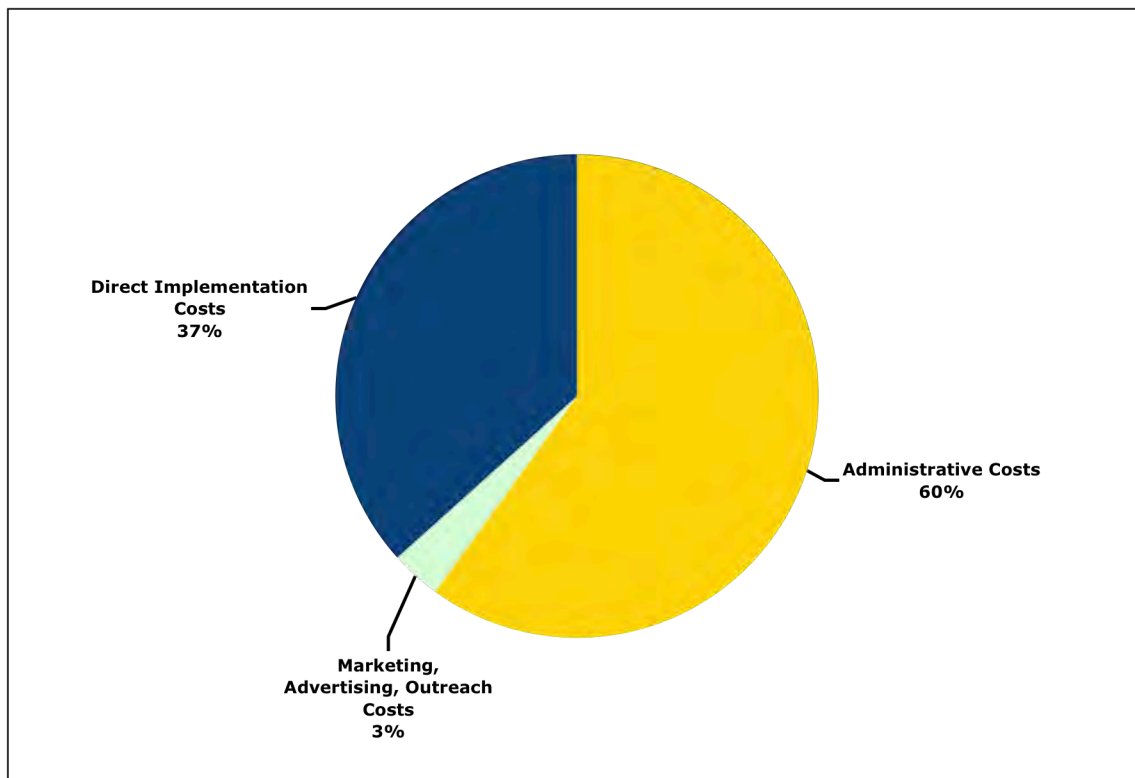
The K-12 Energy Efficiency Education (E3) Program works through K-12 schools in the SDG&E service territory to provide educational curriculum on energy efficiency. The curriculum is developed in coordination with each school's math and science teachers. Workshops are held at three San Diego County Office of Education regional centers to train teachers in E3 curriculum and walk them through the available lesson plans and web resources. Teachers are given incentives to attend the workshops.

In conjunction with E3 lessons on energy efficiency topics, students receive appropriate low-cost energy efficiency equipment, such as CFLs, to install in their homes. Moreover, a take-home energy audit gives students the opportunity to identify energy saving opportunities in their homes and share this information with their parents. Students are then encouraged to make the changes recommended by the energy audit (turn-off lights, replace incandescents with CFLs, reduce use of hot water faucets, change thermostat set-points, etc) and then observe the impact of these adjustments. Students use on-line calculators to track their homes' energy consumption and classrooms or entire schools are challenged to set energy savings goals. An additional program element is the Mobile Energy Efficiency Education Unit, which provides interactive, supplemental curriculum materials for students. Through these methods, the program aims to not only to educate the students, but also to raise their parents' awareness about energy efficiency. All materials that are sent home for students to share with their parents are available in multiple languages.

Program impacts (electric and gas energy savings) are tracked through surveys distributed to students, teachers, and parents. The actual energy savings are recorded and reported back to students in an E3 program newsletter.

Figure 45 shows program expenditures by spending category as of Q3 2007.

Figure 45: E3 Program Expenditures by Category (Q1 2006 – Q3 2007)



12.2 E3 PROGRAM LOGIC MODEL AND PROGRAM THEORY

The following program theory for the SDG&E Energy Efficiency Education (E3) Program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. (The logic model diagram is presented following the program theory discussion.)

Activities

Marketing and Outreach to students and families

A program website will be used to make all curriculum materials available. Also, a program newsletter will be distributed to classes to track the progress of the program and report results of students' energy conservation efforts. The E3 program also includes a Mobile Energy Efficiency Education Unit (ME3U), which will essentially be a "Field Trip on Wheels" that travels to schools within the service territory to help educate students in a more interactive way.

K-12 energy efficiency curriculum development

The program curriculum will be developed for up to five grade levels and is primarily developed by the science and math teachers who will implement it. The close involvement of teachers with the curriculum planning ensures the program is compatible with school programs already in place. Once implemented, the E3 program will be a three-year educational program focused on educating students in K-12 about energy efficiency. The program includes take home materials that allow students to do a simple evaluation of energy use in their own homes and discover ways they can limit their consumption.

Teacher training

Teachers will attend workshops where they learn about the program curriculum and receive educational materials. The workshops have an incentive component that encourages attendance (e.g., continuing education credits that count towards salary advancement). The curriculum materials will be available to teachers on the program website as well as distributed to them on an interactive program CD.

Quality control and refinement of program

After the program curriculum is designed it will be reviewed by focus groups consisting of teachers and students before being finalized and implemented. Focus groups will also be conducted after the first year of the program to ensure quality results. The program will also distribute surveys to teachers, students, and parents to evaluate program effectiveness.

Short Term Outcomes

Energy efficiency taught in classrooms, ME3U visits schools, students learn importance of energy efficiency

The E3 program will provide a new topic of study for students in the SDG&E service territory and they will learn how energy efficiency affects their home, school, and community. The ME3U will enhance the lessons learned in the classroom.

Students practice energy saving behaviors in school and at home

Through the program students will be taught about energy efficiency and what behavioral changes they can make to reduce their energy consumption (e.g., reducing hours lights are on, reducing time hot water is used, replacing lamps with CFLs, changing reducing thermostat set-points). Students will also take home free efficient measures to install in their homes.

Surveys completed by participating students, teachers, and parents

As part of the program evaluation surveys will be distributed and completed by students, teachers, and parents involved in the program regarding changes in energy saving behavior and results.

Mid Term Outcomes

Household adults learn about energy efficiency from students and take home materials

While this is not a direct program objective, it is anticipated that some of the energy efficiency education will carry over to the adults at home by way of take-home materials and students' energy saving habits at home.

kWh, kW, therm savings achieved

As more students participate in the E3 program, they will make energy efficient changes in their

lives and energy savings will be achieved in these areas that would not have occurred otherwise.

Energy cost savings to schools and students' homes

The reduced energy consumption in schools and students' homes will result in lower energy bills in both environments.

Energy savings measured and reported back to students for future education

The energy saving efforts of students in the school will be monitored during the program. The actual energy savings are recorded and reported back to students to show them how their actions make a difference. The energy savings results will be reported back to the students via the program newsletter. This reporting feedback emphasizes the "Act locally, think globally" focus of the program.

Survey results reviewed and focus groups reevaluate program after first year

Program evaluators will review the survey results. At the end of the first year of the program a second round of focus groups will be conducted to evaluate the program's success and suggest changes and/or improvements in the curriculum for years two and three.

Long Term Outcomes

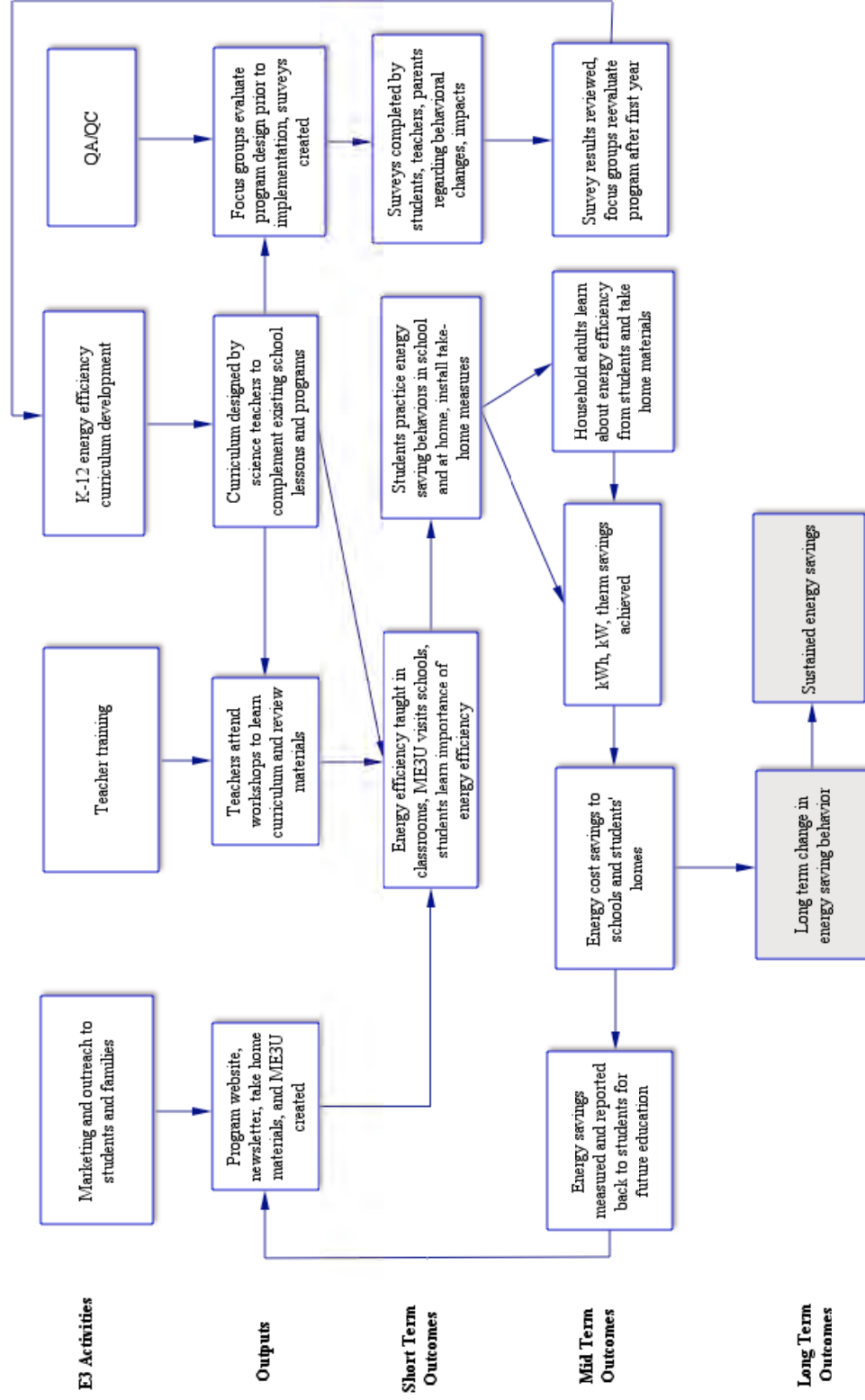
Long term change in energy saving behavior

The program is designed to educate students and, by association, their families about energy saving behaviors and measures. This education will produce lasting behavioral changes that improve energy conservation in both groups.

Sustained energy savings

The long term change in energy saving behaviors will result in sustained school and household energy savings.

Figure 46: E3 Program Logic Model



Shaded boxes indicate induced outcomes that are outside of the direct program influence

E3 Research Issues

The E3 program works through school curriculums to increase awareness about the impacts of energy efficiency, the costs of wasting energy, and specific actions that can be taken to reduce energy use at home. The process evaluation can assess the various elements of this education effort: curriculum planning, teacher training, curriculum materials, the E3 impact evaluation tools, and if students demonstrate increased understanding.

Assess the Curriculum Planning Process

This program aims to incorporate local math and science teachers into the curriculum planning process so that energy efficiency elements can be easily fused with regularly planned lessons. The process evaluation can assess the effectiveness of this coordination effort.

Assess the Teacher Training Process

Quality teacher training is essential to the success of this program. The curriculum is developed and taught by teachers, so teachers must be well prepared to implement the program as it was designed. Training takes place in professional development workshops and the E3 website has additional resources. The process evaluation can assess how effectively these training elements prepare teachers to conduct the E3 program.

Review the Curriculum Materials

Residential programs delivered through school classrooms can be only be as effective as the curriculum and materials upon which the programs are based. These materials must be easy for teachers to use and effective in conveying information. Students must be able to learn the information presented and then carry it home and influence their family to follow the guidance.

Review the Program Impact Evaluation Tools

The program tracks energy savings outcomes by surveying “before and after conditions” at each student’s home. It is challenging to identify savings attributable to behavioral changes resulting from educational programs. The program also tracks knowledge gains through a countywide pre-test and post-test. The process evaluation can explore the validity of the methods employed for collecting this information.

Determine the Extent to Which the Program is Educating Students about Energy Efficiency

The program aims to educate students in grades K-12 about the importance of energy efficiency and what they can do to create a more energy efficient household. The process evaluation can assess if the program effectively educates students and if this new knowledge results in more energy efficient household practices.

13. APPENDIX: SURVEY INSTRUMENTS AND IN-DEPTH INTERVIEW GUIDES

13.1 SINGLE FAMILY REBATE PROGRAM SURVEYS

Single Family Rebate Program Participant Survey Instrument

Hello, my name is _____ and I am calling on behalf of San Diego Gas and Electric. May I please speak with [CONTACT NAME]?

This is not a sales call. We are conducting a study regarding participation in the Home Rebate Program. This survey is for research purposes only and will be used to improve programs such as the HOME REBATE Program in San Diego. This research effort will take less than 15 minutes to complete. Is now a good time to conduct this very brief interview?

Recently you participated in the Home Rebate Program, which is the San Diego Gas & Electric program that offers rebates for energy efficient products. We want to talk to you briefly about your experience with this program.

Our records show that you purchased a [EQUIP1] in [MONTH] of [YEAR] and received rebates from the San Diego Gas & Electric. Is this correct?

Q2. Think back to when you purchased your new [EQUIP1], did you purchase it through a contractor as part of a new house or a remodeling project, or did you just buy it yourself directly from the store?

1. THROUGH CONTRACTOR
2. BOUGHT MYSELF → Go To Q9

CONTRACTOR QUESTIONS

Q3. Did your contractor tell you about this program?

1. YES
2. NO

Q5. Did your contractor also suggest the energy efficiency option for the [EQUIP1] you chose?

1. YES
2. NO
3. NOT SURE / DON'T KNOW

Q6. Had you already decided on purchasing the particular [EQUIP1] model you did purchase prior to talking with your contractor?

1. YES
2. NO → GO TO Q7
3. NOT SURE / DON'T KNOW → GO TO Q7

Q7. Had you already decided on purchasing the particular [EQUIP1] model you did purchase prior to becoming aware of the HOME REBATE PROGRAM?

1. YES
2. NO

3. NOT SURE / DON'T KNOW
IF NO to Q6 OR Q7 ASK Q8

Q8. What changed your mind to go with the energy efficient option for your [EQUIP1]?

→ SKIP TO Q19

Q9. How did you first become aware of the HOME REBATE PROGRAM?

1. THIS PHONE CALL/ I WAS NOT AWARE → **SKIP TO Q18**
2. CONTRACTOR
3. SALESPERSON → **GO TO Q13**
4. FRIEND / FAMILY
5. FROM OTHER ENERGY CONSERVATION PROGRAM
6. SEMINAR
7. AD/DISPLAY IN STORE
8. AD IN THE NEWSPAPER
9. AD RADIO
10. AD TV
11. AD WEB
12. OTHER, Specify: _____

Q10. Had you already decided on purchasing the particular [EQUIP1] model you did purchase prior to becoming aware of the HOME REBATE PROGRAM?

1. YES
2. NO
3. NOT SURE / DON'T KNOW

Q11. Did a salesperson at the store tell you about the HOME REBATE PROGRAM?

1. YES
2. NO → **GO TO Q13**
3. DK-NOT SURE → **GO TO Q13**

Q12. Had you already decided on purchasing the particular [EQUIP1] model you did purchase prior to talking with the salesperson?

1. YES
2. NO
3. NOT SURE / DON'T KNOW

Q13. Did you notice any energy efficiency promotional materials or information on display at the store?

1. YES
2. NO → **GO TO Q18**
3. NOT SURE → **GO TO Q18**

Q14. How influential were the promotional materials in your decision to buy an energy efficient [EQUIP1]? Would you say...?

1. VERY INFLUENTIAL
2. SOMEWHAT INFLUENTIAL
3. NOT VERY INFLUENTIAL
4. NOT AT ALL INFLUENTIAL

Q15. Had you already decided on purchasing the particular [EQUIP1] model you did purchase prior to seeing the energy efficiency information display at the store?

1. YES
2. NO
3. NOT SURE / DON'T KNOW

[If Q15, =yes skip to Q19]

Q18. What changed your mind to go with the energy efficient option for your [EQUIP1]?

Q19INTRO. Now I'd like you to think about your decision to select an energy efficient (EQUIP1) when you bought a new [EQUIP1].

I'll read a list of factors. For each, please tell me if the factor was very important, important, not very important, or not at all important to your decision to select an energy efficient [EQUIP1]?

Q19. Information or recommendations from the salesperson or contractor. Was this very important, important, not very important or not at all important to your decision to select an energy efficient [EQUIP1]?

1. VERY IMPORTANT
2. IMPORTANT
3. NOT VERY IMPORTANT
4. NOT AT ALL IMPORTANT

Q20. The cash rebate. Was this very important, important, not very important or not at all important to your decision to select an energy efficient [EQUIP1]?

1. VERY IMPORTANT
2. IMPORTANT
3. NOT VERY IMPORTANT
4. NOT AT ALL IMPORTANT

Q21. The money you would save from lower energy bills . Was this very important, important, not very important or not at all important to your decision to select an energy efficient [EQUIP1]?

1. VERY IMPORTANT
2. IMPORTANT
3. NOT VERY IMPORTANT

4. NOT AT ALL IMPORTANT

Q22. The feeling that you were doing something good for the environment. Was this very important, important, not very important or not at all important to your decision to select an energy efficient [EQUIP1]?

1. VERY IMPORTANT
2. IMPORTANT
3. NOT VERY IMPORTANT
4. NOT AT ALL IMPORTANT

Q23. What was the most important factor in your decision to purchase an energy efficient [EQUIP1]?

1. INFORMATION/ENCOURAGEMENT FROM SALESPERSON/CONTRACTOR
2. CASH REBATE
3. LOWER ENERGY BILLS
4. DOING GOOD FOR THE ENVIRONMENT
5. Non Energy Factors such as color, style,
OTHER: Please tell us

Q24INTRO. Next, I'd like you to rate your satisfaction with various aspects of the program. For each question I read, please tell me if you are very satisfied, moderately satisfied, slightly satisfied, neutral, slightly dissatisfied, moderately dissatisfied or very dissatisfied.

Q24. How satisfied were you with the application process? Were you...

1. VERY SATISFIED
2. MODERATELY SATISFIED
3. SLIGHTLY SATISFIED
4. NEUTRAL
5. SLIGHTLY DISSATISFIED → ASK Q24a
6. MODERATELY DISSATISFIED → ASK Q24a
7. VERY DISSATISFIED → ASK Q24a

Q24a. What would have improved your experience with the application process?

Q25. How satisfied were you with the speed with which you received your rebate. Would you say you were...

1. VERY SATISFIED
2. MODERATELY SATISFIED
3. SLIGHTLY SATISFIED
4. NEUTRAL
5. SLIGHTLY DISSATISFIED → ASK Q25a
6. MODERATELY DISSATISFIED → ASK Q25a
7. VERY DISSATISFIED. → ASK Q25a
8. DOES NOT APPLY/REBATE WENT DIRECTLY TO CONTRACTOR

Q25a. What would have been a satisfying turn around time for you rebate?

Q26. How satisfied were you with the rebate amount for [EQUIP1]? Would you say you were ...?

1. VERY SATISFIED
2. MODERATELY SATISFIED
3. SLIGHTLY SATISFIED
4. NEUTRAL
5. SLIGHTLY DISSATISFIED → ASK Q26_1
6. MODERATELY DISSATISFIED → ASK Q26_1
7. VERY DISSATISFIED. → ASK Q26_1

Q26_1. What would have been a satisfying amount for you rebate?

Q28. How satisfied were with the performance of the [EQUIP1]. Would you say you were ...?

1. VERY SATISFIED
2. MODERATELY SATISFIED
3. SLIGHTLY SATISFIED
4. NEUTRAL
5. SLIGHTLY DISSATISFIED → ASK Q28_1
6. MODERATELY DISSATISFIED → ASK Q28_1
7. VERY DISSATISFIED. → ASK Q28_1

Q28a. What would have improved your satisfaction with the performance of the equipment you installed?

Q29. How satisfied were you with the combined energy savings from all the measures you took that received rebates. Would you say you were...?

1. VERY SATISFIED
2. MODERATELY SATISFIED
3. SLIGHTLY SATISFIED
4. NEUTRAL
5. SLIGHTLY DISSATISFIED → ASK Q29a
6. MODERATELY DISSATISFIED → ASK Q29a
7. VERY DISSATISFIED. → ASK Q29a

Q29a. What would have been a satisfying level of energy savings?

Q30. Did a [SAN DIEGO GAS & ELECTRIC] representative come to your home to inspect the equipment you bought as part of the Home Rebate Program?

1. YES → ASK Q31

2. NO
3. Don't Remember

Q31. How satisfied were you with the courteousness and professionalism of the inspector who came to your home? Would you say you were ...

1. VERY SATISFIED
2. MODERATELY SATISFIED
3. SLIGHTLY SATISFIED
4. NEUTRAL
5. SLIGHTLY DISSATISFIED → ASK Q31a
6. MODERATELY DISSATISFIED → ASK Q31a
7. VERY DISSATISFIED → ASK Q31a

Q31a. What would have been a satisfying inspection of the measures in your home?

Q32. Overall, how satisfied were you with the rebate program for buying energy efficient products? Would you say you were...?

1. VERY SATISFIED
2. MODERATELY SATISFIED
3. SLIGHTLY SATISFIED
4. NEUTRAL
5. SLIGHTLY DISSATISFIED → ASK Q32a
6. MODERATELY DISSATISFIED → ASK Q32a
7. VERY DISSATISFIED → ASK Q32a

Q32a. What would have improved your overall satisfaction?

Q33. Have you ever suggested this rebate program to someone outside of your household?

1. YES → ASK Q33a
2. NO

Q33a. What did you tell them about the program?

Q34INTRO. Next we would like to know how well **San Diego Gas & Electric** accomplished its goal of getting clear information to you on the rebate program. For each of following, please tell me if you if the information you received was extremely clear, pretty clear, not very clear or not at all clear.

Q34. How clear was the information you received on the fact San Diego Gas & Electric offers rebates for purchasing energy efficient equipment? Would you say ...?

1. EXTREMELY CLEAR
2. PRETTY CLEAR
3. NOT VERY CLEAR
4. NOT AT ALL CLEAR
5. DID NOT RECEIVE
6. DOES NOT APPLY

Q35. How clear was the information you received on which makes and models qualify for rebates? Would you say ...

1. EXTREMELY CLEAR
2. PRETTY CLEAR
3. NOT VERY CLEAR
4. NOT AT ALL CLEAR
5. DID NOT RECEIVE
6. DOES NOT APPLY

Q36. How clear was the information you received on how to apply for the rebate?

Would you ...?

1. EXTREMELY CLEAR
2. PRETTY CLEAR
3. NOT VERY CLEAR
4. NOT AT ALL CLEAR
5. DID NOT RECEIVE
6. DOES NOT APPLY

Q37. How clear was the information you received on the energy savings you might expect from the equipment or measures you installed? Would you say ...

1. EXTREMELY CLEAR
2. PRETTY CLEAR
3. NOT VERY CLEAR
4. NOT AT ALL CLEAR
5. DID NOT RECEIVE
6. DOES NOT APPLY

Some people may have doubts or reservations about purchasing energy efficiency or participating in a rebate program. Prior to purchasing your equipment, can you tell me if you had any doubts or concerns about the following items?

Q38. Rebate application process?

1. NO
2. YES → ASK Q38a

Q38a. Briefly, what happened and how did you overcome this concern?

Q39. Finding a qualified contractor to do the installation?

1. NO
2. YES → ASK Q39a

Q39a. Briefly, what happened and how did you overcome this concern?

Q40. Being able to find parts or a qualified repairman to maintain equipment?

1. NO
2. YES → ASK Q40a

Q40a. Briefly, what happened and how did you overcome this concern?

Q41. Energy savings claims being overstated?

1. NO
2. YES → ASK Q41a

Q41a. Briefly, what happened and how did you overcome this concern?

Q42. Energy savings not worth extra price?

1. NO
2. YES → ASK Q41a

Q42a. Briefly, what happened and how did you overcome this concern?

Q43. Any other concerns with the program prior to participating?

1. NO
2. YES → ASK Q41a

Q43a. Briefly, what happened and how did you overcome this concern?

Q44. What suggestions would you make to improve the HOME REBATE PROGRAM? (Open ended)

Q45. What other programs or offerings could the utility provide to help you manage your energy use better?

EXPERIENCE WITH OTHER EFFICIENCY PROGRAMS

Now I'd like to ask you about other energy efficiency programs you might have participated in.

Q46. Have you ever had a home energy audit, where someone comes to your home and identifies areas where you can reduce your energy use? These energy audits can also be done by mail or online. Have you ever had one of these energy audits for your home?

1. YES in person → Go To Q47
2. YES by mail → Go To Q47
3. YES online → Go To Q47
4. NO → Go To Q48
5. NOT SURE → Go To Q48

Q47. Since having this home audit, have you had the chance to implement any of the audit's recommendations?

1. NO
2. YES → ASK Q47a

Q47a. What recommendations did you implement?

Q48. In the last year, have you participated in any other energy efficiency programs where you received a rebate for purchasing an energy efficient item?

1. NO
2. YES → ASK Q48a

Q48a. What type of equipment did you purchase?

Q49. Please tell me if you have ever heard of the any of the following programs:

1. FLEX YOUR POWER
2. 20/20
3. LIGHTING EXCHANGE
4. APPLIANCE RECYCLING
5. OTHERS, specify: _____

IF YES TO ANY OF Q49, ASK Q49a

Q49a. Did you participate in any of these programs?

1. NO
2. YES → ASK Q49b

Q49b. Which programs did you participate in?

1. FLEX YOUR POWER
2. 20/20
3. LIGHTING EXCHANGE
4. APPLIANCE RECYCLING
5. OTHERS, specify: _____

ASK Q50 if [EQUIP1] IS A REFRIGERATOR

Q50. When you purchased your new refrigerator, what did you do with your old refrigerator?

1. DELIVERY PEOPLE TOOK IT AWAY
2. GAVE TO FAMILY MEMBER / FRIEND
3. SOLD IT
4. ARRANGED FOR RECYCLING
5. TRASH
6. CONTINUE TO USE IT
7. OTHER, please specify: _____

Q51. Was your participation in the Home Rebate Program we've been talking about today part of a larger remodeling project for your home?

1. YES
2. NO

Q52. Do you recall ever visiting the San Diego Gas & Electric's website for information?

1. YES
2. NO → Go TO Q56

Q53. What information were you looking for?

1. LIST OF SPECIFIC ENERGY EFFICIENCY PROGRAMS
2. PROGRAM APPLICATION FORMS
3. CONTRACTORS
4. GENERAL INFORMATION ON ENERGY EFFICIENCY MEASURES
5. OTHER BILLING/SERVICE INFORMATION
6. OTHER: please specify: _____

Q54. Overall, how satisfied were you with the San Diego Gas & Electric website, would you say you were

1. VERY SATISFIED
2. MODERATELY SATISFIED
3. SLIGHTLY SATISFIED
4. NEUTRAL
5. SLIGHTLY DISSATISFIED → ASK Q55
6. MODERATELY DISSATISFIED → ASK Q55
7. VERY DISSATISFIED → ASK Q55

Q55. What would have improved your satisfaction with the San Diego Gas & Electric website?

Q56. Would you like the ability to track the status of your rebate applications on-line using the utility's website?

1. YES
2. NO
3. NOT SURE

ENERGY SAVINGS POTENTIAL (Revised 7/13)

Q57. Do you think there are other opportunities to save energy in your home?

1. YES → ASK Q58
2. NO
3. DON'T KNOW

Q58. Which areas in your home? Probe for multiple areas. Record up to 3.

Area 1: _____

Area 2: _____

Area 3: _____

Let me ask you about some specific items in your home. Let me assure you that this information will be kept confidential; These questions are just being asked to get an idea of energy savings potential in the market that could be addressed by the HOME REBATE PROGRAM.

Q59. Do you own an in-ground swimming pool? [do not answer yes id only spa or above ground pool]

1. YES
2. PART OF A MULTI-FAMILY COMPLEX → GO TO Q65
3. NO → GO TO Q65

Q60. What kind of pool pump do you have? [Read All]

1. SINGLE-SPEED PUMP
2. TWO SPEED PUMP
3. VARIABLE SPEED PUMP
4. DON'T HAVE A POOL PUMP
5. DON'T KNOW

Q61. How old is the pool pump?

1. LESS THAN 1 YR
2. NUMBER OF YEARS
3. DON'T KNOW

Q62. Are you aware of the rebates that SDG&E offers to replace single speed pool pumps?

1. YES
2. NO → GO TO Q65

Q63. How did you hear about the rebate?

1. Pool service person
2. WORD OF MOUTH
3. FROM UTILITY WEBSITE
4. FROM UTILITY MAILING
5. FROM STORE PROMOTION
6. OTHER, specify: _____

[IF EQUIP1 NOT = POOL PUMP OR POOL TIMER, ASK Q64. ALL ELSE SKIP TO Q65]

Q64. What are the reasons you have not replaced your pool pump? [ACCEPT MULTIPLE ANSWERS]

1. IT WORKS FINE
2. I DO NOT USE MY POOL MUCH
3. I CANNOT AFFORD TO BUY NEW UNIT
4. MY SERVICE PERSON DOES NOT RECOMMEND IT
5. OTHER (RECORD)

Q65. What equipment do you use to cool your home? [ACCEPT MULTIPLE ANSWERS]

1. CENTRAL AIR CONDITIONING
2. HEAT PUMP → SKIP TO Q70
3. ROOM AIR CONDITIONERS
4. EVAPORATIVE COOLER
5. WHOLE HOUSE FAN → SKIP TO Q70
6. ROOM FANS → SKIP TO Q70
7. NONE → SKIP TO Q70
8. DON'T KNOW → SKIP TO Q70

Q66. How old is your AC?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

Q67. SDG&E offers a program that helps save energy by having air conditioners 'cycle' on and off every 30 minutes during very hot days. Would you be willing to have your air conditioner cycled if you received an incentive payment from your utility?

1. YES
2. NO
3. NOT SURE

IF Q66 = LESS THAN 5 YEARS OLD, SKIP TO Q70

Q68. What do you think the potential is for saving energy with new a new air conditioner in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL

Q69. How many days per summer do you use your air conditioning equipment?

1. NOT AT ALL
2. 30 DAYS OR LESS
3. 31-90 DAYS
4. 91-120 DAYS
5. MORE THAN 120 DAYS
6. DON'T KNOW

Q70. What equipment do you use to heat your home??

1. FURNACE
2. WALL FURNACE
3. BOILER
4. HEAT PUMP

5. ELECTRIC BASEBOARD
6. HEATING STOVE → SKIP TO Q74
7. SPACE HEATER → SKIP TO Q74
8. CENTRAL—MY APARTMENT IS CENTRALLY HEATED, THE LANDLORD SUPPLIES → SKIP TO Q74
9. OTHER, specify: _____ → SKIP TO Q74

Q71. How old is your heating equipment?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

IF Q71 = LESS THAN 5 YEARS OLD, SKIP TO Q74

Q72. What do you think the potential is for saving energy with new heating system in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL

Q73. How many days per winter do you use your heating equipment?

1. NOT AT ALL
2. 30 DAYS OR LESS
3. 31-90 DAYS
4. 91-120 DAYS
5. MORE THAN 120 DAYS
6. DON'T KNOW

Q74. How old is your clothes washer?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

222. Don't have a clothes washer

888. DK

IF Q74 is DO NOT HAVE or LESS THAN 5 YEARS OLD Skip to Q76

Q75. What do you think the potential is for saving energy with a new clothes washer? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL

Q76. How old is your dishwasher?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

222. Don't have a dishwasher

888. DK

[IF Q76 is LESS THAN 5 YEARS OLD SKIP TO Q79]

Q78. What do you think the potential is for saving energy with a new dishwasher in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL

Q79. How many refrigerators and freezers do you have in your home?

1. RECORD NUMBER REFRIGERATORS: _____
2. RECORD NUMBER OF FREEZERS: _____

Q80. How old is your Main refrigerator?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

[IF Q80 is LESS THAN 5 YEARS OLD, SKIP TO Q82]

Q81. What do you think the potential is for saving energy with a new refrigerator in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL

Q82. How old is your water heater?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

222. Don't have a water heater

888. DK

[IF Q76 is LESS THAN 5 YEARS OLD SKIP TO Q79]

[IF Q82 = Don't have my own water heater or less than 5 years old, SKIP TO Q84]

Q83. What do you think the potential is for saving energy with a new water heater in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL

Q84. How many Compact Fluorescent lightbulbs, or CFLs, do you have installed in your home? CFLs are small fluorescent bulbs that fit in regular light sockets. CFLs look different than standard bulbs. They are often made out of thin tubes of glass bent into spirals, or they could be globe shaped, or look like a flood light.

1. RECORD NUMBER: _____
2. DON'T KNOW

Q85. How many lights do you still have in your home that use standard incandescent bulbs, and that are on more than 2 hours per day?

1. RECORD NUMBER: _____
2. DON'T KNOW

Q86. What is the reason that you have not replaced these incandescent lamps with the Compact Fluorescent Lamps?

1. DON'T FIT
2. LAMPS COST TOO MUCH
3. POOR LIGHT QUALITY
4. NOT ENOUGH LIGHT
5. KEEP BURNING OUT
6. LAMPS ARE ON DIMMER
7. NEVER OCCURRED TO ME
8. NO SPECIFIC REASON

DEMOGRAPHIC QUESTIONS

Q89. Lastly I have just a few questions about your home. Do you currently own or rent?

1. OWN
2. RENT

Q90. 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, specify: _____

Q92. Including all adults AND children, how many people are in your household?

Enter number: _____ 999.Ref

Q93. When was your home originally built?

1. ENTER YEAR: _____ (Probe: 1930 or older, 1940s, 1950s etc.)

888. DK

Q94. Approximately how many square feet is your home?

1. Enter SQUARE FOOTAGE #: _____ (Probe: less than 1,400sq ft, 1,400 to 2,500 sq ft, 888. DK 2,500 to 3,500 sq ft)

Q95. What is your age?

1. Enter YEARS: _____ (Probe: under 25, 25 to 35, 35 to 45 etc.)

888. DK

Q96. What is the highest level of education you have completed? High school diploma or less, Associates degree Bachelors degree, or a Graduate or professional degree?

1. HIGH SCHOOL DIPLOMA OR LESS
2. SOME COLLEGE
3. ASSOCIATES DEGREE
4. BACHELORS DEGREE
5. GRADUATE OR PROFESSIONAL DEGREE
9. REF

Q97. Please stop me when I read you household's annual income:

1. LESS THAN \$20,000
2. \$20,000 TO LESS THAN \$40,000
3. \$40,000 TO LESS THAN \$60,000
4. \$60,000 TO LESS THAN \$80,000
5. \$80,000 TO LESS THAN \$100,000
6. \$100,000 TO LESS THAN \$150,000
7. MORE THAN \$150,000
9. REF

Q98. What is your ethnicity/race?

1. White or Caucasian
2. Hispanic/Latino/a
3. Black or African American
4. Asian
5. Native Hawaiian or Other Pacific Islander
6. American Indian or Alaska Native
7. Other [specify] _____
9. Refused

In-depth Interview Guide for Pool Contractors

Screener: Does your firm provide pool maintenance services? May I speak with the owner or supervisor? I am calling about the Pool Pump Rebate program offered by San Diego Gas and Electric. Are you familiar with this program?

1. How did you learn about the program? **(if not aware of program, skip to Q11)**
2. Did this provide you with enough information or the type of information you needed up front? (If no, probe for how to improve)
3. Is this a good way to get information out to firms like yours – how would you recommend SDG&E keep pool service firms informed about this program?
4. Are you participating in this program this year – are you submitting rebate applications to SDG&E?
5. And did you participate in the program last year? (If firm has dropped out, probe for reasons why)
6. What made you decide to (take part in / not) this program?
7. Overall, what is your opinion of this program? (Probe for reasons why)
 - a. two-speed rebate
 - b. single speed pump rebate
 - c. timeclock
8. Are customers aware of the program?
9. Have you seen the fliers which were mailed out to customers about the program?
10. Were these effective in promoting the program? How could they be improved? **(skip to Q12)**

[FOR UNAWARE RESPONDENTS]

11. This program offers: (give program description). Is this a program that you would be interested in participating in?

[FOR ALL]

12. What is your opinion of the pumps which this program is promoting? (if dissatisfied, probe for better/suggestions)
13. What is your opinion of the timeclock recommendations? (if dissatisfied, probe for better/suggestions)

14. Are the incentives effective? (if dissatisfied, probe for better/suggestions)
15. Overall, what stands out as the programs top strengths and weaknesses?
16. What recommendations do you have for the program for the future?
17. How many pools do you service each year?
18. Typically, how many pumps would need replacing in the course of a year?
19. How many pools do you enter in for rebate applications ... timeclock ...?

13.2 MULTI-FAMILY REBATE PROGRAM SURVEYS

Multi-family Rebate Program Participant Survey Instrument

Hello I am _____ from San Diego Gas & Electric. May I speak with the property owner or manager?

This is not a sales call. We're conducting an evaluation of SDG&E multifamily rebate program. This survey is for research purposes only and your input will help SDG&E improve the program. This research effort will take less than 15 minutes to complete. Is now a good time to conduct this brief interview?

The rebate program offered items such as outdoor lighting, indoor lighting, appliances, heating and cooling equipment, insulation, etc. Your input will help SDG&E improve this program.

S1. First, how many of the buildings that you manage have five or more units?

_____ (ENTER # OF BUILDINGS) (IF NONE, DK OR REF – TERMINATE)

(IF ONE BUILDING IN S1: When answering the following questions, please refer to this building.)

(IF MORE THAN ONE BUILDING IN S1: When answering the following questions, please refer to the building with five or more units that you most actively manage.)

1.1. Are you aware of the SDG&E Multifamily Rebate Program which provides incentives for installing energy efficient measures in multi-family properties?

1 Yes

2 No → GO TO 1.3

1.1A. Do you recall how you first learned about this program? Did you... yes/no

Received information about program from the utility brochure or bill stuffer? _____

Read about program on Company Web page _____

Contacted by a contractor offering services _____

Read about program in the newspaper _____

Other (PLEASE SPECIFY) _____

1.3 This program offers rebates for MF(multi-family) property managers who work with contractors to install a variety of energy-savings measures, including such things as high efficiency lighting, appliances, water heaters and boilers. Which of the following features would interest you in this program?

(READ LIST; ENTER ALL THAT APPLY)

- 1 Opportunity to reduce energy costs
- 2 Opportunity to receive a rebate on measures installed
- 3 Being able to upgrading the building
- 4 Being able to upgrade tenant units
- 5 Types of improvements available
- 6 (DO NOT READ) None of these

1.4 What questions would you need to have answered before you agreed to participate in a program such as this? (DO NOT READ; ENTER ALL THAT APPLY)

- 01 What is the cost of the installation?
- 02 How much will the utility bills go down as a result of the installation?
- 03 How do I participate?
- 04 What paperwork is required or what forms do I need to fill out?
- 05 What rebate will I receive?
- 06 How long will it take to get paid?
- 07 Are the lights, appliances and other equipment good quality?
- 08 Do the contractors in the program do quality installation work?
- 09 Other (SPECIFY) _____
- 10 None

2.1. Which of the following measures do you think you would be interested in installing in your tenant-occupied spaces? (READ LIST. ENTER ALL THAT APPLY)

2.3. Which of the items just mentioned would you be most likely to want to install?

	TENANT OCCUPIED SPACES	2.1	2.3 (CHOOSE)
--	-------------------------------	------------	-------------------------

			ONE from 2.1)
01	Hardwired Fluorescent Fixtures in tenant spaces with rebate of \$50 per fixture		
02	Hardwired Fluorescent porch lights with rebate of \$30 per fixture		
03	Screw in Fluorescent lamps with a rebate of up to \$6 per lamp		
04	Energy Star ceiling fans with a rebate of \$20 per fixture.		
05	Energy Star clothes washers with rebate of \$75 per unit		
06	Energy Star Dishwasher with rebate of \$30 per unit		
07	High performance dual-paned windows with a rebate of \$0.50 per square foot		
08	Attic or wall insulation with a rebate of \$0.15 per square foot		
09	Low-flow showerheads with a rebate of \$5.00 each		
10	Faucet aerators with a rebate of \$1.25 each		
11	(DO NOT READ) None of the above		

2.2. Which of the following measures do you think you would be interested in installing in your common areas? (READ LIST. ENTER ALL THAT APPLY)

2.3. Which of the items just mentioned would you be most likely to want to install?

	COMMON AREAS	2.2	2.3 (CHOOSE ONE from 2.1)
01	High efficiency exit signs with a rebate of \$35 per sign		
02	Screw in Fluorescent lamps with a rebate of up to \$6 per lamp		
03	Occupancy Sensors with a rebate of \$10 per sensor		
04	Photocells with a rebate of \$10 per cell		
05	High performance dual-paned windows with a rebate of \$0.50/ per square foot		
06	High efficiency boilers with rebates up to \$1,500 per unit		

07	High efficiency water heaters with rebates up to \$500 per unit		
08	High efficiency central air conditioners with rebates up to \$425 per unit		
09	Energy efficient central heat pumps with rebates up to \$500 per unit		
10	Coin operated clothes washers with rebate of \$150 per unit		
11	Natural gas water heater or boiler controllers with rebates up to \$750 or \$1500 per unit		
12	(DO NOT READ) None of the above		

2.4. For (ITEM CHOSEN IN Q2.3) Which of the following best characterizes the way in which you would assess the cost of this investment? (READ LIST. CIRCLE ONE RESPONSE)

- 1 Look at the total cost of the installation
- 2 Look at the total cost relative to the energy savings you were told to expect
- 3 Look at the number of years that the investment would take to pay for itself
- 4 Look at the return on investment
- 5 Would not need to judge because cost would be minimal
- 7 Other (PLEASE SPECIFY) _____

2.5 What other factors, besides investment costs, would you consider in deciding to have this / these measures installed?

- 1 Repair, maintenance issues
- 2 Installation difficulties
- 3 Quality of product
- 4 Tenant acceptance, aesthetics
- 7 Other (PLEASE SPECIFY) _____
- 8 None, no other factors

2.6. Aside from yourself, who else would be involved in this decision? (READ. Mult. Resp.)

- 1 Property owner
- 2 Property manager

- 3 Supervisor at property management company
- 4 Purchasing manager at property management company
- 7 Other (PLEASE SPECIFY) _____

2.7. How many bids would you seek for this work?

- 1 One bid
- 2 2 bids
- 3 3 bids
- 4 4 or more bids
- 7 Other (PLEASE SPECIFY) _____

2.8. Would you request a list of contractors working with this program from the utility?

- 1 Yes →ASK 2.9
- 2 No

2.9. What difficulties, if any, might you expect to encounter?

If 2.1 and 2.2= Not Interested in any of the measures ask 2.10 & 2.11

2.10. What is the major reason you have not selected any of the measures I read to you earlier? Is it because...(READ LIST)?

- 1 I am just not interested in participating in the utility program → GO TO Q2.11
- 2 I am interested in the program, but none of the measures interest me → GO TO Q2.12
- 3 I am interested in the measures but the rebates are not big enough → GO TO Q4.1

2.11. Why are you not interested in this utility program? Is it because...?

(READ LIST AND ENTER ALL THAT APPLY)

- 01 I have done all I can to save energy in my buildings
- 02 I have had bad experiences with previous utility programs
- 03 I do not see the investment of time and money as being worthwhile
- 04 I do not have time to devote to this program
- 05 My energy costs do not constitute a large enough cost to warrant concern
- 06 I have no desire to make these investments in tenant spaces
- 07 I have already installed the eligible measures
- 08 Other (PLEASE SPECIFY) _____

2.12. Are there other energy saving measures that you would be interested in if they were offered in this program? (IF YES:) What are they?

- 01 Yes
- 02 No → **GO TO 4.1**

2.12a. What are they?

- 01 Energy Star refrigerators
- 02 Energy Star window or through-wall air conditioners
- 03 Energy Star coin-operated clothes washers
- 04 Solar domestic water heaters
- 05 Photovoltaic (“PV”) panels
- 06 Cool roofs
- 07 Other (SPECIFY)
- 08 No, not interested

4.1. Which of the following is your preferred means of getting information about these types of programs from the utilities? (READ LIST. ACCEPT UP TO 3 ANSWERS)

- 01 Bill stuffers
- 02 Newspapers

- 03 Radio
- 04 TV
- 05 Utility website
- 06 Contractors or other vendors
- 07 Trade association
- 08 Fax
- 09 E-Mail
- 10 Direct mail
- 11 (DO NOT READ) None of these

4.3. Please rate each of the following program features or benefits as “not at all important,” “somewhat important,” or “very important.”

		Not at all important	Somewhat important	Very important	DK
a.	Simple/no paperwork	1	2	3	8
b.	Amount of the Energy Savings	1	2	3	8
c.	No Cost for installation/equipment	1	2	3	8
d.	Quality products	1	2	3	8
e.	Quality Installation work	1	2	3	8
f.	List of all approved-vendors in my area	1	2	3	8

5.1. Have you installed any energy efficiency improvements recently that were outside of any utility- or State-sponsored energy efficiency program?

- 1 Yes
- 2 No → GO TO 5.2

5.1a. What energy efficiency improvements had you installed? What others?

(DO NOT READ: ACCEPT MULTIPLE RESPONSE—CONTINUE TO PROBE)

- 01 Hardwired Fluorescent Fixtures
- 02 Hardwired Fluorescent porch/outdoor lights
- 03 Screw in Compact Fluorescent Lamps (CFLs)
- 04 Energy Star ceiling fans
- 05 Energy Star clothes washers
- 06 Energy Star Dishwashers
- 07 Energy Star programmable thermostats
- 08 High performance dual-paned windows
- 09 Attic or wall insulation
- 10 High efficiency exit signs
- 11 Occupancy Sensors
- 12 Photocell controls for exterior lighting
- 13 High efficiency boilers
- 14 High efficiency water heaters
- 15 High efficiency air conditioners or heat pumps
- 16 Natural gas water heater or boiler controllers
- 17 Solar water heating
- 18 Solar photovoltaic (PV) panels
- 19 Cool roofs

5.2. Do you have any plans to make any energy efficiency improvements to this or other properties in the next two to three years?

- 1 Yes
- 2 No → **GO TO Q5.3**

5.2A. What energy efficiency improvements do you plan to install in Tenant-occupied spaces?
(DO NOT READ; ENTER ALL THAT APPLY)

- 01 Compact Fluorescent Lamps (CFLs)
- 02 Hardwired fluorescent fixtures

- 03 Energy Star ceiling fans
- 04 Energy Star Clothes Washers
- 05 Energy Star Dishwashers
- 06 Energy Star Programmable Thermostats
- 07 Energy Star Refrigerators
- 08 High efficiency window or through-wall air conditioners
- 09 High performance dual-paned windows
- 10 Attic or wall insulation
- 11 Other, specify: _____
- 12 None in Tenant-occupied spaces

5.2B. What energy efficiency improvements do you plan to install in Common Areas?

(DO NOT READ; ENTER ALL THAT APPLY)

- 01 Compact Fluorescent Lamps (CFLs)
- 02 Hardwired Fluorescent Indoor lighting
- 03 Hardwired Fluorescent or high efficiency outdoor lighting
- 04 Energy Star Coin-operated clothes washers
- 05 High efficiency Furnaces
- 06 High efficiency Central Boilers
- 07 High efficiency Water Heaters
- 08 High efficiency Air Conditioning
- 09 Attic or wall insulation
- 10 High efficiency exit signs
- 11 Occupancy sensors for interior lighting
- 12 Photocell controls for exterior lighting
- 13 Natural gas water heater or boiler controllers
- 14 Solar water heading
- 15 Solar photovoltaic (PV) panels

16 Cool roofs

17 Other, specify: _____

18 None in Common Areas

88 Don't Know

5.3. Would you be interested in incentives that encouraged replacement of Refrigerators?

1 Yes

2 No

3 Don't Know

4 Refused

5.4. Would you be interested in incentives that encouraged replacement of Coin operated clothes washers?

1 Yes

2 No

6.1. How many apartment units are located in the building or buildings at the address we have been talking about (Prompt: that is at: (INSERT ADDRESS))?

_____ (RECORD # UNITS)

88. Don't Know

6.2. How many stories is the building(s) at that address?

_____ (RECORD # STORIES)

88 Don't Know

6.3. Do you, or your firm... (READ LIST)?

1 Own and manage this property?

2 Manage this property only?

3 Own this property but not manage it?

6.4. In total, how many multifamily residential properties in [Utility Service Areas] do you, or your firm:

- 1. Own, but do not manage? _____(RECORD #)
- 2. Own and manage? _____(RECORD #)
- 3. Manage only? _____(RECORD #)

6.5. How many years have you been in your current position at this property?

_____ (RECORD # YEARS)

6.5B. How many years have you been in control of other complexes?

_____ (RECORD # YEARS)

88 Don't Know

Thank you very much for participating in this survey. Would you like to have your utility company send you information about energy efficiency programs currently available to MF Property Managers?

- 1 Yes
- 2 No

(IF YES, VERIFY NAME AND ADDRESS FOR MAILING.)

Multi-family Rebate Program Nonparticipant Survey Instrument

Hello I am _____ from San Diego Gas & Electric. May I speak with the property owner or manager?

This is not a sales call. We're conducting an evaluation of SDG&E multifamily rebate program. This survey is for research purposes only and your input will help SDG&E improve the program. This research effort will take less than 15 minutes to complete. Is now a good time to conduct this brief interview?

The rebate program offered items such as outdoor lighting, indoor lighting, appliances, heating and cooling equipment, insulation, etc. Your input will help SDG&E improve this program.

S1. First, how many of the buildings that you manage have five or more units?

_____ (ENTER # OF BUILDINGS) (IF NONE, DK OR REF – TERMINATE)

(IF ONE BUILDING IN S1: **When answering the following questions, please refer to this building.**)

(IF MORE THAN ONE BUILDING IN S1: **When answering the following questions, please refer to the building with five or more units that you most actively manage.**)

1.1. Are you aware of the SDG&E Multifamily Rebate Program which provides incentives for installing energy efficient measures in multi-family properties?

1 Yes

2 No → GO TO 1.3

1.1A. Do you recall how you first learned about this program? Did you... yes/no

Received information about program from the utility brochure or bill stuffer? _____

Read about program on Company Web page _____

Contacted by a contractor offering services _____

Read about program in the newspaper _____

Other (PLEASE SPECIFY) _____

1.3 This program offers rebates for MF(multi-family) property managers who work with contractors to install a variety of energy-savings measures, including such things as high efficiency lighting, appliances, water heaters and boilers. Which of the following features would interest you in this program?

(READ LIST; ENTER ALL THAT APPLY)

- 1 Opportunity to reduce energy costs
- 2 Opportunity to receive a rebate on measures installed
- 3 Being able to upgrading the building
- 4 Being able to upgrade tenant units
- 5 Types of improvements available
- 6 (DO NOT READ) None of these

1.4 What questions would you need to have answered before you agreed to participate in a program such as this? (DO NOT READ; ENTER ALL THAT APPLY)

- 01 What is the cost of the installation?
- 02 How much will the utility bills go down as a result of the installation?
- 03 How do I participate?
- 04 What paperwork is required or what forms do I need to fill out?
- 05 What rebate will I receive?
- 06 How long will it take to get paid?
- 07 Are the lights, appliances and other equipment good quality?
- 08 Do the contractors in the program do quality installation work?
- 09 Other (SPECIFY) _____
- 10 None

2.1. Which of the following measures do you think you would be interested in installing in your tenant-occupied spaces? (READ LIST. ENTER ALL THAT APPLY)

2.3. Which of the items just mentioned would you be most likely to want to install?

	TENANT OCCUPIED SPACES	2.1	2.3 (CHOOSE ONE from 2.1)
01	Hardwired Fluorescent Fixtures in tenant spaces with rebate of \$50 per fixture		
02	Hardwired Fluorescent porch lights with rebate of \$30 per fixture		

03	Screw in Fluorescent lamps with a rebate of up to \$6 per lamp		
04	Energy Star ceiling fans with a rebate of \$20 per fixture.		
05	Energy Star clothes washers with rebate of \$75 per unit		
06	Energy Star Dishwasher with rebate of \$30 per unit		
07	High performance dual-paned windows with a rebate of \$0.50 per square foot		
08	Attic or wall insulation with a rebate of \$0.15 per square foot		
09	Low-flow showerheads with a rebate of \$5.00 each		
10	Faucet aerators with a rebate of \$1.25 each		
11	(DO NOT READ) None of the above		

2.2. Which of the following measures do you think you would be interested in installing in your **common areas**? (READ LIST. ENTER ALL THAT APPLY)

2.3. Which of the items just mentioned would you be **most likely** to want to install?

	COMMON AREAS	2.2	2.3 (CHOOSE ONE from 2.1)
01	High efficiency exit signs with a rebate of \$35 per sign		
02	Screw in Fluorescent lamps with a rebate of up to \$6 per lamp		
03	Occupancy Sensors with a rebate of \$10 per sensor		
04	Photocells with a rebate of \$10 per cell		
05	High performance dual-paned windows with a rebate of \$0.50/ per square foot		
06	High efficiency boilers with rebates up to \$1,500 per unit		
07	High efficiency water heaters with rebates up to \$500 per unit		
08	High efficiency central air conditioners with rebates up to \$425 per unit		
09	Energy efficient central heat pumps with rebates up to \$500 per unit		
10	Coin operated clothes washers with rebate of \$150 per unit		

11	Natural gas water heater or boiler controllers with rebates up to \$750 or \$1500 per unit		
12	(DO NOT READ) None of the above		

2.4. For (ITEM CHOSEN IN Q2.3) Which of the following best characterizes the way in which you would assess the cost of this investment? (READ LIST. CIRCLE ONE RESPONSE)

- 1 Look at the total cost of the installation
- 2 Look at the total cost relative to the energy savings you were told to expect
- 3 Look at the number of years that the investment would take to pay for itself
- 4 Look at the return on investment
- 5 Would not need to judge because cost would be minimal
- 7 Other (PLEASE SPECIFY) _____

2.5 What other factors, besides investment costs, would you consider in deciding to have this / these measures installed?

- 1 Repair, maintenance issues
- 2 Installation difficulties
- 3 Quality of product
- 4 Tenant acceptance, aesthetics
- 7 Other (PLEASE SPECIFY) _____
- 8 None, no other factors

2.6. Aside from yourself, who else would be involved in this decision? (READ. Mult. Resp.)

- 1 Property owner
- 2 Property manager
- 3 Supervisor at property management company
- 4 Purchasing manager at property management company
- 7 Other (PLEASE SPECIFY) _____

2.7. How many bids would you seek for this work?

- 1 One bid
- 2 2 bids
- 3 3 bids
- 4 4 or more bids
- 7 Other (PLEASE SPECIFY) _____

2.8. Would you request a list of contractors working with this program from the utility?

- 1 Yes → **ASK 2.9**
- 2 No

2.9. What difficulties, if any, might you expect to encounter?

[If 2.1 and 2.2= Not Interested in any of the measures ask 2.10 & 2.11]

2.10. What is the major reason you have not selected any of the measures I read to you earlier? Is it because...*(READ LIST)*?

- 1 I am just not interested in participating in the utility program → **GO TO Q2.11**
- 2 I am interested in the program, but none of the measures interest me → **GO TO Q2.12**
- 3 I am interested in the measures but the rebates are not big enough → **GO TO Q4.1**

2.11. Why are you not interested in this utility program? Is it because...?

(READ LIST AND ENTER ALL THAT APPLY)

- 01 I have done all I can to save energy in my buildings
- 02 I have had bad experiences with previous utility programs
- 03 I do not see the investment of time and money as being worthwhile
- 04 I do not have time to devote to this program
- 05 My energy costs do not constitute a large enough cost to warrant concern
- 06 I have no desire to make these investments in tenant spaces

- 07 I have already installed the eligible measures
- 08 Other (PLEASE SPECIFY) _____

2.12. Are there other energy saving measures that you would be interested in if they were offered in this program?

2.13. (IF YES:) What are they?

- 01 Yes
- 02 No → GO TO 4.1

2.12a. What are they?

- 01 Energy Star refrigerators
- 02 Energy Star window or through-wall air conditioners
- 03 Energy Star coin-operated clothes washers
- 04 Solar domestic water heaters
- 05 Photovoltaic (“PV”) panels
- 06 Cool roofs
- 07 Other (SPECIFY)
- 08 No, not interested

4.1. Which of the following is your preferred means of getting information about these types of programs from the utilities? (READ LIST. ACCEPT UP TO 3 ANSWERS)

- 01 Bill stuffers
- 02 Newspapers
- 03 Radio
- 04 TV
- 05 Utility website
- 06 Contractors or other vendors
- 07 Trade association

- 08 Fax
- 09 E-Mail
- 10 Direct mail
- 11 (DO NOT READ) None of these

4.3. Please rate each of the following program features or benefits as “not at all important,” “somewhat important,” or “very important.”

		Not at all important	Somewhat important	Very important	DK
a.	Simple/no paperwork	1	2	3	8
b.	Amount of the Energy Savings	1	2	3	8
c.	No Cost for installation/equipment	1	2	3	8
d.	Quality products	1	2	3	8
e.	Quality Installation work	1	2	3	8
f.	List of all approved-vendors in my area	1	2	3	8

5.1. Have you installed any energy efficiency improvements recently that were outside of any utility- or State-sponsored energy efficiency program?

- 1 Yes
- 2 No → GO TO 5.2

5.1a. What energy efficiency improvements had you installed? What others?

(DO NOT READ: ACCEPT MULTIPLE RESPONSE—CONTINUE TO PROBE)

- 01 Hardwired Fluorescent Fixtures
- 02 Hardwired Fluorescent porch/outdoor lights
- 03 Screw in Compact Fluorescent Lamps (CFLs)
- 04 Energy Star ceiling fans
- 05 Energy Star clothes washers

- 06 Energy Star Dishwashers
- 07 Energy Star programmable thermostats
- 08 High performance dual-paned windows
- 09 Attic or wall insulation
- 10 High efficiency exit signs
- 11 Occupancy Sensors
- 12 Photocell controls for exterior lighting
- 13 High efficiency boilers
- 14 High efficiency water heaters
- 15 High efficiency air conditioners or heat pumps
- 16 Natural gas water heater or boiler controllers
- 17 Solar water heating
- 18 Solar photovoltaic (PV) panels
- 19 Cool roofs

5.2. Do you have any plans to make any energy efficiency improvements to this or other properties in the next two to three years?

- 1 Yes
- 2 No → **GO TO Q5.3**

5.2A. What energy efficiency improvements do you plan to install in Tenant-occupied spaces?
(DO NOT READ; ENTER ALL THAT APPLY)

- 01 Compact Fluorescent Lamps (CFLs)
- 02 Hardwired fluorescent fixtures
- 03 Energy Star ceiling fans
- 04 Energy Star Clothes Washers
- 05 Energy Star Dishwashers
- 06 Energy Star Programmable Thermostats
- 07 Energy Star Refrigerators

- 08 High efficiency window or through-wall air conditioners
- 09 High performance dual-paned windows
- 10 Attic or wall insulation
- 11 Other, specify: _____
- 12 None in Tenant-occupied spaces

5.2B. What energy efficiency improvements do you plan to install in Common Areas?

(DO NOT READ; ENTER ALL THAT APPLY)

- 01 Compact Fluorescent Lamps (CFLs)
- 02 Hardwired Fluorescent Indoor lighting
- 03 Hardwired Fluorescent or high efficiency outdoor lighting
- 04 Energy Star Coin-operated clothes washers
- 05 High efficiency Furnaces
- 06 High efficiency Central Boilers
- 07 High efficiency Water Heaters
- 08 High efficiency Air Conditioning
- 09 Attic or wall insulation
- 10 High efficiency exit signs
- 11 Occupancy sensors for interior lighting
- 12 Photocell controls for exterior lighting
- 13 Natural gas water heater or boiler controllers
- 14 Solar water heading
- 15 Solar photovoltaic (PV) panels
- 16 Cool roofs
- 17 Other, specify: _____
- 18 None in Common Areas
- 88 Don't Know

5.3. Would you be interested in incentives that encouraged replacement of Refrigerators?

- 1 Yes
- 2 No
- 3 Don't Know
- 4 Refused

5.4. Would you be interested in incentives that encouraged replacement of Coin operated clothes washers?

- 1 Yes
- 2 No

6.1. How many apartment units are located in the building or buildings at the address we have been talking about (Prompt: that is at: (INSERT ADDRESS)?

_____ (RECORD # UNITS)

88. Don't Know

6.2. How many stories is the building(s) at that address?

_____ (RECORD # STORIES)

88 Don't Know

6.3. Do you, or your firm... (READ LIST)?

- 1 Own and manage this property?
- 2 Manage this property only?
- 3 Own this property but not manage it?

6.4. In total, how many multifamily residential properties in [Utility Service Areas] do you, or your firm:

- 1. Own, but do not manage? _____(RECORD #)
- 2. Own and manage? _____(RECORD #)

3. Manage only? _____(RECORD #)

6.5. How many years have you been in your current position at this property?

_____ (RECORD # YEARS)

6.5B. How many years have you been in control of other complexes?

_____ (RECORD # YEARS)

88 Don't Know

Thank you very much for participating in this survey. Would you like to have your utility company send you information about energy efficiency programs currently available to MF Property Managers?

(IF YES, VERIFY NAME AND ADDRESS FOR MAILING.)

Multi-family Rebate Program Contractor Survey Instrument

INTRODUCTION

Hello, my name is _____ and I am working on a project with SDG&E to provide feedback on the Multifamily Energy Efficiency Rebate Program. Our records indicate that your firm is participating in this program and I wonder I might have a few minutes of your time to learn about your experiences with this program. Any information you provide will be strictly confidential, and will be used to improve the program in the future.

Is this a good time to talk, or is there a better time when I can call back? *callback time*

My records show you have submitted applications for projects to receive incentives under the Multifamily Energy Efficiency Rebate program. Is this correct?

1. Yes
2. No
3. Don't know (ask to speak with someone who would know)

Contractor's History with Program

1. What type of facilities have you completed projects with under this program?

1. apartment buildings
2. condominium complexes
3. mobile home parks
4. Don't know

1a. Approximately how many project have you completed under this program?

2. (If jobs completed in apartment buildings) Roughly speaking, what proportion of your projects in apartment buildings for this program were in tenant-occupied areas and what proportion would you say were in common areas?

Tenant occupied: _____ %

Common spaces _____ %

Don't know

3. What types of equipment did you install in the projects you have submitted to the Multifamily Rebate program?

1. CFLs
2. interior lighting fixtures
3. exterior lighting fixtures
4. Occupancy sensors or photocells

- 5. air conditioning systems or heat pumps
- 6. showerheads and/or aerators
- 7. clothes washers
- 8. dishwashers
- 9. boilers
- 10. storage water heaters
- 11. water heater controllers
- 12. furnaces
- 13. insulation
- 14. other _____

4. Are you planning to continue participating in this program in 2008?

- 1. No
- 2. Yes
- 3. Unsure [skip to Q6]

4a. [if no] Why aren't you planning to submit any additional projects to the program?

Satisfaction with Program

5. On a scale of 1 to 10 with 1 being "not at all satisfied" and 10 being "very satisfied", how satisfied are you with your firm's experiences in the Multifamily Energy Efficiency Rebate program this year?

Not satisfied

Very satisfied

1	2	3	4	5	6	7	8	9	10	NA
---	---	---	---	---	---	---	---	---	----	----

6. Why did you give the program this rating?

7. What do you see as the program's main program strengths or benefits?

8. What would you say are its main drawbacks or weaknesses?

Notification

9. How did your firm learn about the Multifamily Rebate Program?

1. utility website
2. mailing from utility
3. utility ad
4. word of mouth – other contractors
5. trade association
6. client (apartment owner, HUD, etc.)
7. work on previous utility programs
8. Other (specify) _____
9. Don't know

9a. If your firm has worked previously under this program, how long has your program been doing work under this program?

10. (for gas contractors and plumbers) What improvements, if any, would you suggest in the ways that firms like yours are notified about the program? [Probe for specific trade associations, newsletters, etc.]

Marketing

11. How do the majority of your clients learn about the program?

1. From our firm
2. From utility
3. Other
4. Don't know

12. How does your firm market this program?

13. Are there particular features or benefits that you emphasize when marketing this program?

14. [For SDG&E only] There is a requirement to address both electric and gas end-uses in order to qualify for incentives (comprehensiveness). Has this been a barrier to participation? Have you had any issues or challenges with this requirement?

Incentives

15. On a scale of 1 to 10 where 1 is “not effective” and 10 is “very effective”, how effective would you say the incentives offered through the MF program are in influencing facility owners or landlords in deciding to choose higher efficiency options for multifamily properties?

Not effective

Very effective

1	2	3	4	5	6	7	8	9	10	NA
---	---	---	---	---	---	---	---	---	----	----

(Probe for why or why not)

16. Are there variations across projects types or facility types in terms of how adequate the incentives are for encouraging energy efficiency?

Payment Process

17. On a scale of 1 to 10 with 1 being “not at all satisfied” and 10 being “very satisfied”, how satisfied are you with the process used in the MF Rebate Program to apply for payment? Using the same scale how would you rate the application form itself? Again On a scale from 1 to 10, how would you rate the amount of time it takes for you to get paid?

Not satisfied

Very satisfied

	1	2	3	4	5	6	7	8	9	10	NA
application process											
application form											
time it takes to process payment											

18. Do you have any specific recommendations for ways this could be improved?(probe on reaction. if reservation system mentioned, probe on this.)

Impact on Firms’ Business

19. What effect, if any, has the Multifamily Rebate program had on the type of jobs you are doing; that is, has it affected the number of jobs you do in multifamily facilities, has it changed the proportion of jobs in which you install high efficiency measures, has it led you to diversify your business in any way?

20. Are there any energy efficiency upgrades that are not now covered the program that you would especially like to see included in the future?

[Probes: Do you currently offer this type of service/equipment to your customers? How would having this included in the program improve business for you?]

21. Are there any marketing materials or other types of support that the utilities could provide that would help you achieve these projections?

Suggestions

22. Are there any other ways in which the program could be changed to better support businesses like yours in promoting energy efficient products or services?

23. Is there any way in which you would like to see SDG&E do additional or different marketing of the program or of the measures that are eligible for rebates?

MARKET / FIRM CHARACTERIZATION

24. What type of contracting or service business is your firm in?

1. ESCO
2. electrical contractor
3. HVAC contractor
4. plumber
5. Other _____

25. How many offices and employees do you have (in California)?

offices _____

employees _____

26. Do you have offices in other states as well?

1. Yes
2. No

27. In a typical year, approximately how many multifamily facilities do you work on in California?

Thank you for your time. Your assistance will help SDG&E in making decisions for the program's future. We appreciate your contributions and input.

Multi-family Rebate Program In-depth Interview Guide for Property Owners

Screener:

Hello, I am calling from Energy Market Innovations. We are working with SDG&E to provide them with feedback that will help them improve their energy efficiency programs for MF properties. May I please speak with the owner or property manager for this facility?

(Confirm) -- Are you the person who is primarily responsible for decisions related to investments in energy efficiency?

Familiarity with Program

1. Are you familiar with the Multifamily Energy Efficiency Rebate Program?

Y/N

[If NO: Explain the program ... then skip to Q3]

Program Participation and Experiences

2. Have you ever participated in this program?

Y/N

2a. If YES: When did you participate in this program?

2b. If YES: What types of measures did you have installed under this program?

2c. If YES: On a scale of 1-10, with a 1 being “not at all satisfied,” and 10 being “completely satisfied,” how would you rate your experiences with this program?

2d. If score is <7, ask: “Why did you give your experience this score?”

Market Conditions

3. How would you describe the MF market at this point? Is it a lessor’s market, or a tenant’s market?

4. What other important trends are driving the MF property management business at this time? Do these trends affect general interest in energy efficiency opportunities?

5. Obviously, a priority is to keep units rented. How do you see energy efficiency working for or against improving the competitiveness of your property?

Perceived Opportunities for Energy Efficiency

6. What steps have you already taken to increase the energy efficiency within this property?

6a. Common-area improvements?

6b. Tenant-area improvements?

7. On a scale of 1-10, with 1 being “very little opportunity” and 10 being “tremendous opportunity,” how would you rate the potential for improving energy efficiency within your facility?

8. What do you feel are the major opportunities that would be worth pursuing?

8a. Common-area improvements?

8b. Tenant-area improvements?

Barriers

9. What factors prevent you from addressing these opportunities at this time?

10. Do you pay electric bills or do tenants? How does this influence your interest in energy efficiency?

11. Do you have contractors that you regularly work with and would be able to address energy efficiency issues?

11a. If NO: Is finding and selecting a contractor to work with a barrier to pursuing efficiency opportunities?

12. What other drivers affect your interest in upgrading the energy efficiency of your building?

13. We understand that the quality of the installations is important. What steps could a program such as this take to ensure that you were completely satisfied with the installation?

14. Is gaining access to tenant spaces an issue that prevents upgrading the efficiency of tenant units?

Interest in Program

15. Is this program something that you might be interested in learning more about?

Sources of Information

16. What is the most effective way to get information to you regarding energy efficiency programs and/or opportunities?

17. Do you belong to trade associations or other professional organizations?

Background Information

18. How long have you worked at this facility? Do facility managers such as yourself typically move to new properties and, if so, how frequently?

19. How large is this facility (# units)

Suggestions

20. Do you have any additional suggestions for how SDG&E could promote energy efficiency within the MF market?

13.3 UPSTREAM LIGHTING PROGRAM SURVEYS

Upstream Lighting Program Lighting Retailer Survey Instrument

Hello, my name is _____ and I am calling on behalf of San Diego Gas and Electric.
May I speak to the store manager or the store buyer responsible for lighting equipment purchases?

This is not a sales call. We're conducting an evaluation of SDG&E's Upstream Lighting program that your store participates in with lighting manufacturers. This survey is for research purposes only and will be used to improve programs such as the Upstream Lighting Program in San Diego.

[INTERVIEWER: *If contacts do not recognize the name "Upstream Lighting," please replace with a generic name such as "energy efficient lighting discount program."*]

This research effort will take less than 15 minutes to complete. Is now a good time to conduct this brief interview?

Recently you participated in the Upstream Lighting Program, which is a program that provides discounts to retailers who purchase qualifying energy efficiency lighting products such as CFLs and fluorescent lighting fixtures from participating manufacturers. We want to talk to you briefly about your experience with this program.

Once manager located

Q1. Are you familiar with that program?

1. YES → GO TO Q3
2. NO

Q2. Is there someone else in the store that might be familiar with this program?

1. YES → RESTART INTRODUCTION AND BEGIN INTERVIEW AT Q3
2. NO

Q3. What year did your store begin participating in SDG&E's Upstream Lighting program?

1. 2007
2. 2006
3. 2005
4. 2004
5. DK

Q4. Did you first learn of this program from a manufacturer, from SDG&E or from some other source?

- 1. Manufacturer → What is the name of the manufacturer? _____
- 2. SDG&E
- 3. Some other source, specify: _____ → **GO TO Q6**

We would like to know the reasons your store participated in this lighting program. For each of the following reasons, please tell me whether that reason is very important, somewhat important, or not important reason for your participation in the program.

	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DK
Q6. To increase store traffic	1	2	3	8
Q7. To increase the sales of energy efficient bulbs	1	2	3	8
Q8. To gain access to low cost energy efficient bulbs	1	2	3	8
Q9. To promote energy efficiency	1	2	3	8

Q10. Are there any other reasons for your store's participation in this program?

What types of energy efficient bulbs has your store typically carried through this program?

Did you carry...	NO			How satisfied are you with the sales of the programs energy efficiency bulbs?					Why?	
	YES	Ask why not	DK	Very satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Very dissatisfied		DK
Q11. <u>SPRAL</u>	1→	2	8	1	2	3	4→	5→	8	
Why don't you carry this bulb										
Q12. <u>THREE-WAY</u>	1→	2	8	1	2	3	4→	5→	8	
Why don't you carry this bulb										
Q13. <u>REFLEC TOR</u>	1→	2	8	1	2	3	4→	5→	8	
Why don't you carry this bulb										
Q14. <u>DIMMABLE LE</u>	1→	2	8	1	2	3	4→	5→	8	
Why don't you carry this bulb										
Q15. <u>A-LAMP</u>	1→	2	8	1	2	3	4→	5→	8	
Why don't you carry this bulb										
Q16. <u>CANDEL ABRA</u>	1→	2	8	1	2	3	4→	5→	8	
Why don't you carry this bulb										

Q17. <u>GLOBE</u>	1 →	2	8	1	2	3	4 →	5 →	8
Why don't you carry this bulb									
Q18. <u>LEDS</u>	1 →	2	8	1	2	3	4 →	5 →	8
Why don't you carry this bulb									
Q19. <u>OTHER</u>	1 →	2	8	1	2	3	4 →	5 →	8

Q20. During the utility program sales period, did your sales of CFLs...

- 1. Increase
- 2. Remain the same → GO TO Q23
- 3. Decrease → GO TO Q23
- 8. DK → GO TO Q23

Q20a. What would you say was the percent of increased CFL sales during that time?

Q21. Approximately what percentage of your light bulb space is devoted to CFLs (versus incandescent, halogen, etc.)? _____

Q22. And approximately what percentage of your light bulb sales are for CFLs (as versus incandescent, halogen, etc.)? _____

Q23. Did the amount of shelf space dedicated to energy efficient lighting products increase during the promotion?

- 1. Yes
- 2. No → GO TO Q24
- 8. DK → GO TO Q24

Q23a. By how much? _____

Q24. Are there any other lighting products you would like to see included in this program?

- 1. Yes
- 2. No → GO TO Q25
- 8. DK → GO TO Q25

Q24a. What products? _____

Q25. Are there any lighting products you would like to see excluded from this program?

1. Yes
2. No → GO TO Q26
8. DK → GO TO Q26

Q25a. What products? _____

Q26. Have you carried CFLs packaged with multiple bulbs in a single package through this program? 1.

- Yes
2. No → GO TO Q29
8. DK → GO TO Q29

Q26a. How many bulbs per package? (Multiple responses allowed)

1. Two
2. Four
3. Eight
4. DK
5. Other, specify: _____

Q27. Approximately what percentage of your CFL sales are sales of the multi-packs?

Q28. How satisfied are you with the sales of the multi-packs you have carried?

1. VERY SATISFIED
2. Somewhat SATISFIED
3. Neither satisfied nor dissatisfied
4. Somewhat DISSATISFIED → ASK WHY
5. VERY DISSATISFIED → ASK WHY
6. Don't Know____

Q28a. Why? (Probe for discontinued carrying) _____

Adequacy of Supply

Q29. Have you had difficulty obtaining adequate stock of any of the bulbs you have carried through this program?

1. Yes
2. No → GO TO Q30
8. DK → GO TO Q30

Q29a. Which ones? (Multiple responses allowed)

1. Spiral
2. Three-way
3. Reflector
4. Dimmable
5. A-lamp
6. Candelabra
7. Globe
8. LEDs
9. Other, specify _____

Promotional Materials & Marketing

Q30. Regarding promotional materials, are you using the product promotional materials provided by the manufacturer?

1. Yes → GO TO Q31
2. No

Q30a. Why aren't you using those promotional materials?

Q30b. Did the manufacturer place the signage for the energy efficient lighting products in your store?

- 1. Yes → GO TO Q30
- 2. No
- 8. DK → GO TO Q30

Q31. How effective are the promotional materials provided by the manufacturer?

- 1. Very effective
- 2. Somewhat effective
- 3. Neither effective nor ineffective
- 4. Somewhat ineffective → ASK WHY
- 5. Very ineffective → ASK WHY
- 8. Don't know

Q31a. Why? _____

Q32. Do you have suggestions to make these materials more effective?

Q33. Did your store create its own materials to promote the program's energy efficient lighting products?

- 1. Yes
- 2. No
- 8. DK

Q34. Are you aware of any other marketing or publicity that promotes sales of energy efficient lighting products in California?

- 1. Yes
- 2. No → GO TO Q37

8. DK → GO TO Q37

Q34a. What are you aware of?

Q35. How effective are these other marketing efforts to get California consumers to purchase energy efficient lighting products?

1. Very effective
2. Somewhat effective
3. Neither effective nor ineffective
4. Somewhat ineffective → ASK WHY
5. Very ineffective → ASK WHY
8. Don't know

Q35a. Why?

Q36. Do you have suggestions to make those efforts more effective?

Q37. Have you received any customer comments or complaints about the energy efficient lighting products sold through the program?

1. Yes
2. No → GO TO Q38
8. DK → GO TO Q38

Q36a. What were those comments or complaints? _____

Q38. Overall, how satisfied are you with SDG&E's upstream lighting program?

Would you say you were...

1. Very Satisfied

2. Somewhat SATISFIED
3. Neither satisfied nor dissatisfied
4. Somewhat DISSATISFIED → ASK WHY
5. VERY DISSATISFIED → ASK WHY
8. Don't Know

Q38a. Why? _____

Q39. Thinking about everything we have talked about, what would you say are the best aspects of this program?

Q40. Is there anything SDG&E can do to improve this program?

Firmographics

Q41. Can you estimate the total INDOOR square footage of your facility at this location? Is it...?

1. LESS THAN 2,500 SQUARE FEET
2. 2,500 BUT LESS THAN 5,000 SQUARE FEET
3. 5,000 BUT LESS THAN 10,000 SQUARE FEET
4. 10,000 BUT LESS THAN 20,000 SQUARE FEET
5. 20,000 BUT LESS THAN 50,000 SQUARE FEET
6. 50,000 BUT LESS THAN 100,000 SQUARE FEET
7. OVER 100,000 SQUARE FEET
8. DON'T KNOW
9. REFUSED

Q42. Which of the following categories describes the number of employees your firm has at this location?

1. 1 TO 5
2. 6 TO 10
3. 11 TO 20
4. 21 TO 50
5. 51 TO 100
6. OVER 100
7. DON'T KNOW
8. REFUSED

Thank you for your help.

13.4 LIGHTING EXCHANGE PROGRAM SURVEYS

Lighting Exchange Program Participant Survey Instrument (CFLs)

Hello, my name is _____ and I am calling on behalf of San Diego Gas and Electric.

May I please speak with [CONTACT NAME]?

This is not a sales call. We are conducting a study regarding participation in the Lighting Exchange Program. This survey is for research purposes only and will be used to improve programs such programs as Lighting Exchange Program in the San Diego. This research effort will take less than 15 minutes to complete. Is now a good time to conduct this very brief interview?

We are contacting you because you participated in a lighting exchange program in [insert MONTH/YEAR].

You brought in incandescent bulbs and received compact fluorescent bulbs. CFLs are small fluorescent bulbs that fit in regular light bulb sockets. CFLs look different than standard bulbs. They are often made out of thin tubes of glass bent into spirals, or they could be globe shaped, or look like a flood light. Do you remember this?

1. Yes
2. No → **TERMINATE**

Q1. Think back to when you participated in this Lighting Exchange program. How did you learn about this program? [Allow multiple responses]

- a. RECEIVED POSTCARD/MAILING
 - b. RECEIVED EMAIL FROM COMPANY
 - c. SAW SOMETHING ON THE WEBSITE
 - d. SAW PROMOTION AT THE STORE/SITE OF EXCHANGE
 - e. STORE CLERK MENTIONED IT
 - f. HEARD ABOUT IT FROM A FRIEND
 - g. SAW POSTER AT _____, please specify.
 - h. DROVE OR WALKED BY THE EVENT
 - i. OTHER, specify
88. DON'T KNOW/CAN'T REMEMBER

Q2. Please help me understand how far away the Lighting Exchange Program location was from your home. About how many minutes did it take you to get from your home to the exchange location, one way?

1. Enter Minutes _____

Q3. Did you have any problems find the SDG&E lighting exchange booth at the turn-in location?

- 1. Yes
- 2. No
- 8. DK

Q4. Was the staff running the Lighting Exchange courteous?

- 1. Yes → GO TO Q6
- 2. No
- 8. DK → GO TO Q6

Q5. Why not? *open-end*

Q6. Was the staff helpful and knowledgeable?

- 1. Yes → GO TO Q8
- 2. No
- 8. DK → GO TO Q8

Q7. Why not? *open-end*

Q8. Did you have any difficulty filling out the application form?

- 1. Yes
- 2. No → GO TO Q10
- 8. DK → GO TO Q10

Q9. Why was it difficult? *open-end*

Q10. While you were at the Exchange, do you remember getting information about other measures you could take to increase the energy efficiency in your home?

- 1. Yes
- 2. No → GO TO Q13
- 8. DK → GO TO Q13

Q11. What specific information did you get for reducing energy use in your home?

[INTERVIEWER: Do not read possible responses, accept multiple responses, and prompt for others.]

- 1. TURN OFF LIGHTS
- 2. REDUCE LIGHTING USE
- 3. RAISE THERMOSTAT SETTING FOR COOLING
- 4. LOWER THERMOSTAT SETTING FOR HEAT
- 5. HAVE HEATING SYSTEM TUNED
- 6. LOWER DHW TEMPERATURE
- 7. DON'T HEAT/COOL UNUSED ROOMS
- 8. SHADE WINDOWS TO KEEP HOUSE COOL
- 9. TURN ON REFRIGERATOR ENERGY SAVER SWITCH
- 10. KEEP REFRIGERATOR FULL
- 11. WASH WITH COLD WATER
- 12. ALWAYS WASH WITH FULL LOAD
- 13. ALWAYS DRY WITH FULL LOAD
- 14. DRY CLOTHES ON LINE OR RACK
- 15. THAW FOOD BEFORE COOKING
- 16. USE THE MICROWAVE WHENEVER POSSIBLE
- 17. COVER POTS WITH LIDS WHEN HEATING
- 18. TURN DOWN BURNER WHEN BOILING POINT IS REACHED
- 19. TURNED OFF WATERBED HEATER
- 20. OTHER Specify: _____

Q12. As a result of attending the Lighting Exchange, do you now do any of these energy saving measures that you did not do before attending the exchange, such as ENTER RESPONSE FROM Q11.

- 1. Yes
- 2. No
- 8. DK

Q13. Did you receive any information about other energy efficiency rebate programs?

- 1. Yes
- 2. No → GO TO Q22
- 8. DK → GO TO Q22

Q14. Which rebates did you receive information about? [Multiple response]

1. SINGLE FAMILY PROGRAM: REBATE FOR ENERGY EFFICIENT APPLIANCES, INSULATION, POOL PUMPS
2. APPLIANCE RECYCLING: REBATE FOR TURNING IN OLD REFRIGERATORS OR FREEZERS
3. CARES: LOWERS BILL FOR LOW INCOME AND DISABLED
4. OTHER, Specify: _____

Q15. Did you participate in any of these programs?

1. Yes
2. No → **GO TO Q19**
8. DK → **GO TO Q19**

Q16. Which programs?

1. SINGLE FAMILY PROGRAM: REBATE FOR ENERGY EFFICIENT APPLIANCES, INSULATION, POOL PUMPS
2. APPLIANCE RECYCLING: REBATE FOR TURNING IN OLD REFRIGERATORS OR FREEZERS
3. CARES: LOWERS BILL FOR LOW INCOME AND DISABLED
4. OTHER, Specify: _____

Q17. Did you begin participating after you went to the lighting exchange?

1. Yes
2. No → **GO TO Q19**
8. DK → **GO TO Q19**

Q18. Which programs?

1. SINGLE FAMILY PROGRAM: REBATE FOR ENERGY EFFICIENT APPLIANCES, INSULATION, POOL PUMPS
2. APPLIANCE RECYCLING: REBATE FOR TURNING IN OLD REFRIGERATORS OR FREEZERS
3. CARES: LOWERS BILL FOR LOW INCOME AND DISABLED
4. OTHER, Specify: _____

Q19. Do you think you will participate in any of these programs in the upcoming year?

1. Yes
2. No → **GO TO Q21**
8. DK → **GO TO Q21**

Q20. Which programs?

1. SINGLE FAMILY PROGRAM: REBATE FOR ENERGY EFFICIENT APPLIANCES, INSULATION, POOL PUMPS
2. APPLIANCE RECYCLING: REBATE FOR TURNING IN OLD REFRIGERATORS OR FREEZERS
3. CARES: LOWERS BILL FOR LOW INCOME AND DISABLED
4. OTHER, Specify: _____

Q21. Would you like the ability to track the status of your rebate applications on-line using the utility's website?

1. Yes
2. No
8. DK/Not Sure

Q22. Since participating in the Lighting Exchange, have you taken any other measures to increase the energy efficiency in your home? (OPEN-ENDED)

Q23 through Q35 were skipped

.....

Q36. Our records show that you received [INSERT CFL RECEIVED] compact fluorescent lamps at the exchange. Of these, how many are currently installed in your home?

1. Enter # of Lamps: _____

Q37. How many are burnt out or broken?

1. Enter # of Lamps: _____

Q38. How many did you give to someone else?

1. Enter # of Lamps: _____

Q39. How many are not currently being used?

1. Enter # of Lamps: _____

IF ANS = 0, SKP to Q41.

Q40. What is the reason that you are not using the bulb(s) you received? [Allow multiple responses]

1. POOR LIGHT QUALITY
2. NOT ENOUGH LIGHT
3. KEEP BURNING OUT
4. DOES NOT FIT IN MY LAMPS/SOCKETS
5. I DO NOT HAVE ANY MORE PLACES TO PUT THEM/I AM SAVING UNTIL OTHERS BURN OUT
6. OTHER, *specify* _____

Q41. You said before that you have installed in your home [INSERT Q36#] bulbs that you received at the lighting exchange. How many hours per day do you use this bulb/these bulbs in total? For example, if you use one bulb approximately four hours per day and the other bulb approximately 15 minutes per day, the answer is four hours and 15 minutes per day.

1. Enter # of HOURS: _____

Q42. How many lamps do you still have in your home that use incandescent bulbs, the screw-in type that you turned in at the exchange, and that are on more than two hours per day?

1. Enter # of LIGHTS: _____

Q43. What is the reason that you have not replaced these with the compact fluorescent lamps, like the ones SDG&E gave you at the exchange?

1. DON'T FIT
2. LAMPS COST TOO MUCH
3. POOR LIGHT QUALITY
4. NOT ENOUGH LIGHT
5. KEEP BURNING OUT
6. LAMPS ARE ON DIMMER
7. DON'T HAVE ANY CFLS LEFT TO PUT THERE?

Q44. How would you describe your overall satisfaction with the Lighting Exchange Program? Would you say you are

1. EXTREMELY SATISFIED
2. VERY SATISFIED
3. SOMEWHAT SATISFIED
4. NOT VERY SATISFIED
5. NOT AT ALL SATISFIED
6. NOT SURE
88. DK

Q45. Do you have any suggestions for improving the Lighting Exchange program? (OPEN-ENDED)

Q46. What other programs or offerings could the utility provide to help you manage your energy use better?
(Record response verbatim)

Q47. Do you think there are other opportunities to save energy in your home?

- 1. Yes
- 2. No → GO TO Q49
- 8. DK/Not Sure → GO TO Q49

Q48. Which areas in your home? *[INTERVIEWER: Probe for multiple areas, record up to 3]*

Area 1: _____

Area 2: _____

Area 3: _____

Q49INT. Let me ask you about some specific items in your home. Let me assure you that this information will be kept confidential; These questions are just being asked to get an idea of energy savings potential in the market that could be addressed by the RESIDENTIAL INCENTIVE PROGRAM.

Q49. Do you own an in-ground swimming pool?

- 1. YES
- 2. PART OF A MULTI-FAMILY COMPLEX → GO TO Q55
- 3. NO → GO TO Q55
- 88. Don't Know → GO TO Q55

Q50. What kind of pool pump do you have? *(read all)*

- 1. SINGLE-SPEED PUMP
- 2. TWO SPEED PUMP → GO TO Q55
- 3. VARIABLE SPEED PUMP → GO TO Q55
- 4. DON'T HAVE A POOL PUMP → GO TO Q55
- 7. DON'T KNOW

Q51. How old is the pool pump?

1. Less than 1 Year
2. Enter # of Years _____

Q52. Are you aware of the rebates that SDG&E offers to replace single speed pool pumps?

1. YES
2. NO → GO TO Q54
8. DK → GO TO Q54

Q53. How did you hear about the rebate?

1. POOL SERVICE PERSON
2. WORD OF MOUTH
3. FROM UTILITY WEBSITE
4. FROM UTILITY MAILING
5. FROM STORE PROMOTION
6. OTHER , Specify _____
8. DK

Q54. What are the reasons you have not replaced your single speed pool pump? [Multiple Response]

1. IT WORKS FINE
2. I DO NOT USE MY POOL MUCH
3. I CANNOT AFFORD TO BUY NEW UNIT
4. MY SERVICE PERSON DOES NOT RECOMMEND IT
5. OTHER, Specify _____
8. DK

Q55. What equipment do you use to cool your home? [Multiple Response]

1. CENTRAL AIR CONDITIONING
2. HEAT PUMP → GO TO Q60
3. ROOM AIR CONDITIONERS
4. EVAPORATIVE COOLER
5. WHOLE HOUSE FAN → GO TO Q60
6. ROOM FANS → GO TO Q60
7. NONE
8. DK → GO TO Q60

Q56. How old is your AC unit?

1. Enter YEARS: _____ [If respondent doesn't know, probe for response]

Would you say ...?

1. 0-2 YEARS
2. 2.1-5 YEARS
3. 5.1-10 YEARS
4. MORE THAN 10 YEARS

Q57. SDG&E offers a program that helps save energy by having air conditioners ‘cycle’ on and off every 30 minutes during very hot days. Would you be willing to have your air conditioner cycled if you received an incentive payment from your utility?

1. YES
2. NO
8. DK/NOT SURE

IF Q56 IS LESS THAN 5 Years, GO TO Q60

Q58. What do you think the potential is for saving energy with new a new air conditioner in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL
8. DK

Q59. How many days per summer do you use your air conditioning equipment?

1. NOT AT ALL
2. 30 DAYS OR LESS
3. 31-90 DAYS
4. 91-120 DAYS
5. MORE THAN 120 DAYS
8. DON’T KNOW

Q60. What equipment do you use to heat your home??

1. FURNACE
2. WALL FURNACE
3. BOILER
4. HEAT PUMP
5. ELECTRIC BASEBOARD
6. HEATING STOVE → GO TO Q64
7. SPACE HEATER → GO TO Q64
8. CENTRAL—MY APARTMENT IS CENTRALLY HEATED, THE LANDLORD SUPPLIES → GO TO Q64
9. OTHER, SPECIFY: _____ → GO TO Q64
88. DK

Q61. How old is your heating equipment?

1. Enter YEARS: _____

[IF respondent doesn't know, PROBE for response]

Would you say....

1. 0-2 YEARS
2. 2-5 YEARS
3. 5-10 YEARS
4. MORE THAN 10 YEARS
88. Don't Know

IF Answer is LESS THAN 5 years, GO TO Q64

Q62. What do you think the potential is for saving energy with new furnace/wall heater in your home? Would you say there is ...

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL
8. DK

Q63. How many days per winter do you use your heating equipment?

1. NOT AT ALL
2. 30 DAYS OR LESS
3. 31-90 DAYS
4. 91-120 DAYS
5. MORE THAN 120 DAYS
8. DON'T KNOW

Q64. How old is your clothes washer?

1. Enter YEARS: _____

2. We don't have a clothes washer [IF respondent doesn't know, PROBE for response]

Would you say....

1. 0-2 YEARS
2. 2-5 YEARS
3. 5-10 YEARS
4. MORE THAN 10 YEARS
88. Don't Know

IF Answer is LESS THAN 5 years, GO TO Q66

Q65. What do you think the potential is for saving energy with a new clothes washer? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL

2. MEDIUM POTENTIAL
3. LOW POTENTIAL
8. DK

Q66. Do you have a dishwasher?

1. YES
2. NO → GO TO Q69

Q67. How old is your dishwasher?

1. ENTER YEARS: _____

[IF respondent doesn't know, PROBE for response]

Would you say

1. 0-2 YEARS
2. 2-5 YEARS
3. 5-10 YEARS
4. MORE THAN 10 YEARS
88. Don't Know

IF Answer is LESS THAN 5 years, GO TO Q69

Q68. What do you think the potential is for saving energy with a new dishwasher in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL
8. DK

Q69. How many refrigerators do you have in your home?

1. Enter Number _____

Q69a. How many freezers do you have in your home?

1. Enter Number _____

Q70. How old is your Main refrigerator?

1. Enter years: _____

[IF respondent doesn't know, PROBE for response]

Would you say....

1. 0-2 YEARS
 2. 2.1-5 YEARS
 3. 5.1-10 YEARS
 4. MORE THAN 10 YEARS
88. Don't Know **IF Answer is LESS THAN 5 years, GO TO Q72**

Q71. What do you think the potential is for saving energy with a new refrigerator in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL
8. DK

Q72. How old is your water heater?

1. Enter years: _____
99. I do not have my own water heater

[IF respondent doesn't know, PROBE for response]

Would you say...

1. 0-2 YEARS
 2. 2-5 YEARS
 3. 5-10 YEARS
 4. MORE THAN 10 YEARS
88. Don't Know

IF Answer is LESS THAN 5 years, GO TO Q74

Q73. What do you think the potential is for saving energy with a new water heater in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL
8. DK

Q74. How many Compact Fluorescent lightbulbs, or CFLs, do you have installed in your home?

1. ENTER NUMBER _____

Q75. How many lights do you still have in your home that use standard incandescent bulbs, and that are on more than 2 hours per day?

1. ENTER NUMBER _____

2.

[skip if Q75 = 0]

Q76. What is the reason that you have not replaced these incandescent lamps with the Compact Fluorescent Lamps?

1. DON'T FIT
2. LAMPS COST TOO MUCH
3. POOR LIGHT QUALITY
4. NOT ENOUGH LIGHT
5. KEEP BURNING OUT
6. LAMPS ARE ON DIMMER
7. NEVER OCCURRED TO ME
8. NO SPECIFIC REASON
88. DK

Q77. How about your windows, how old are the windows in your home?

1. Enter YEARS: _____

[IF respondent doesn't know, PROBE for response]

Would you say...

1. 0-5 YEARS
2. 5-10 YEARS
3. 10-20 YEARS
4. MORE THAN 20 YEARS
88. Don't Know

IF Answer is LESS THAN 5 years, GO TO Q79

Q78. What do you think the potential is for saving energy with new windows in your home?

Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL
8. DK

DEMOGRAPHIC QUESTIONS

Q79. Lastly, I have just a few questions about your home. Do you currently own or rent?

1. OWN
2. RENT

Q80. 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, specify: _____

Q81. Including all adults AND children, how many people are in your household?

1. 1
2. 2
3. 3
4. 4 or more, *SPECIFY*: _____

Q82. When was your home originally built?

1. ENTER YEAR: _____

[IF respondent doesn't know, PROBE for response]

Would you say...

1. 1930s OR BEFORE
2. 1940s
3. 1950s
4. 1960s
5. 1970s
6. 1980s
7. 1990s
8. 2000 OR LATER
88. DON'T KNOW

Q83. Approximately how many square feet is your home?

1. Enter SQUARE FOOTAGE #: _____

[IF respondent doesn't know, PROBE for response]

Would you say...

1. LESS THAN 1,400 SQ FT
2. 1,400 TO 2,500 SQ FT
3. 2,500 TO 3,500 SQ FT
4. 3,500 TO 5,000 SQ FT
5. MORE THAN 5,000 SQ FT
8. DON'T KNOW

Q84. What is your age?

1. Enter YEARS: _____ *[IF respondent doesn't want to answer, PROBE for response]*

Would you say....

1. UNDER 25 YEARS
2. 25 THROUGH 34 YEARS

3. 35 THROUGH 44 YEARS
4. 45 THROUGH 54 YEARS
5. 55 THROUGH 59 YEARS
6. 60 THROUGH 64 YEARS
7. 65 YEARS OR OLDER

Q85. What is the highest level of education you have completed? [INTERVIEWER: READ LIST]

6. HIGH SCHOOL DIPLOMA OR LESS
7. SOME COLLEGE
8. ASSOCIATES DEGREE
9. BACHELORS DEGREE
10. GRADUATE OR PROFESSIONAL DEGREE

Q86. Please stop me when I read you household's annual income[INTERVIEWER: READ LIST]

8. LESS THAN \$20,000
9. \$20,000 TO LESS THAN \$40,000
10. \$40,000 TO LESS THAN \$60,000
11. \$60,000 TO LESS THAN \$80,000
12. \$80,000 TO LESS THAN \$100,000
13. \$100,000 TO LESS THAN \$150,000
14. MORE THAN \$150,000
15. DK
16. REF

Q87. What is your ethnicity/race?

8. White or Caucasian
9. Black or African American
10. Asian
11. Native Hawaiian or Other Pacific Islander
12. American Indian or Alaska Native
13. Other [specify] _____
88. Don't Know

99. Refused

Q88. RECORD gender

1. Male
2. Female
3. Cannot Tell/DK

TERM: That's all the questions I have. Thank you very much for participating in our study. Thank you very much for your time. Goodbye.

Lighting Exchange Participant Survey Instrument (Torchiere)

Hello, my name is _____ and I am calling on behalf of San Diego Gas and Electric.

May I please speak with [CONTACT NAME]?

This is not a sales call. We are conducting a study regarding participation in the Lighting Exchange Program. This survey is for research purposes only and will be used to improve programs such programs as Lighting Exchange Program in the San Diego. This research effort will take less than 15 minutes to complete. Is now a good time to conduct this very brief interview?

We are contacting you because you participated in a lighting exchange program in [insert MONTH/YEAR].

At this exchange, you brought in an old lamp fixture and received a new fixture that used a circular fluorescent bulb. Do you remember this?

1. Yes
2. No → **TERMINATE**

Q1. Think back to when you participated in this Lighting Exchange program. How did you learn about this program? [Allow multiple responses]

- a. RECEIVED POSTCARD/MAILING
- b. RECEIVED EMAIL FROM COMPANY
- c. SAW SOMETHING ON THE WEBSITE
- d. SAW PROMOTION AT THE STORE/SITE OF EXCHANGE
- e. STORE CLERK MENTIONED IT
- f. HEARD ABOUT IT FROM A FRIEND
- g. SAW POSTER AT _____, please specify.
- h. DROVE OR WALKED BY THE EVENT
- i. OTHER, specify
88. DON'T KNOW/CAN'T REMEMBER

Q2. Please help me understand how far away the Lighting Exchange Program location was from your home. About how many minutes did it take you to get from your home to the exchange location, one way?

1. Enter Minutes _____

Q3. Did you have any problems find the SDG&E lighting exchange booth at the turn-in location?

- 1. Yes
- 2. No
- 8. DK

Q4. Was the staff running the Lighting Exchange courteous?

- 1. Yes → GO TO Q6
- 2. No
- 8. DK → GO TO Q6

Q5. Why not? *open-end*

Q6. Was the staff helpful and knowledgeable?

- 1. Yes → GO TO Q8
- 2. No
- 8. DK → GO TO Q8

Q7. Why not? *open-end*

Q8. Did you have any difficulty filling out the application form?

- 1. Yes
- 2. No → GO TO Q10
- 8. DK → GO TO Q10

Q9. Why was it difficult? *open-end*

Q10. While you were at the Exchange, do you remember getting information about other measures you could take to increase the energy efficiency in your home?

- 1. Yes
- 2. No → GO TO Q13
- 8. DK → GO TO Q13

Q11. What specific information did you get for reducing energy use in your home?

[INTERVIEWER: Do not read possible responses, accept multiple responses, and prompt for others.]

- 21. TURN OFF LIGHTS
- 22. REDUCE LIGHTING USE
- 23. RAISE THERMOSTAT SETTING FOR COOLING
- 24. LOWER THERMOSTAT SETTING FOR HEAT
- 25. HAVE HEATING SYSTEM TUNED
- 26. LOWER DHW TEMPERATURE
- 27. DON'T HEAT/COOL UNUSED ROOMS
- 28. SHADE WINDOWS TO KEEP HOUSE COOL
- 29. TURN ON REFRIGERATOR ENERGY SAVER SWITCH
- 30. KEEP REFRIGERATOR FULL
- 31. WASH WITH COLD WATER
- 32. ALWAYS WASH WITH FULL LOAD
- 33. ALWAYS DRY WITH FULL LOAD
- 34. DRY CLOTHES ON LINE OR RACK
- 35. THAW FOOD BEFORE COOKING
- 36. USE THE MICROWAVE WHENEVER POSSIBLE
- 37. COVER POTS WITH LIDS WHEN HEATING
- 38. TURN DOWN BURNER WHEN BOILING POINT IS REACHED
- 39. TURNED OFF WATERBED HEATER
- 40. OTHER Specify: _____

Q12. As a result of attending the Lighting Exchange, do you now do any of these energy saving measures that you did not do before attending the exchange, such as ENTER RESPONSE FROM Q11.

- 1. Yes
- 2. No
- 8. DK

Q13. Did you receive any information about other energy efficiency rebate programs?

- 1. Yes

2. No → GO TO Q22

8. DK → GO TO Q22

Q14. Which rebates did you receive information about? *[Multiple response]*

5. SINGLE FAMILY PROGRAM: REBATE FOR ENERGY EFFICIENT APPLIANCES, INSULATION, POOL PUMPS
6. APPLIANCE RECYCLING: REBATE FOR TURNING IN OLD REFRIGERATORS OR FREEZERS
7. CARES: LOWERS BILL FOR LOW INCOME AND DISABLED
8. OTHER, Specify: _____

Q15. Did you participate in any of these programs?

1. Yes

2. No → GO TO Q19

8. DK → GO TO Q19

Q16. Which programs?

5. SINGLE FAMILY PROGRAM: REBATE FOR ENERGY EFFICIENT APPLIANCES, INSULATION, POOL PUMPS
6. APPLIANCE RECYCLING: REBATE FOR TURNING IN OLD REFRIGERATORS OR FREEZERS
7. CARES: LOWERS BILL FOR LOW INCOME AND DISABLED
8. OTHER, Specify: _____

Q17. Did you begin participating after you went to the lighting exchange?

1. Yes

2. No → GO TO Q19

8. DK → GO TO Q19

Q18. Which programs?

5. SINGLE FAMILY PROGRAM: REBATE FOR ENERGY EFFICIENT APPLIANCES, INSULATION, POOL PUMPS
6. APPLIANCE RECYCLING: REBATE FOR TURNING IN OLD REFRIGERATORS OR FREEZERS
7. CARES: LOWERS BILL FOR LOW INCOME AND DISABLED
8. OTHER, Specify: _____

Q19. Do you think you will participate in any of these programs in the upcoming year?

1. Yes

2. No → GO TO Q21

8. DK → GO TO Q21

Q20. Which programs?

5. SINGLE FAMILY PROGRAM: REBATE FOR ENERGY EFFICIENT APPLIANCES, INSULATION, POOL PUMPS
6. APPLIANCE RECYCLING: REBATE FOR TURNING IN OLD REFRIGERATORS OR FREEZERS
7. CARES: LOWERS BILL FOR LOW INCOME AND DISABLED
8. OTHER, Specify: _____

Q21. Would you like the ability to track the status of your rebate applications on-line using the utility's website?

1. Yes

2. No

8. DK/Not Sure

Q22. Since participating in the Lighting Exchange, have you taken any other measures to increase the energy efficiency in your home? (OPEN-ENDED)

Q23. Our records show that you received a [insert # torchiere LAMPS] torchiere floor lamp(s) at the exchange. How many are currently installed in your home and used on a regular basis?

1. Enter # of Lamps: _____

Q24. Of these [Insert # from Q23] many of these lamps did the bulb burn out or did the bulb break?

1. Enter # of Lamps: _____

Q25. How many did you give to someone else?

1. Enter # of Lamps: _____

Q26. How many are not being used?

1. Enter # of Lamps: _____

→ IF ANS = 0, SKP TO Q28

Q27. What is the reason that you are not using the lamp(s) you received? *[Allow multiple responses]*

1. POOR LIGHT QUALITY
2. NOT ENOUGH LIGHT
3. KEEP BURNING OUT
4. LAMP STAND BROKE
5. COLOR, STYLE, DOES NOT FIT MY ROOM
6. OTHER, specify _____

Q28. Have you been able to find replacement bulbs for the torchiere floor lamps?

1. I HAVE NOT TRIED TO FIND THEM
2. I HAVE FOUND THEM IN STORES, BUT HAVE NOT NEEDED THEM YET
3. I HAVE FOUND THEM IN STORES, BUT HAVE NOT PURCHASED ANY BECAUSE THEY WERE TOO EXPENSIVE
4. I HAVE FOUND THEM AND PURCHASED THEM
5. OTHER, specify _____

Q29. You said before that you are using [INSERT Q23 #] in your home. How many hours per day do you use this lamp/these lamps in total? For example, if you use one lamp approximately four hours per day and the other lamp approximately 15 minutes per day, the answer is four hours and 15 minutes per day.

1. Enter # of HOURS: _____

→ IF Q23 = 0, SKP TO Q44

Q30. How would you rate the quality of the light compared to the ones you turned in?

1. BETTER THAN THE ONES I TURNED IN → GO TO Q32
2. THE SAME AS THE ONES I TURNED IN → GO TO Q32
3. WORSE THAN THE ONES I TURNED IN

Q31. Why was it worse? *Open-End*

Q32. How would you rate the quality of these lamps compared to the ones you turned in?

1. BETTER THAN THE ONES I TURNED IN → SKIP TO Q34
2. THE SAME AS THE ONES I TURNED IN → SKIP TO Q34
3. WORSE THAN THE ONES I TURNED IN

Q33. Why was it worse? *Open-End*

Q34. How would you rate the safety of the lamps compared to what you turned in?

1. BETTER THAN THE ONES I TURNED IN → SKIP TO Q36
2. THE SAME AS THE ONES I TURNED IN → SKIP TO Q36
3. WORSE THAN THE ONES I TURNED IN

Q35. Why was it worse? *Open-End*

Q36 through Q43 were skipped
.....

Q44. How would you describe your overall satisfaction with the Lighting Exchange Program? Would you say you are

8. EXTREMELY SATISFIED
9. VERY SATISFIED
10. SOMEWHAT SATISFIED
11. NOT VERY SATISFIED
12. NOT AT ALL SATISFIED
13. NOT SURE
88. DK

Q45. Do you have any suggestions for improving the Lighting Exchange program? (OPEN-ENDED)

Q46. What other programs or offerings could the utility provide to help you manage your energy use better? (*Record response verbatim*)

ENERGY SAVINGS POTENTIAL

Q47. Do you think there are other opportunities to save energy in your home?

1. Yes
2. No → GO TO Q49
8. DK/Not Sure → GO TO Q49

Q48. Which areas in your home? [INTERVIEWER: Probe for multiple areas, record up to 3]

Area 1: _____

Area 2: _____

Area 3: _____

Q49INT. Let me ask you about some specific items in your home. Let me assure you that this information will be kept confidential; These questions are just being asked to get an idea of energy savings potential in the market that could be addressed by the RESIDENTIAL INCENTIVE PROGRAM.

Q49. Do you own an in-ground swimming pool?

- 4. YES
- 5. PART OF A MULTI-FAMILY COMPLEX → GO TO Q55
- 6. NO → GO TO Q55
- 88. Don't Know → GO TO Q55

- 99. Refused → GO TO Q55

Q50. What kind of pool pump do you have? (read all)

- 5. SINGLE-SPEED PUMP
- 6. TWO SPEED PUMP → GO TO Q55
- 7. VARIABLE SPEED PUMP → GO TO Q55
- 8. DON'T HAVE A POOL PUMP → GO TO Q55
- 8. DON'T KNOW

Q51. How old is the pool pump?

- 1. Less than 1 Year
- 2. Enter # of Years _____

Q52. Are you aware of the rebates that SDG&E offers to replace single speed pool pumps?

- 3. YES
- 4. NO → GO TO Q54
- 8. DK → GO TO Q54

- 9. REF → GO TO Q54

Q53. How did you hear about the rebate?

- 7. POOL SERVICE PERSON
- 8. WORD OF MOUTH
- 9. FROM UTILITY WEBSITE
- 10. FROM UTILITY MAILING

- 11. FROM STORE PROMOTION
- 12. OTHER , Specify _____
- 8. DK

Q54. What are the reasons you have not replaced your single speed pool pump? [Multiple Response]

- 6. IT WORKS FINE
- 7. I DO NOT USE MY POOL MUCH
- 8. I CANNOT AFFORD TO BUY NEW UNIT
- 9. MY SERVICE PERSON DOES NOT RECOMMEND IT
- 10. OTHER, Specify _____
- 8. DK

Q55. What equipment do you use to cool your home? [Multiple Response]

- 1. CENTRAL AIR CONDITIONING
- 8. HEAT PUMP → GO TO Q60
- 9. ROOM AIR CONDITIONERS
- 10. EVAPORATIVE COOLER
- 11. WHOLE HOUSE FAN → GO TO Q60
- 12. ROOM FANS → GO TO Q60
- 13. NONE
- 8. DK → GO TO Q60

Q56. How old is your AC unit?

- 1. Enter YEARS: _____ [If respondent doesn't know, probe for response]

Would you say ...?

- 0-2 YEARS
- 2.1-5 YEARS
- 5.1-10 YEARS
- MORE THAN 10 YEARS

Q57. SDG&E offers a program that helps save energy by having air conditioners 'cycle' on and off every 30 minutes during very hot days. Would you be willing to have your air conditioner cycled if you received an incentive payment from your utility?

- 3. YES
- 4. NO
- 8. DK/NOT SURE
- 9. REF

IF Q56 IS LESS THAN 5 Years, GO TO Q60

**Q58. What do you think the potential is for saving energy with new a new air conditioner in your home?
Would you say there is high potential, medium potential, or low potential for energy savings?**

- 4. HIGH POTENTIAL
- 5. MEDIUM POTENTIAL
- 6. LOW POTENTIAL
- 8. DK

Q59. How many days per summer do you use your air conditioning equipment?

- 6. NOT AT ALL
- 7. 30 DAYS OR LESS
- 8. 31-90 DAYS
- 9. 91-120 DAYS
- 10. MORE THAN 120 DAYS
- 8. DON'T KNOW

Q60. What equipment do you use to heat your home??

- 10. FURNACE
- 11. WALL FURNACE
- 12. BOILER
- 13. HEAT PUMP
- 14. ELECTRIC BASEBOARD
- 15. HEATING STOVE → GO TO Q64
- 16. SPACE HEATER → GO TO Q64
- 17. CENTRAL—MY APARTMENT IS CENTRALLY HEATED, THE LANDLORD SUPPLIES → GO TO Q64
- 18. OTHER, SPECIFY: _____ → GO TO Q64
- 88. DK

Q61. How old is your heating equipment?

1. Enter YEARS: _____

[IF respondent doesn't know, PROBE for response]

Would you say....

- 0-2 YEARS
- 2-5 YEARS
- 5-10 YEARS

MORE THAN 10 YEARS

88. Don't Know

IF Answer is LESS THAN 5 years, GO TO Q64

Q62. What do you think the potential is for saving energy with new furnace/wall heater in your home? Would you say there is ...

4. HIGH POTENTIAL
5. MEDIUM POTENTIAL
6. LOW POTENTIAL
8. DK

Q63. How many days per winter do you use your heating equipment?

6. NOT AT ALL
7. 30 DAYS OR LESS
8. 31-90 DAYS
9. 91-120 DAYS
10. MORE THAN 120 DAYS
8. DON'T KNOW

Q64. How old is your clothes washer?

1. Enter YEARS: _____

2. We don't have a clothes washer

[IF respondent doesn't know, PROBE for response]

Would you say....

0-2 YEARS

2-5 YEARS

5-10 YEARS

MORE THAN 10 YEARS

88. Don't Know

99. Refused

IF Answer is LESS THAN 5 years, GO TO Q66

Q65. What do you think the potential is for saving energy with a new clothes washer? Would you say there is high potential, medium potential, or low potential for energy savings?

- 4. HIGH POTENTIAL
- 5. MEDIUM POTENTIAL
- 6. LOW POTENTIAL
- 8. DK

Q66. Do you have a dishwasher?

- 3. YES
- 4. NO → GO TO Q69

Q67. How old is your dishwasher?

1. ENTER YEARS: _____

[IF respondent doesn't know, PROBE for response]

Would you say

0-2 YEARS

2-5 YEARS

5-10 YEARS

MORE THAN 10 YEARS

88. Don't Know

IF Answer is LESS THAN 5 years, GO TO Q69

Q68. What do you think the potential is for saving energy with a new dishwasher in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

- 4. HIGH POTENTIAL
- 5. MEDIUM POTENTIAL
- 6. LOW POTENTIAL
- 8. DK

Q69. How many refrigerators do you have in your home?

1. Enter Number _____

Q69a. How many freezers do you have in your home?

1. Enter Number _____

Q70. How old is your Main refrigerator?

1. Enter years: _____

[IF respondent doesn't know, PROBE for response]

Would you say....

0-2 YEARS

2.1-5 YEARS

5.1-10 YEARS

MORE THAN 10 YEARS

88. Don't Know

99. Refused

IF Answer is LESS THAN 5 years, GO TO Q72

Q71. What do you think the potential is for saving energy with a new refrigerator in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

4. HIGH POTENTIAL

5. MEDIUM POTENTIAL

6. LOW POTENTIAL

8. DK

Q72. How old is your water heater?

1. Enter years: _____

99. I do not have my own water heater

[IF respondent doesn't know, PROBE for response]

Would you say...

0-2 YEARS

2-5 YEARS

5-10 YEARS

MORE THAN 10 YEARS

88. Don't Know

IF Answer is LESS THAN 5 years, GO TO Q74

Q73. What do you think the potential is for saving energy with a new water heater in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

- 4. HIGH POTENTIAL
- 5. MEDIUM POTENTIAL
- 6. LOW POTENTIAL
- 8. DK

Q74. How many Compact Fluorescent lightbulbs, or CFLs, do you have installed in your home?

1. ENTER NUMBER _____

Q75. How many lights do you still have in your home that use standard incandescent bulbs, and that are on more than 2 hours per day?

1. ENTER NUMBER _____

[skip if Q75 = 0]

Q76. What is the reason that you have not replaced these incandescent lamps with the Compact Fluorescent Lamps?

- 9. DON'T FIT
- 10. LAMPS COST TOO MUCH
- 11. POOR LIGHT QUALITY
- 12. NOT ENOUGH LIGHT
- 13. KEEP BURNING OUT
- 14. LAMPS ARE ON DIMMER
- 15. NEVER OCCURRED TO ME
- 16. NO SPECIFIC REASON
- 88. DK

Q77. How about your windows, how old are the windows in your home?

1. Enter YEARS: _____

[If respondent doesn't know, PROBE for response]

Would you say...

0-5 YEARS

5-10 YEARS

10-20 YEARS

MORE THAN 20 YEARS

88. Don't Know

IF Answer is LESS THAN 5 years, GO TO Q79

Q78. What do you think the potential is for saving energy with new windows in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

4. HIGH POTENTIAL
5. MEDIUM POTENTIAL
6. LOW POTENTIAL
8. DK

DEMOGRAPHIC QUESTIONS

Q79. Lastly, I have just a few questions about your home. Do you currently own or rent?

3. OWN
4. RENT

Q80. What type of home do you currently live in?

8. SINGLE-FAMILY DETACHED HOME
9. CONDO
10. TOWNHOUSE
11. MOBILE HOME / MANUFACTURED HOME
12. DUPLEX
13. APARTMENT
14. OTHER, specify: _____

Q81. Including all adults AND children, how many people are in your household?

5. 1
6. 2
7. 3
8. 4 or more, SPECIFY: _____

Q82. When was your home originally built?

1. ENTER YEAR: _____

[IF respondent doesn't know, PROBE for response]

Would you say...

9. 1930s OR BEFORE
10. 1940s
11. 1950s
12. 1960s
13. 1970s
14. 1980s
15. 1990s
16. 2000 OR LATER

88. DON'T KNOW

99. REF

83. Approximately how many square feet is your home?

1. Enter SQUARE FOOTAGE #: _____

[IF respondent doesn't know, PROBE for response]

Would you say...

- 6. LESS THAN 1,400 SQ FT
- 7. 1,400 TO 2,500 SQ FT
- 8. 2,500 TO 3,500 SQ FT
- 9. 3,500 TO 5,000 SQ FT
- 10. MORE THAN 5,000 SQ FT
- 8. DON'T KNOW

Q84. What is your age?

1. Enter YEARS: _____

[IF respondent doesn't want to answer, PROBE for response]

Would you say....

- 8. UNDER 25 YEARS
- 9. 25 THROUGH 34 YEARS
- 10. 35 THROUGH 44 YEARS
- 11. 45 THROUGH 54 YEARS
- 12. 55 THROUGH 59 YEARS
- 13. 60 THROUGH 64 YEARS
- 14. 65 YEARS OR OLDER

Q85. What is the highest level of education you have completed? [INTERVIEWER: READ LIST]

- 11. HIGH SCHOOL DIPLOMA OR LESS
- 12. SOME COLLEGE
- 13. ASSOCIATES DEGREE
- 14. BACHELORS DEGREE
- 15. GRADUATE OR PROFESSIONAL DEGREE

Q86. Please stop me when I read you household's annual income[INTERVIEWER: READ LIST]

- 17. LESS THAN \$20,000
- 18. \$20,000 TO LESS THAN \$40,000
- 19. \$40,000 TO LESS THAN \$60,000
- 20. \$60,000 TO LESS THAN \$80,000

21. \$80,000 TO LESS THAN \$100,000
22. \$100,000 TO LESS THAN \$150,000
23. MORE THAN \$150,000

Q87. What is your ethnicity/race?

14. White or Caucasian
15. Black or African American
16. Asian
17. Native Hawaiian or Other Pacific Islander
18. American Indian or Alaska Native
19. Other [specify] _____
88. Don't Know

Q88. RECORD gender

1. Male
2. Female
3. Cannot Tell/DK

TERM: That's all the questions I have. Thank you very much for participating in our study. Thank you very much for your time. Goodbye.

13.5 MOBILE HOME PROGRAM SURVEYS

Mobile Homes Program Participant Survey Instrument (Park Managers)

Hi, my name is ___ and I'm calling on behalf of San Diego Gas and Electric. May I speak to the manager of the _____ Mobile Home Park?

We are conducting research to assist SDGE to better serve its customers. This brief survey will take about 5 minutes and I can assure you that we are not selling anything.

May I conduct this brief survey with you now?

Q1. Do you recall working with a company called, American Synergy to bring the Comprehensive Mobile Home Program to your park community? (Synergy provided free improvements to the homes in this mobile home park to reduce energy use?)

1. Yes

2. No → Could you give me the name and phone number of the person who did work with Synergy? _____ [get name and phone and call that person]

Q2. How did you first hear about the Comprehensive Mobile Home Program?

1. American Synergy
2. Other park managers
3. Resident mentioned it to me
Event or meeting attended by a SDGE representative
4. SDGE website
5. Made phone call to SDGE
6. Friend or colleague
7. Equipment vendor or installer, or other professional
8. Other (specify) _____
9. Don't know/don't remember
10. Refused

Q3. Have you ever participated in a utility sponsored energy program?

1. Yes

2. No

[If Q3 = yes]

Q4. Can you recall the name of the program? _____

Q4a. Approximately how many years ago did you participate in that program? _____ years

Q5. Regarding your decision to let American Synergy offer the Comprehensive Mobile Home program, could you make that decision yourself or did you have to consult a community board, the park owners, or someone else?

1. Myself
2. Community board
3. Park owners
4. Other, specify _____
5. Don't Know
6. Refused

Q6. Park Managers agree to participate in programs for different reasons. Please tell me the reasons you agreed to participate in the Comprehensive Mobile Home program. (Do not read, check all that apply).

1. To help residents save energy or money
2. Because it was free
3. Because my role was simple
4. Because you had a good experience with another [utility] program.
5. Because the utility sponsored the program.
6. To help the environment
7. Other (specify)
8. Don't know
9. Refused

Q7. Was there anything that raised questions or concerns about the program?

1. Yes
2. No
3. DK

[if Q7 = Yes]

Q8. What were your concerns? (Probe to code; check all that apply)

1. Time involved/ possible delays
2. Incentives not enough
3. Difficulty of participating
4. Hard time getting approvals or getting everyone on board
5. Confusing
6. Hard to do things a new way
7. Concern the measure might be difficult to maintain
8. Concern about quality of installer
9. Concern the measure won't save enough money to warrant the effort
10. Concern about strangers coming into resident's homes
11. Saving money on my energy bill is not important
12. Concerns about damage that might be caused by workers or measures
13. Other, Specify: _____

- 14. Don't Know
- 15. Refused

Q9. Thinking about how well you were prepared for what would happen in your park, using a five-point scale, where 1 is not at all clear and 5 is very clear. How clear was the information you received about:

- 1. Expectations for your role in the program _____
- 2. On how residents could apply to participate _____
- 3. On what measures would be installed _____
- 4. On the energy savings residents might expect from the improvements made to their homes _____
- 5. On how long it would take to make the improvements _____
- 6. That American Synergy is a contractor for the utility _____

Q10. How satisfied were you with the following aspects of program participation? Also, on a five-point scale, where 1 is not at all satisfied and 5 is very satisfied. How satisfied were you with ...

- 1. The way American Synergy staff treated residents _____
- 2. The way American Synergy staff cleaned up after working _____
- 3. The energy savings from the improvements _____
- 4. The comfort of homes since the improvements were made _____
- 5. Your level of involvement with the program _____
- 6. The program overall _____

Q10a. [If respondent is dissatisfied (a rating of "1" or "2")

Why were you dissatisfied?

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

Q11. Did American Synergy hold an "Open-House" for your park, in which they described the Comprehensive Mobile Home program to residents?

- 1. Yes
- 2. No
- 3. DK

[If Q11 = Yes]

Q11a. Did the open house clearly introduce residents to the measures that would be installed in their homes if they were to participate? _____

Q11b Did the open house help residents to feel more comfortable with the American Synergy technicians that install the measures? _____

Q11c. Approximately what percent of residents attended? _____ %

Q11d. In what ways [if any] could American Synergy improve its open house presentation meetings to recruit more customers to sign up for the program? _____

Q12. Would you say that you were closely involved, somewhat involved, or not at all involved with American Synergy as they delivered the program in your community?

- 1. Closely involved GO TO } Q13)
- 2. Somewhat involved }
- 3. Not at all involved (GO TO Q15)

Q13. Can you please describe your involvement in the program, beyond allowing American Synergy to hold an open-house in your park?

Q14. Thinking back on the things that American Synergy did to reach residents, are there any actions that seemed most effective in getting residents to participate and why?

Q15. Which of the following would you or the park community be able to provide to help a program like this reach residents in the future:

- a. Using Mobile Home park letterhead for announcements? __Y __N __DK
- b. Using closed-circuit park television station to advertise? __Y __N __DK
- c. Asking residents whether they would like to sign up for the program as they came into office to pay their monthly fees? __Y __N __DK
- d. Do you have any other ways? _____

Q16. Thinking of the benefits residents obtained from the program: Do you think the program is very, somewhat, or not at all beneficial?

- 1. very beneficial

2. somewhat beneficial
3. not at all beneficial
4. DK

Q17. How would you describe the reputation that American Synergy has among Mobile Home Park communities? (read list)

1. Very good
2. Somewhat good
3. Not at all good
4. DK

Q18. Do you think that residents would be more, less or just as likely to participate in a program like this if they knew that SDGE were the sponsor of the program?

1. more likely
2. less likely
3. just as likely
4. DK

Q19. How many years have you been manager at this park? _____ (years)

Q20. How many homes are in your park? _____

Q21. How old is the park? _____

And those were all the questions I have, thank you very much for your time and help.

Mobile Homes Program Nonparticipant Survey Instrument (Park Managers)

Hi, my name is ___ and I'm calling on behalf of San Diego Gas and Electric. May I speak to the manager of the _____ Mobile Home Park?

We are conducting research to assist SDGE to better serve its customers. This brief survey will take about 5 minutes and I can assure you that we are not selling anything.

May I conduct this brief survey with you now?

Q1. Have you ever heard of American Synergy or the Comprehensive Mobile Home Program?

1. Yes
2. No

[If Q1 = Yes]

Q2. How did you hear of American Synergy or the Comprehensive Mobile Home Program?

1. Synergy
2. Other park managers
3. Resident mentioned it to me
Event or meeting attended by a SDGE representative
4. SDGE website
5. Made phone call to SDGE
6. Friend or colleague
7. Equipment vendor or installer, or other professional
8. Other (specify)
9. Don't know/don't remember
10. Refused

Q3. Have you ever participated in a utility sponsored energy program?

1. Yes
2. No

[If Q3 = yes]

Q3a. Can you recall the name of the program? _____

Q3b. Approximately how many years ago did you participate in that program? _____ (years)

The Comprehensive Mobile Home Program offers free energy efficiency improvements to mobile homes. The program obtains permission from the park management to offer the program to residents and then makes improvements to the Air Conditioning and other energy systems for homes who sign up for the services. The service of a home takes about 1 – 2 hours.

Q4. If a program such as described were offered to your park, would you be able to make a decision yourself to allow the program to be offered in your park, or would you have to consult a community board, the park owners, or someone else?

1. Myself
2. Community board
3. Park owners
4. Other, specify
5. Don't Know
6. Refused

Q5. Which of the following would you or the park community be able to provide to help a program such as I described reach residents in the future:

- e. Using Mobile Home park letterhead for announcements? __Y __N __DK
- f. Using closed-circuit park television station to advertise? __Y __N __DK
- g. Asking residents whether they would like to sign up for the program as they came into office to pay their monthly fees? __Y __N __DK
- h. Do you have any other ways? _____

Q6. Do you have any concerns about participating in a program such as the one described above?

1. Yes
2. No
3. DK

[If Q6 = Yes]

Q6a. What are your concerns? (Probe to code; check all that apply)

1. Time involved/ possible delays
2. Incentives not enough
3. Difficulty of participating
4. Hard time getting approvals or getting everyone on board
5. Confusing
6. Hard to do things a new way
7. Concern the measure might be difficult to maintain
8. Concern about quality of installer
9. Concern the measure won't save enough money to warrant the effort
10. Concern about strangers coming into resident's homes
11. Saving money on my energy bill is not important

12. Concerns about damage that might be caused by workers or measures
13. Other, Specify: _____
14. Don't Know
15. Refused

Q7. Do you think that residents would be more likely or less likely to participate in a program like this if they knew that SDGE were the sponsor of the program?

1. more likely
2. less likely
3. no effect
4. DK

Q8. Programs such as these find it difficult to get all of the residents to participate. If you were compensated for your time, would you be very willing, somewhat willing or not at all willing to assist in the recruitment of residents for this program?

1. Very willing
2. Somewhat willing
3. Not at all willing

Q9. If a reward system were established that offered prizes based on the level of participation of your park in the program, what would be the best way to structure that reward. (read list)

1. Offer my staff the prizes
2. Establish prizes that could be given to the park in common
3. Provide a small monetary prize for each participant
4. Or some other way _____

Q10. How many years have you been manager at this park? _____(years)

Q11. How many homes are in your park? _____

Q12. How old is the park _____

And those were all the questions I have, thank you very much for your time and help.

Mobile Home Program In-depth Interview Guide (American Synergy Technicians)

1. Do you find that you have the training that you need to complete all of the installed measures?
2. Are there any specific challenges which you have encountered?
3. Do you have the training that you need to market the program to potential participants?
4. How satisfied are you overall with your experience with the program?
5. What role do technicians play in program delivery? [Probe: Can they describe how the technicians approached customers, scheduled work, and resolved issues?]
6. In what ways are technicians involved in marketing (Do they sign up additional participants during installation)?

[Probe: If yes, can they describe what techniques were used by technicians to sign up additional participants?]

13.6 APPLIANCE RECYCLING PROGRAM SURVEYS

Appliance Recycling Participant Survey Instrument

Hello, my name is _____ and I am calling on behalf of San Diego Gas and Electric.
May I please speak with [CONTACT NAME]?

This is not a sales call. We are conducting a study regarding participation in the Appliance Recycling Program. This survey is for research purposes only and will be used to improve programs such programs as the Appliance Recycling Program in San Diego. This research effort will take less than 15 minutes to complete. Is now a good time to conduct this very brief interview?

Recently you participated in the Appliance Recycling Program, which is a service that pays you a rebate and has someone come to your house to pick up and recycle an old appliance such as a refrigerator, freezer, or air conditioner. We want to talk to you briefly about your experience with this program.

Our records indicate that you successfully recycled an appliance through the Appliance Recycling Program. Is this correct?

1. Yes
2. No [Thank and Terminate]

Q1. What type of appliance did you recycle?

1. REFRIGERATOR/FREEZER
2. FREEZER
3. AIR CONDITIONER
4. Other (specify) _____
8. Don't Know/Refused [Thank and Terminate]

Q2. How did you hear about SDG&E's appliance recycling program? [Check ALL that apply]

1. BILL INSERTS
2. OTHER FLYERS OR BROCHURES
3. STORE POSTINGS
4. TELEVISION ADS
5. TELEVISION NEWS STORIES
6. RADIO
7. UTILITY WEB SITE
8. ARCA WEB SITE
9. Other (Specify): _____
8. Don't Know

Q3. What best describes the unit you recycled? Was it a unit that was no longer used, a secondary unit that was used occasionally, a unit that you were replacing, or something else?

1. NO LONGER USED
2. SECONDARY UNIT THAT WAS USED OCCASIONALLY
3. UNIT THAT YOU WERE REPLACING
4. SOMETHING ELSE, SPECIFY: _____
8. Don't Know

[IF ANS = 2, SKP to Q5]

Q4. Where was the unit located when last used?

1. Enter Verbatim: _____
8. Don't Know

Q5. Did you consider any of these options before choosing to recycle your appliance with San Diego Gas & Electric? [Check ALL that apply]

1. HAVING YOUR APPLIANCE GO TO A DUMP OR LANDFILL
2. GIVING YOU APPLIANCE TO A FRIEND, FAMILY MEMBER OR NEIGHBOR
3. DONATING YOUR APPLIANCE TO A CHARITY
4. SELLING YOUR APPLIANCE
5. HAVING YOUR APPLIANCE GO TO ANOTHER RECYCLER
6. PAYING THE STORE YOU BOUGHT IT AT TO REMOVE IT.
7. OTHER (Specify): _____
8. Don't Know

Q6. What was the primary reason you choose to recycle your appliance with SDG&E? Was it for the cash rebate, for the convenience of their program, for the environmental benefits, because you had no other options, or for some other reason?

1. CASH REBATE
2. CONVENIENCE OF PICK-UP
3. ENVIRONMENTAL REASONS
4. HAD NO OTHER OPTIONS TO GET RID OF APPLIANCE
5. OTHER, Specify: _____
8. Don't Know

Q7. Did you schedule your appliance pickup, or was it scheduled by a retailer for you?

1. I SCHEDULED PICKUP
2. RETAILER (OR OTHER PROFESSIONAL) SCHEDULED PICKUP
3. OTHER, Specify: _____
8. Don't Know

Q8. Was it to easy or difficult to schedule a convenient pickup time?

1. Easy

2. Difficult
8. Don't Know

[IF ANS = Difficult]

Q9. Why was it difficult?

1. Enter Verbatim: _____

8. Don't Know

Q10. Was the pickup for your appliance on time?

1. Yes
2. No
8. Don't Know

[IF ANS = No]

Q11. Did this end up causing problems for you?

1. Yes
2. No
8. Don't Know

[IF ANS = Yes]

Q11a. What types of problems?

1. Enter Verbatim: _____

8. Don't Know

Q12. There is a requirement that your appliance has to be working at the time of pick-up. Did you have any difficulties because of this requirement?

1. Yes
2. No
8. Don't Know

[If Q12 = yes]

Q13. What happened?

1. Enter Verbatim: _____

8. Don't Know

Q14. How would you describe your overall satisfaction with the Appliance Recycling Program? Would you say you are ...

1. EXTREMELY SATISFIED
2. VERY SATISFIED
3. SOMEWHAT SATISFIED
4. NOT VERY SATISFIED
5. NOT AT ALL SATISFIED
8. Don't Know

Q15. What, if anything, would improve this program? (Open-ended)

1. Enter Verbatim: _____

8. Don't Know

Q16. Would you recommend this program to a friend or relative?

1. YES
2. NO
8. Don't Know

Q17. What other energy efficiency programs have you participated in during the past two years?

1. SINGLE FAMILY REBATE PROGRAM
2. MULTI-FAMILY REBATE PROGRAM
3. FLEX YOUR POWER
4. 20/20
5. LIGHTING EXCHANGE
6. OTHER (Specify): _____
7. I have not participated in any other programs
8. Don't Know

Q18. What other programs or offerings could the utility provide to help you manage your energy use better?
(Record response verbatim)

1. Enter Verbatim: _____

8. Don't Know

Q29. Do you think there are other opportunities to save energy in your home?

1. YES

- 2. NO
- 8. Don't Know

[If Q29 = yes]

Q30. Where in your home? (Probe for multiple areas, record up to 3.)

- 1. Area 1: _____
- 2. Area 2: _____
- 3. Area 3: _____
- 8. Don't Know

Now I would like to ask you about some specific items in your home. These questions are just being asked to get an idea of energy savings potential in the market that could be addressed by the RESIDENTIAL INCENTIVE PROGRAM. Please remember that all your answers are confidential.

Q31. Do you own and in-ground swimming pool?

- 1. YES
- 2. PART OF A MULTI-FAMILY COMPLEX → GO TO Q37
- 3. NO → GO TO Q37
- 4. OTHER (Specify: _____) → GO TO Q37
- 8. Don't Know → GO TO Q37

[If Q31 = Yes]

Q32. What kind of pool pump do you have? (read all)

- 1. SINGLE-SPEED PUMP
- 2. TWO SPEED PUMP
- 3. VARIABLE SPEED PUMP
- 4. DON'T HAVE A POOL PUMP
- 8. Don't Know/

[If Q32 = Single Speed Pump]

Q33. How old is the pool pump?

- 1. LESS THAN 1 YR
- 2. ENTER NUMBER OF YEARS: _____
- 8. Don't Know

Q34. Are you aware of the rebates that SDG&E offers to replace single speed pool pumps?

- 1. YES

- 2. NO
- 8. Don't Know

[If Q34 = Yes]

Q35. How did you hear about the rebate? (Check ALL that apply?)

- 1. POOL SERVICE PERSON
- 2. WORD OF MOUTH
- 3. FROM UTILITY WEBSITE
- 4. FROM UTILITY MAILING
- 5. FROM STORE PROMOTION
- 6. OTHER (Specify) _____
- 8. Don't Know

Q36. What are the reasons you have not replaced your single speed pool pump? [Check ALL that apply]

- 1. IT WORKS FINE
- 2. I DO NOT USE MY POOL MUCH
- 3. I CANNOT AFFORD TO BUY NEW UNIT
- 4. MY SERVICE PERSON DOES NOT RECOMMEND IT
- 5. OTHER (Specify) _____
- 8. Don't Know

Q37. What equipment do you use to cool your home? [Check ALL that apply]

- 1. CENTRAL AIR CONDITIONING
- 2. HEAT PUMP
- 3. ROOM AIR CONDITIONERS
- 4. EVAPORATIVE COOLER
- 5. WHOLE HOUSE FAN
- 6. ROOM FANS
- 7. NONE
- 8. Other Specify: _____
- 88. Don't Know

[If Q37 = Central Air or Room Air]

Q38. How old is your AC Unit?

- 1. ENTER YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

[if Q38 age of AC is older than 5 years]

Q39. SDG&E offers a program that helps save energy by having air conditioners ‘cycle’ on and off every 30 minutes during very hot days. Would you be willing to have your air conditioner cycled if you received an incentive payment from your utility?

1. YES
2. NO
3. NOT SURE

Q40. What do you think the potential is for saving energy with new a new air conditioner in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL
8. Don't Know

Q41. How many days per summer do you use your air conditioning equipment?

1. NOT AT ALL
2. 30 DAYS OR LESS
3. 31-90 DAYS
4. 91-120 DAYS
5. MORE THAN 120 DAYS
8. Don't Know

Q42. What equipment do you use to heat your home?

1. FURNACE
2. WALL FURNACE
3. BOILER
4. HEAT PUMP
5. ELECTRIC BASEBOARD
6. HEATING STOVE
7. SPACE HEATER
8. CENTRAL—MY APARTMENT IS CENTRALLY HEATED, THE LANDLORD SUPPLIES
9. OTHER, SPECIFY _____
88. Don't Know

[If Q42 = 1/2/3/4/5]

Q43. How old is your heating equipment?

1. ENTER YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

[If heating equipment is **more than or equal to 6 years old**]

Q44. What do you think the potential is for saving energy with new furnace/wall heater in your home? Would you say there is...

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL...for energy savings?
8. Don't Know

Q45. How many days per winter do you use your heating equipment?

1. NOT AT ALL
2. 30 DAYS OR LESS
3. 31-90 DAYS
4. 91-120 DAYS
5. MORE THAN 120 DAYS
6. DON'T KNOW
8. Don't Know

Q46. How old is your clothes washer?

1. Enter Number of YEARS OLD: _____
2. DO NOT HAVE CLOTHES WASHER
88. Don't Know

[If clothes washer is 5 years or older]

Q47. What do you think the potential is for saving energy with a new clothes washer? Would you say there is ...

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL...for energy savings?
8. Don't Know

Q48. Do you have a dishwasher?

1. YES
2. NO

[If Q48 = Yes]

Q49. How old is it?

1. Enter YEARS _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

[If age of dishwasher is 5 years or older]

**Q50. What do you think the potential is for saving energy with a new dishwasher in your home?
Would you say there is...**

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL...for energy savings?
8. Don't Know

Q51. How many refrigerators and freezers do you have in your home?

3. RECORD NUMBER REFRIGERATORS: _____
4. RECORD NUMBER OF FREEZERS: _____
8. Don't Know

Q52. How old is your Main refrigerator?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

[If main refrigerator is 5 years or older]

**Q53. What do you think the potential is for saving energy with a new refrigerator in your home?
Would you say there is...**

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL...for energy savings?
8. Don't Know

Q54. How old is your water heater?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

2. DO NOT HAVE MY OWN WATER HEATER

888. DK

[If water heater older than 3 years]

**Q55. What do you think the potential is for saving energy with a new water heater in your home?
Would you say there is...**

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL...for energy savings?
8. Don't Know

Q56. How many Compact Fluorescent lightbulbs, or CFLs, do you have installed in your home? CFLs are small fluorescent bulbs that fit in regular light bulb sockets. CFLs look different than standard bulbs. They are often made out of thin tubes of glass bent into spirals, or they could be globe shaped, or look like a flood light.

1. ENTER NUMBER: _____ 888. Don't Know

Q57. How many lights do you still have in your home that use standard incandescent bulbs, and that are on more than 2 hours per day?

1. ENTER NUMBER: _____ 888. Don't Know

[If any incandescent bulbs in home]

Q58. What is the reason that you have not replaced these incandescent lamps with the Compact Fluorescent Lamps? (Check ALL that apply)

1. DON'T FIT
2. LAMPS COST TOO MUCH
3. POOR LIGHT QUALITY
4. NOT ENOUGH LIGHT
5. KEEP BURNING OUT
6. LAMPS ARE ON DIMMER
7. NEVER OCCURRED TO ME
8. NO SPECIFIC REASON
88. Don't Know

Q59. How about your windows, how old are the windows in your home?

1. ENTER YEARS _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

[If windows are 5 years or older]

Q60. What do you think the potential is for saving energy with new windows in your home?

Would you say there is high potential, medium potential, or low potential for energy savings?

1. HIGH POTENTIAL
2. MEDIUM POTENTIAL
3. LOW POTENTIAL

88. Don't Know

99. Refused

Q61. Lastly, I have just a few questions about your home. Do you currently own or rent?

5. OWN

2. RENT

3. Other

9. REF

Q62. What type of home do you currently live in?

15. SINGLE-FAMILY DETACHED HOME

16. CONDO

17. TOWNHOUSE

18. MOBILE HOME / MANUFACTURED HOME

19. DUPLEX

20. APARTMENT

21. OTHER, specify: _____

Q63. Including all adults AND children, how many people are in your household?

_____ Enter number 999.Ref

Q64. When was your home originally built?

1. ENTER YEAR: _____ (Probe: 1930 or older, 1940s, 1950s etc.)

888. DK

Q65. Approximately how many square feet is your home?

1. Enter SQUARE FOOTAGE #: _____ (Probe: less than 1,400sq ft, 1,400 to 2,500 sq ft, 888. DK
2,500 to 3,500 sq ft)

Q66. What is your age?

1. Enter YEARS: _____ (Probe: under 25, 25 to 35, 35 to 45 etc.)

888. DK

Q67. What is the highest level of education you have completed? [READ LIST]

- 16. HIGH SCHOOL DIPLOMA OR LESS
- 17. SOME COLLEGE
- 18. ASSOCIATES DEGREE
- 19. BACHELORS DEGREE
- 20. GRADUATE OR PROFESSIONAL DEGREE
- 9. REF

Q68. Please stop me when I read you household's annual income ...[READ LIST]

- 24. LESS THAN \$20,000
- 25. \$20,000 TO LESS THAN \$40,000
- 26. \$40,000 TO LESS THAN \$60,000
- 27. \$60,000 TO LESS THAN \$80,000
- 28. \$80,000 TO LESS THAN \$100,000
- 29. \$100,000 TO LESS THAN \$150,000
- 30. MORE THAN \$150,000
- 9. REF

Q69. What is your ethnicity/race?

- 20. White or Caucasian
- 21. Hispanic/Latino/a
- 22. Black or African American
- 23. Asian
- 24. Native Hawaiian or Other Pacific Islander
- 25. American Indian or Alaska Native
- 26. Other [specify] _____
- 9. Refused

Those are all the questions I have for you. Thank you very much for your time and for helping us with this important study.

Q70. INTERVIEWER: Record gender

- 1. Male 2. Female

Appliance Recycling Cancellation Survey Instrument

Hello, my name is _____ and I am calling on behalf of San Diego Gas and Electric.
May I please speak with [CONTACT NAME]?

This is not a sales call. We are conducting a study regarding participation in the Appliance Recycling Program. This survey is for research purposes only and will be used to improve programs such as the Appliance Recycling Program in San Diego.

This research effort will take less than 15 minutes to complete. Is now a good time to conduct this very brief interview?

Recently you participated in the Appliance Recycling Program, which is a service that pays you a rebate and has someone come to your house to pick up and recycle an old appliance such as a refrigerator, freezer, or air conditioner. We want to talk to you briefly about your experience with this program.

Our records indicate that you recently cancelled an appointment to have an appliance recycled through the Appliance Recycling Program. Is this correct?

1. Yes
2. No [Thank and Terminate]

Q1. What type of appliance were you going to recycle?

5. REFRIGERATOR/FREEZER
6. FREEZER
7. AIR CONDITIONER
8. Other (specify) _____
8. Don't Know/Refused [Thank and Terminate]

Q2. How did you hear about SDG&E's appliance recycling program? [Check ALL that apply]

10. BILL INSERTS
11. OTHER FLYERS OR BROCHURES
12. STORE POSTINGS
13. TELEVISION ADS
14. TELEVISION NEWS STORIES
15. RADIO
16. UTILITY WEB SITE
17. ARCA WEB SITE
18. Other (Specify): _____
88. Don't Know

Q3. What best describes the unit you intended to recycle? Was it a unit that was no longer used, a secondary unit that was used occasionally, a unit that you were replacing, or something else?

- 5. NO LONGER USED
- 6. SECONDARY UNIT THAT WAS USED OCCASIONALLY
- 7. UNIT THAT YOU WERE REPLACING
- 8. SOMETHING ELSE, SPECIFY: _____
- 8. Don't Know

[IF ANS = 2, SKP to Q5]

Q4. Where was the unit located when last used?

- 1. Enter Verbatim: _____
- 8. Don't Know

Q5. Did you consider any of these options before you were going to recycle your appliance with San Diego Gas & Electric? [Check ALL that apply]

- 8. HAVING YOUR APPLIANCE GO TO A DUMP OR LANDFILL
- 9. GIVING YOU APPLIANCE TO A FRIEND, FAMILY MEMBER OR NEIGHBOR
- 10. DONATING YOUR APPLIANCE TO A CHARITY
- 11. SELLING YOUR APPLIANCE
- 12. HAVING YOUR APPLIANCE GO TO ANOTHER RECYCLER
- 13. PAYING THE STORE YOU BOUGHT IT AT TO REMOVE IT.
- 14. OTHER (Specify): _____
- 8. Don't Know

Q6. What was the primary reason you were going to recycle your appliance with SDG&E? Was it for the cash rebate, for the convenience of their program, for the environmental benefits, because you had no other options, or for some other reason?

- 6. CASH REBATE
- 7. CONVENIENCE OF PICK-UP
- 8. ENVIRONMENTAL REASONS
- 9. HAD NO OTHER OPTIONS TO GET RID OF APPLIANCE
- 10. OTHER, Specify: _____
- 8. Don't Know

Q6a. Why did you cancel your appointment with SDG&E?

- 1. GAVE APPLIANCE TO FAMILY MEMBER/FRIEND
- 2. SOLD IT
- 3. STILL USING APPLIANCE IN GARAGE,

4. SOLD IT TO A SECOND HAND STORE

6. OTHER: _____

Q7. Did you schedule your appliance pickup, or was it scheduled by a retailer for you?

3. I SCHEDULED PICKUP

4. RETAILER (OR OTHER PROFESSIONAL) SCHEDULED PICKUP

3. OTHER, Specify: _____

8. Don't Know

Q8. Was it to easy or difficult to schedule a convenient pickup time?

3. Easy

4. Difficult

8. Don't Know

[IF ANS = Difficult]

Q9. Why was it difficult?

1. Enter Verbatim: _____

8. Don't Know

Q12. There is a requirement that your appliance has to be working at the time of pick-up. Did you have any difficulties because of this requirement?

3. Yes

4. No

8. Don't Know

[If Q12 = yes]

Q13. What happened?

1. Enter Verbatim: _____

8. Don't Know

Q17. What other energy efficiency programs have you participated in during the past two years?

8. SINGLE FAMILY REBATE PROGRAM

- 9. MULTI-FAMILY REBATE PROGRAM
- 10. FLEX YOUR POWER
- 11. 20/20
- 12. LIGHTING EXCHANGE
- 13. OTHER (Specify): _____
- 14. I have not participated in any other programs
- 8. Don't Know

Q18. What other programs or offerings could the utility provide to help you manage your energy use better?
(Record response verbatim)

- 1. Enter Verbatim: _____
- 8. Don't Know

Q29. Do you think there are other opportunities to save energy in your home?

- 3. YES
- 4. NO
- 8. Don't Know

[If Q29 = yes]

Q30. Where in your home? (Probe for multiple areas, record up to 3.)

- 4. Area 1: _____
- 5. Area 2: _____
- 6. Area 3: _____
- 8. Don't Know

Now I would like to ask you about some specific items in your home. These questions are just being asked to get an idea of energy savings potential in the market that could be addressed by the RESIDENTIAL INCENTIVE PROGRAM. Please remember that all your answers are confidential.

Q31. Do you own and in-ground swimming pool?

- 5. YES
- 6. PART OF A MULTI-FAMILY COMPLEX → GO TO Q37
- 7. NO → GO TO Q37
- 8. OTHER (Specify: _____) → GO TO Q37
- 8. Don't Know → GO TO Q37

[If Q31 = Yes]

Q32. What kind of pool pump do you have? (read all)

- 5. SINGLE-SPEED PUMP
- 6. TWO SPEED PUMP
- 7. VARIABLE SPEED PUMP
- 8. DON'T HAVE A POOL PUMP
- 8. Don't Know/

[If Q32 = Single Speed Pump]

Q33. How old is the pool pump?

- 3. LESS THAN 1 YR
- 4. ENTER NUMBER OF YEARS: _____
- 8. Don't Know

Q34. Are you aware of the rebates that SDG&E offers to replace single speed pool pumps?

- 3. YES
- 4. NO
- 8. Don't Know

[If Q34 = Yes]

Q35. How did you hear about the rebate? (Check ALL that apply?)

- 7. POOL SERVICE PERSON
- 8. WORD OF MOUTH
- 9. FROM UTILITY WEBSITE
- 10. FROM UTILITY MAILING
- 11. FROM STORE PROMOTION
- 12. OTHER (Specify) _____
- 8. Don't Know

Q36. What are the reasons you have not replaced your single speed pool pump? [Check ALL that apply]

- 6. IT WORKS FINE
- 7. I DO NOT USE MY POOL MUCH
- 8. I CANNOT AFFORD TO BUY NEW UNIT
- 9. MY SERVICE PERSON DOES NOT RECOMMEND IT
- 10. OTHER (Specify) _____
- 8. Don't Know

Q37. What equipment do you use to cool your home? [Check ALL that apply]

- 9. CENTRAL AIR CONDITIONING
- 10. HEAT PUMP
- 11. ROOM AIR CONDITIONERS
- 12. EVAPORATIVE COOLER
- 13. WHOLE HOUSE FAN

- 14. ROOM FANS
- 15. NONE
- 16. Other Specify: _____
- 88. Don't Know

[If Q37 = Central Air or Room Air]

Q38. How old is your AC Unit?

- 1. ENTER YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)
- 888. DK

[if Q38 age of AC is older than 5 years]

Q39. SDG&E offers a program that helps save energy by having air conditioners 'cycle' on and off every 30 minutes during very hot days. Would you be willing to have your air conditioner cycled if you received an incentive payment from your utility?

- 4. YES
- 5. NO
- 6. NOT SURE

Q40. What do you think the potential is for saving energy with new a new air conditioner in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

- 4. HIGH POTENTIAL
- 5. MEDIUM POTENTIAL
- 6. LOW POTENTIAL
- 8. Don't Know

Q41. How many days per summer do you use your air conditioning equipment?

- 6. NOT AT ALL
- 7. 30 DAYS OR LESS
- 8. 31-90 DAYS
- 9. 91-120 DAYS
- 10. MORE THAN 120 DAYS
- 8. Don't Know

Q42. What equipment do you use to heat your home?

- 10. FURNACE
- 11. WALL FURNACE
- 12. BOILER
- 13. HEAT PUMP
- 14. ELECTRIC BASEBOARD

- 15. HEATING STOVE
- 16. SPACE HEATER
- 17. CENTRAL—MY APARTMENT IS CENTRALLY HEATED, THE LANDLORD SUPPLIES
- 18. OTHER, SPECIFY _____
- 88. Don't Know

→ IF Q42 = 1/2/3/4/5 ASK: Q43 through Q45

Q43. How old is your heating equipment?

- 1. ENTER YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

[If heating equipment is more than or equal to 6 years old]

Q44. What do you think the potential is for saving energy with new furnace/wall heater in your home? Would you say there is...

- 4. HIGH POTENTIAL
- 5. MEDIUM POTENTIAL
- 6. LOW POTENTIAL...for energy savings?
- 8. Don't Know

Q45. How many days per winter do you use your heating equipment?

- 7. NOT AT ALL
- 8. 30 DAYS OR LESS
- 9. 31-90 DAYS
- 10. 91-120 DAYS
- 11. MORE THAN 120 DAYS
- 12. DON'T KNOW
- 8. Don't Know

Q46. How old is your clothes washer?

- 3. Enter Number of YEARS OLD: _____
- 4. DO NOT HAVE CLOTHES WASHER
- 88. Don't Know

[If clothes washer is 5 years or older]

Q47. What do you think the potential is for saving energy with a new clothes washer? Would you say there is ...

4. HIGH POTENTIAL
5. MEDIUM POTENTIAL
6. LOW POTENTIAL...for energy savings?
8. Don't Know

Q48. Do you have a dishwasher?

3. YES
4. NO

[If Q48 = Yes]

Q49. How old is it?

1. Enter YEARS _____ (Probe in ranges; 0-2 years, 2-5 years etc.)
888. DK

[If age of dishwasher is 5 years or older]

**Q50. What do you think the potential is for saving energy with a new dishwasher in your home?
Would you say there is...**

4. HIGH POTENTIAL
5. MEDIUM POTENTIAL
6. LOW POTENTIAL...for energy savings?
8. Don't Know

Q51. How many refrigerators and freezers do you have in your home?

5. RECORD NUMBER REFRIGERATORS: _____
6. RECORD NUMBER OF FREEZERS: _____
8. Don't Know

Q52. How old is your Main refrigerator?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)
888. DK

[If main refrigerator is 5 years or older]

**Q53. What do you think the potential is for saving energy with a new refrigerator in your home?
Would you say there is...**

4. HIGH POTENTIAL
5. MEDIUM POTENTIAL
6. LOW POTENTIAL...for energy savings?
8. Don't Know

Q54. How old is your water heater?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

2. DO NOT HAVE MY OWN WATER HEATER

888. DK

[If water heater older than 3 years]

Q55. What do you think the potential is for saving energy with a new water heater in your home? Would you say there is...

4. HIGH POTENTIAL
5. MEDIUM POTENTIAL
6. LOW POTENTIAL...for energy savings?
8. Don't Know

Q56. How many Compact Fluorescent lightbulbs, or CFLs, do you have installed in your home? CFLs are small fluorescent bulbs that fit in regular light bulb sockets. CFLs look different than standard bulbs. They are often made out of thin tubes of glass bent into spirals, or they could be globe shaped, or look like a flood light.

1. ENTER NUMBER: _____ 888. Don't Know

Q57. How many lights do you still have in your home that use standard incandescent bulbs, and that are on more than 2 hours per day?

1. ENTER NUMBER: _____ 888. Don't Know

[If any incandescent bulbs in home]

Q58. What is the reason that you have not replaced these incandescent lamps with the Compact Fluorescent Lamps? (Check ALL that apply)

9. DON'T FIT
10. LAMPS COST TOO MUCH
11. POOR LIGHT QUALITY
12. NOT ENOUGH LIGHT
13. KEEP BURNING OUT

- 14. LAMPS ARE ON DIMMER
- 15. NEVER OCCURRED TO ME
- 16. NO SPECIFIC REASON
- 88. Don't Know

Q59. How about your windows, how old are the windows in your home?

1. ENTER YEARS _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

[If windows are 5 years or older]

Q60. What do you think the potential is for saving energy with new windows in your home?

Would you say there is high potential, medium potential, or low potential for energy savings?

- 4. HIGH POTENTIAL
- 5. MEDIUM POTENTIAL
- 6. LOW POTENTIAL
- 88. Don't Know

99. Refused

Q61. Lastly, I have just a few questions about your home. Do you currently own or rent?

- 6. OWN
- 2. RENT

3. Other

9. REF

Q62. What type of home do you currently live in?

- 22. SINGLE-FAMILY DETACHED HOME
- 23. CONDO
- 24. TOWNHOUSE
- 25. MOBILE HOME / MANUFACTURED HOME
- 26. DUPLEX
- 27. APARTMENT
- 28. OTHER, specify: _____

Q63. Including all adults AND children, how many people are in your household?

_____ Enter number 999.Ref

Q64. When was your home originally built?

1. ENTER YEAR: _____ (Probe: 1930 or older, 1940s, 1950s etc.)

888. DK

Q65. Approximately how many square feet is your home?

1. Enter SQUARE FOOTAGE #: _____ (Probe: less than 1,400sq ft, 1,400 to 2,500 sq ft, 888. DK
2,500 to 3,500 sq ft)

Q66. What is your age?

1. Enter YEARS: _____ (Probe: under 25, 25 to 35, 35 to 45 etc.)

888. DK

Q67. What is the highest level of education you have completed? [READ LIST]

- 21. HIGH SCHOOL DIPLOMA OR LESS
- 22. SOME COLLEGE
- 23. ASSOCIATES DEGREE
- 24. BACHELORS DEGREE
- 25. GRADUATE OR PROFESSIONAL DEGREE
- 9. REF

Q68. Please stop me when I read you household's annual income ...[READ LIST]

- 31. LESS THAN \$20,000
- 32. \$20,000 TO LESS THAN \$40,000
- 33. \$40,000 TO LESS THAN \$60,000
- 34. \$60,000 TO LESS THAN \$80,000
- 35. \$80,000 TO LESS THAN \$100,000
- 36. \$100,000 TO LESS THAN \$150,000
- 37. MORE THAN \$150,000
- 9. REF

Q69. What is your ethnicity/race?

- 27. White or Caucasian
- 28. Hispanic/Latino/a
- 29. Black or African American
- 30. Asian
- 31. Native Hawaiian or Other Pacific Islander
- 32. American Indian or Alaska Native
- 33. Other [specify] _____
- 9. Refused

Those are all the questions I have for you. Thank you very much for your time and for helping us with this important study.

Q70. INTERVIEWER: Record gender

1. Male 2. Female

Appliance Recycling Program In-depth Interview Guide for Appliance Retail Store Managers/Owners

Screener: Hello, I am calling from Energy Market Innovations. We are working with SDG&E, to provide them with feedback that will help them improve their appliance recycling program. May I please speak with the owner or a manager of your company? We are conducting 15 minute in-depth telephone interviews to gain a better understanding of the appliance recycling market in and around San Diego. Any information you provide will be strictly confidential and will only be used to improve the utility's program in the future. Is now a good time to talk, or is there a better time when I can call back? [note callback time]

1. Do you or does your company offer appliance (or just refrigerator-freezer?) recycling/ disposal/ pickup of old appliances?
 - a. Can you please explain the type of service you offer?
2. What do customers typically do with their old appliance they are replacing?
3. What are the possible options a customer/ individual has if they want to replace or get rid of an old appliance?
 - a. Are their major players who are responsible for picking up used appliances?
4. What do you do with an appliance after picking it up?
 - a. (If sold/ given to another party) Do you know what they do with it?
 - b. Do you know the ultimate destination of the appliance? (Is it refurbished, resold, sold for scrap, taken abroad to be sold, etc.)
5. Do you charge a fee or pay customers for picking up an old appliance?
6. Do customers know what you do with the appliance?
7. Why do you think customers decide to have you pickup their appliance/ what are the primary reasons?
8. How quickly are you typically able to pick up the appliance after a customer requests the service?
9. Does the appliance have to be working or in a certain condition when picked up?
10. Are there any other issues you can think of concerning appliance recycling that we have not yet discussed?

13.7 RESIDENTIAL CUSTOMER EDUCATION & INFORMATION PROGRAM SURVEYS

RCEI HEES Participant Survey Instrument (On-line)

E-mail sent out to solicit participation

TELL US YOUR OPINION

Recently, you completed SDG&E's Home Energy Efficiency Survey online. Based on your responses, you received a personalized report showing what you can do to save energy in your home. We hope that you found the report informative and helpful with your efforts to make your home more energy efficient.

In an effort to improve this program for our customers, we are asking you to complete a brief survey based on your experience. By taking a few minutes now, you can help SDG&E improve this program for all customers. Our aim is to help as many families as possible by making the Home Energy Efficiency Survey more useful and more user-friendly.

To complete this short questionnaire, follow this link: (By clicking on this link you will go to an independent survey website. Your information will remain private and will not be shared with anyone. Visit the sdge.com/privacy for privacy policy details.) Your responses will be kept confidential. Thank you in advance for your help with this important study and for doing your part to help save energy!

Welcome. Thank you for giving us a few minutes of your time to tell us about your experience in taking the SDG&E HOME ENERGY EFFICIENCY SURVEY.

Your feedback will help us improve the energy efficiency programs we offer to help customers save energy, money, and help the environment.

This survey has 4 parts: Process questions, Recommendations questions, Satisfaction questions, and Demographics questions.

1. Please provide your e-mail address (the one through which you received this survey link). Your e-mail address will be kept confidential. It is only used to confirm that you have completed this survey so we do not send you a reminder e-mail. You will not be contacted again for this survey.

E-mail:

2. First, how did you first learn about the Home Energy Efficiency Survey? (Check one)

E-MAIL

BILL INSERT

OTHER FLYER OR BROCHURE

CONTRACTOR

SDG&E WEBSITE

COMMUNITY EVENT

UTILITY REPRESENTATIVE

NEWSLETTER

OTHER (please specify)

3. Prior to taking the Home Energy Efficiency Survey, how knowledgeable did you feel about OPPORTUNITIES FOR IMPROVING the energy efficiency of your home? (Check one)

VERY KNOWLEDGEABLE

SOMEWHAT KNOWLEDGEABLE

NOT VERY KNOWLEDGEABLE

4. Prior to taking the Home Energy Efficiency Survey, how knowledgeable did you feel about ENERGY EFFICIENCY PROGRAM OFFERINGS that are available for your home? (Check one)

VERY KNOWLEDGEABLE

SOMEWHAT KNOWLEDGEABLE

NOT VERY KNOWLEDGEABLE

5. Which of the following were reasons that you completed the Home Energy Efficiency Survey? (Check all that apply)

WANTED TO SAVE ENERGY / REDUCE BILL

FRIEND / FAMILY MEMBER RECOMMENDED IT

CONCERN ABOUT THE ENVIRONMENT

WANTED INFORMATION ON ENERGY EFFICIENCY PROGRAMS I COULD PARTICIPATE IN

Other (please specify)

6. Did you take the “EZ audit” (shorter version) or the “FULL audit?” (longer version)? (Check one)

EZ AUDIT

FULL AUDIT

DON'T KNOW

7. How long did it take you to complete the Home Energy Efficiency Survey? (Check one)

LESS THAN 5 MINUTES

5 TO 10 MINUTES

10 TO 15 MINUTES

15 TO 20 MINUTES

MORE THAN 20 MINUTES

Now, this part of the survey will ask you about the energy efficiency measures that the Home Energy Efficiency Survey recommended for your home.

8. Did your Home Energy Efficiency Survey results include any recommendations to change your home's INSULATION? (Check one)

YES

NO

DON'T KNOW

9. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your home INSULATION.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

INSTALL INSULATION IN ATTIC

INSTALL INSULATION AROUND PERIMETER OF FLOOR SLAB

INSTALL INSULATION IN BASEMENT WALLS

WEATHERIZE DOORS - WEATHER STRIPPING AND CAULKING

WEATHERIZE WINDOWS - WEATHER STRIPPING AND CAULKING

INSTALL STORM WINDOWS OR ADD PLASTIC FILM OR INTERIOR INSULATION TO WINDOWS

OTHER (please specify)

10. Please check any INSULATION measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

INSTALL INSULATION IN ATTIC

INSTALL INSULATION AROUND PERIMETER OF FLOOR SLAB

INSTALL INSULATION IN BASEMENT WALLS

WEATHERIZE DOORS - WEATHER STRIPPING AND CAULKING

WEATHERIZE WINDOWS - WEATHER STRIPPING AND CAULKING

INSTALL STORM WINDOWS OR ADD PLASTIC FILM OR INTERIOR INSULATION TO WINDOWS

NONE

11. Did your Home Energy Efficiency Survey results include any recommendations to change your AIR CONDITIONING? (Check one)

YES

NO

DON'T KNOW

12. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your AIR CONDITIONING.

What have you DONE as a RESULT of the Home Energy Efficiency Survey? (Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

REPLACE WINDOW/WALL AIR CONDITIONER WITH "ENERGY STAR" ROOM AIR CONDITIONER

ADD A WHOLE-HOUSE FAN

INSTALL A NEW HIGH-EFFICIENCY AIR CONDITIONING SYSTEM

NONE

OTHER (please specify)

13. Please check any AIR CONDITIONING measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

REPLACE WINDOW/WALL AIR CONDITIONER WITH "ENERGY STAR" ROOM AIR CONDITIONER

ADD A WHOLE-HOUSE FAN

INSTALL A NEW HIGH-EFFICIENCY AIR CONDITIONING SYSTEM

NONE

14. Did your Home Energy Efficiency Survey results include any recommendations to change your home's FURNACE or SPACE HEATING? (Check one)

YES

NO

DON'T KNOW

15. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your FURNACE or SPACE HEATING.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

INSTALL PROGRAMMABLE THERMOSTAT

BUY NEW GAS HEATING SYSTEM - INSTEAD OF REPAIRING YOUR OLD ONE

REPLACE EXISTING ELECTRIC FURNACE WITH NEW ELECTRIC HEAT PUMP

REPLACE YOUR HEAT PUMP WITH NEW HIGH-EFFICIENCY HEAT PUMP

NONE

OTHER (please specify)

16. Please check any FURNACE OR SPACE HEATING measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

INSTALL PROGRAMMABLE THERMOSTAT

BUY NEW GAS HEATING SYSTEM - INSTEAD OF REPAIRING YOUR OLD ONE

REPLACE EXISTING ELECTRIC FURNACE WITH NEW ELECTRIC HEAT PUMP

REPLACE YOUR HEAT PUMP WITH NEW HIGH-EFFICIENCY HEAT PUMP

NONE

17. Did your Home Energy Efficiency Survey results include any recommendations to change your home's AIR DISTRIBUTION (DUCT) SYSTEM? (Check one)

YES

NO

DON'T KNOW

18. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your AIR DISTRIBUTION (DUCT) SYSTEM.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

TEST DUCTS FOR LEAKAGE

SEAL DUCTS

INSULATE DUCTS

NONE

OTHER (please specify)

19. Please check any AIR DISTRIBUTION (DUCT) SYSTEM measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

TEST DUCTS FOR LEAKAGE

SEAL DUCTS

INSULATE DUCTS

NONE

20. Did your Home Energy Efficiency Survey results include any recommendations to change your home's WATER HEATER? (Check one)

YES

NO

DON'T KNOW

21. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your WATER HEATER.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

WRAP WATER HEATER

TURN DOWN THERMOSTAT TO 120 DEGREES OR LOWER

INSTALL LOW FLOW SHOWERHEADS

INSTALL AERATORS

KEEP WATERBEDS COVERED WITH COMFORTER, QUILT, OR BLANKET

NONE

OTHER (please specify)

22. Please check any WATER HEATER measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

WRAP WATER HEATER

TURN DOWN THERMOSTAT TO 120 DEGREES OR LOWER

INSTALL LOW FLOW SHOWERHEADS

INSTALL AERATORS

KEEP WATERBEDS COVERED WITH COMFORTER, QUILT, OR BLANKET

NONE

23. Did your Home Energy Efficiency Survey results include any recommendations to change your home's POOL / SPA? (Check one)

YES

NO

DON'T KNOW

24. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your POOL / SPA.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

AVOID FILTERING POOL BETWEEN NOON AND 6 P.M.

REPLACE PUMP AND MOTORS THAT ARE OVER 10 YEARS OLD

COVER WHEN NOT IN USE

NONE

OTHER (please specify)

25. Please check any POOL/SPA measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

AVOID FILTERING POOL BETWEEN NOON AND 6 P.M.

REPLACE PUMP AND MOTORS THAT ARE OVER 10 YEARS OLD

COVER WHEN NOT IN USE

NONE

26. Did your Home Energy Efficiency Survey results include any recommendations to change your home's DISHWASHER? (Check one)

YES

NO

DON'T KNOW

27. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your DISHWASHER.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey)

(Check all that apply)

TURN OFF DURING DRY CYCLE

OPERATE DURING COOL TIMES OF DAY/EVENING

WASH FULL LOADS

USE "ENERGY-SAVER" CYCLE

NONE

OTHER (please specify)

28. Please check any DISHWASHER measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

TURN OFF DURING DRY CYCLE

OPERATE DURING COOL TIMES OF DAY/EVENING

WASH FULL LOADS

USE "ENERGY-SAVER" CYCLE

NONE

29. Did your Home Energy Efficiency Survey results include any recommendations to change your home's REFRIGERATORS/FREEZERS? (Check one)

YES

NO

DON'T KNOW

30. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your REFRIGERATORS/FREEZERS.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

ELIMINATE YOUR SECOND REFRIGERATOR

REPLACE WORN OR DAMAGED REFRIGERATOR/FREEZER DOOR GASKETS

AVOID OPENING THE REFRIGERATOR DOOR UNNECESSARILY

MAINTAIN THE REFRIGERATOR TEMPERATURE AT 37-40 DEGREES FAHRENHEIT

MAINTAIN THE FREEZER TEMPERATURE AT 0 DEGREES FAHRENHEIT

REPLACE YOUR OLDER REFRIGERATOR OR FREEZER

NONE

OTHER (please specify)

31. Please check any REFRIGERATORS/FREEZERS measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

ELIMINATE YOUR SECOND REFRIGERATOR

REPLACE WORN OR DAMAGED REFRIGERATOR/FREEZER DOOR GASKETS

AVOID OPENING THE REFRIGERATOR DOOR UNNECESSARILY

MAINTAIN THE REFRIGERATOR TEMPERATURE AT 37-40 DEGREES FAHRENHEIT

MAINTAIN THE FREEZER TEMPERATURE AT 0 DEGREES FAHRENHEIT

REPLACE YOUR OLDER REFRIGERATOR OR FREEZER

NONE

32. Did your Home Energy Efficiency Survey results include any recommendations to change your home's CLOTHES WASHER? (Check one)

YES

NO

DON'T KNOW

33. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your CLOTHES WASHER.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

WASH FULL LOADS

OPERATE DURING COOL TIMES OF DAY/EVENING

USE COOL WATER INSTEAD OF HOT WHEN POSSIBLE

REPLACE CLOTHES WASHER WITH QUALIFIED ENERGY-EFFICIENT MODEL

NONE

OTHER (please specify)

34. Please check any CLOTHES WASHER measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

WASH FULL LOADS

OPERATE DURING COOL TIMES OF DAY/EVENING

USE COOL WATER INSTEAD OF HOT WHEN POSSIBLE

REPLACE CLOTHES WASHER WITH QUALIFIED ENERGY-EFFICIENT MODEL

NONE

35. Did your Home Energy Efficiency Survey results include any recommendations to change your home's LIGHTING? (Check one)

YES

NO

DON'T KNOW

36. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for LIGHTING.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

REPLACE INCANDESCENT LIGHT BULBS WITH COMPACT FLUORESCENT LIGHTING (CFLs)

INSTALL TIMERS/PHOTOCELLS ON SECURITY LIGHTING

TURN OFF LIGHTING YOU'RE NOT USING

NONE

OTHER (please specify)

37. Please check any LIGHTING measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

REPLACE INCANDESCENT LIGHT BULBS WITH COMPACT FLUORESCENT LIGHTING (CFLs)

INSTALL TIMERS/PHOTOCELLS ON SECURITY LIGHTING

TURN OFF LIGHTING YOU'RE NOT USING

NONE

38. Did your Home Energy Efficiency Survey results include any recommendations to change your HOME OFFICE? (Check one)

YES

NO

DON'T KNOW

39. Below is a possible list of recommendations that came out of the Home Energy Efficiency Survey for your HOME OFFICE.

What have you DONE as a RESULT of the Home Energy Efficiency Survey?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

POWER OFF YOUR COMPUTER WHEN NOT IN USE

POWER OFF YOUR PRINTER WHEN NOT IN USE

POWER OFF YOUR SCANNER WHEN NOT IN USE

NONE

OTHER (please specify)

40. Please check any HOME OFFICE measures you were doing BEFORE you took the Home Energy Efficiency Survey: (Check all that apply)

POWER OFF YOUR COMPUTER WHEN NOT IN USE

POWER OFF YOUR PRINTER WHEN NOT IN USE

POWER OFF YOUR SCANNER WHEN NOT IN USE

NONE

41. Your Home Energy Efficiency Survey recommendations were coupled with links to the ENERGY LIBRARY for more detailed self-help information.

Did you visit the ENERGY LIBRARY? (Check one)

YES

NO

DON'T KNOW

42. AS A RESULT OF TAKING the Home Energy Efficiency Survey, did you: Visit a utility website to get additional info on energy efficiency programs? (Check one)

YES

NO

DON'T KNOW

43. AS A RESULT OF TAKING the Home Energy Efficiency Survey, did you: Call the utility to get additional info on energy efficiency programs? (Check one)

YES

NO

DON'T KNOW

44. AS A RESULT OF TAKING the Home Energy Efficiency Survey, did you: Call a contractor to find out more about installing energy efficiency equipment? (Check one)

YES

NO

DON'T KNOW

45. AS A RESULT OF TAKING THE Home Energy Efficiency Survey, did you: Participate in any of these programs? (Please do not mark programs you were already participating in BEFORE you used the Tool.) (Check all that apply)

SDG&E REBATE PROGRAM

APPLIANCE RECYCLING

20 / 20 PROGRAM - SUMMER ENERGY SAVINGS REWARDS

LIGHTING EXCHANGE

I RECEIVED A REBATE BUT DON'T REMEMBER THE PROGRAM NAME

DID NOT PARTICIPATE IN ANY PROGRAM

OTHER PROGRAM (please specify)

46. What equipment did you purchase through this(these) program(s)? (Check all that apply)

LIGHTING

INSULATION

WINDOWS

AIR CONDITIONING

FURNACE

CLOTHES WASHER

REFRIGERATOR

DISHWASHER

WATER HEATER

47. Did the program(s) provide you with a 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.) (Check one)

YES

NO

DON'T KNOW

48. Please indicate those equipment options where you received a rebate. (Check all that apply)

LIGHTING

INSULATION

WINDOWS

AIR CONDITIONING

FURNACE

CLOTHES WASHER

REFRIGERATOR

DISHWASHER

WATER HEATER

OTHER (please specify)

Now, we want to ask you about the Home Energy Efficiency Survey's analysis of your household's energy use.

49. The Home Energy Efficiency Survey allowed you to type in your gas and electric BILL HISTORY over the past year (dollars paid, kWhs, and therms) so the tool could more accurately analyze your energy usage.

Did you type in your bill information? (Check one)

YES

NO

DON'T KNOW

50. The Home Energy Efficiency Survey results page provided charts of your energy costs, broken down by MONTH and by APPLIANCE.

How USEFUL was this information about your energy and water usage? (Check one)

VERY USEFUL

SOMEWHAT USEFUL

NOT VERY USEFUL

NOT AT ALL USEFUL

DON'T KNOW

51. How INFLUENTIAL was this information on your decision to implement any the Home Energy Efficiency Survey recommendations? (Check one)

VERY INFLUENTIAL

SOMEWHAT INFLUENTIAL

NOT VERY INFLUENTIAL

NOT AT ALL INFLUENTIAL

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

52. How easy was it to complete the Home Energy Efficiency Survey, was it: (Check one)

VERY EASY

SOMEWHAT EASY

SOMEWHAT DIFFICULT

VERY DIFFICULT

53. Please indicate your level of satisfaction with the following: (VERY SATISFIED, MODERATELY SATISFIED, SLIGHTLY SATISFIED, NEUTRAL, SLIGHTLY DISSATISFIED, MODERATELY DISSATISFIED, VERY DISSATISFIED)

A) The AMOUNT OF TIME it took to complete the survey?

B) The CLARITY of the recommendations provided by the survey?

C) The USEFULNESS of the recommendations provided?

D) The INFORMATION provided in the ENERGY LIBRARY?

E) OVERALL satisfaction with the Home Energy Efficiency Survey?

54. If you could change one thing about the Home Energy Efficiency Survey, what would that be? (Open-end)

55. What was the most difficult thing about completing the Home Energy Efficiency Survey? (Open-end)

56. Have you recommended the Home Energy Efficiency Survey to others? (Check one)

YES

NO

Almost done...and now just a few demographic questions! This final part of the survey asks about general demographic information.

57. Do you currently own or rent your home? (Check one)

RENT

OWN

58. What type of home do you currently live in? (Check one)

SINGLE-FAMILY DETACHED HOME

CONDO

TOWNHOUSE

MOBILE HOME / MANUFACTURED HOME

DUPLEX

APARTMENT

Other (please specify)

59. Including all adults AND children, how many people are in your household? (Insert a numerical answer)

Enter number of people:

60. Please indicate your age category: (Check one)

UNDER 25 YEARS

25 TO 34 YEARS

35 TO 44 YEARS

45 TO 54 YEARS

55 TO 59 YEARS

60 TO 64 YEARS

65 YEARS OR OLDER

61. What is the highest level of education you have completed? (Check one)

HIGH SCHOOL DIPLOMA OR LESS

SOME COLLEGE

ASSOCIATES DEGREE

BACHELORS DEGREE

GRADUATE OR PROFESSIONAL DEGREE

62. To help us understand how this program affects different types of families, we ask one income question:

Please indicate the category that best describes your total annual household income: (Check one)

LESS THAN \$20,000

\$20,000 TO \$40,000

\$40,001 TO \$60,000

\$60,001 TO \$80,000

\$80,001 TO \$100,000

\$100,001 TO \$150,000

MORE THAN \$150,000

63. What other programs or offerings could the utility provide to help you manage your energy use better? (Open-end)

RCEI HECT Participant Survey Instrument (On-line)

E-mail sent out to solicit participation

TELL US YOUR OPINION

Recently, you completed SDG&E's Home Energy Comparison Tool online. Based on your responses, you received a personalized report showing your energy consumption as it relates to other similar homes in your area. We hope that you found the report informative and helpful with your efforts to make your home more energy efficient.

In an effort to improve this program for our customers, we are asking you to complete a brief survey based on your experience. By taking a few minutes now, you can help SDG&E improve this program for all customers. Our aim is to help as many families as possible by making the Home Energy Comparison Tool more useful and more user-friendly.

To complete this short questionnaire, follow this link: (By clicking on this link you will go to an independent survey website. Your information will remain private and will not be shared with anyone. Visit the sdge.com/privacy for privacy policy details.) Your responses will be kept confidential. Thank you in advance for your help with this important study and for doing your part to help save energy!

Welcome. Thank you for giving us a few minutes of your time to tell us about your experience in using the SDG&E HOME ENERGY COMPARISON TOOL. Your feedback will help us improve the energy efficiency programs we offer to help customers save energy, money, and help the environment.

This survey has 4 parts: Process questions, Tips questions, Satisfaction questions, and Demographics questions.

The survey should only take about 5 minutes to complete.

1. Please provide your e-mail address (the one through which you received this survey link). Your e-mail address will be kept confidential. It is only used to confirm that you have completed this survey so we do not send you a reminder e-mail. You will not be contacted again for this survey.

E-mail:

2. How did you first learn about the Home Energy Comparison Tool? (Check one)

SDG&E WEBSITE "MY ACCOUNT" SCREEN?

E-MAIL

BILL INSERT

OTHER FLYER OR BROCHURE

CONTRACTOR

UTILITY REPRESENTATIVE

NEWSLETTER

OTHER (please specify)

3. How long did it take you to complete the Home Energy Comparison Tool? (Check one)

LESS THAN 5 MINUTES

5 TO 10 MINUTES

10 TO 15 MINUTES

MORE THAN 15 MINUTES

4. The results page of the Home Energy Comparison Tool benchmarked your gas and electric use with the energy use of similar households in your area.

How did your GAS use compare with similar households in your area? (Check one)

LOWER THAN AVERAGE

ABOUT AVERAGE

HIGHER THAN AVERAGE

DON'T KNOW

DOES NOT APPLY - I DO NOT USE GAS

5. How did your ELECTRIC use compare with similar households in your area?

(Check one)

LOWER THAN AVERAGE

ABOUT AVERAGE

HIGHER THAN AVERAGE

DON'T KNOW

Now, this part of the survey will ask you about the energy efficiency tips that the Home Energy Comparison Tool recommended for your home.

6. The results screen of the Home Energy Comparison Tool links to personalized tips to increase the energy efficiency of your home linked by the "Energy Savings Resources" button at the bottom of the screen).

Did you follow this link and read the personalized energy savings tips? (Check one)

YES

NO

DON'T KNOW

7. Did you implement any of these tips to increase the energy efficiency of your home? (Check one)

YES

NO

DON'T KNOW

[Note: Respondents who answered "NO" to Q6 or Q7 skipped questions 8-9, 11-12, 14-15, 17-18, 20-21, and 23-24]

8. Did your Home Energy Comparison Tool results include any tips to change your home's AIR CONDITIONING? (Check one)

YES

NO

DON'T KNOW

9. Below is a possible list of tips that came out of the Home Energy Comparison Tool for your AIR CONDITIONING. What have you DONE as a RESULT of the Home Energy Comparison Tool?

(Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

SETTING YOUR AIR CONDITIONER TO 78 DEGREES OR HIGHER

USING FANS IN PLACE OF AIR CONDITIONERS

KEEP THE TEMPERATURE DOWN BY TAKING ADVANTAGE OF TREES, AWNINGS, SOLAR WINDOW SHADE SCREENS, SUN-

CONTROL WINDOW FILM, OR CLOSING THE DRAPES

OTHER (please specify)

10. Please check any AIR CONDITIONING measures you were doing BEFORE you used the Home Energy Comparison Tool:

SETTING YOUR AIR CONDITIONER TO 78 DEGREES OR HIGHER

USING FANS IN PLACE OF AIR CONDITIONERS

KEEP THE TEMPERATURE DOWN BY TAKING ADVANTAGE OF TREES, AWNINGS, SOLAR WINDOW SHADE SCREENS, SUN-

CONTROL WINDOW FILM, OR CLOSING THE DRAPES

NONE

11. Did your Home Energy Comparison Tool results include any tips to change your home's POOL AND SPA? (Check one)

YES

NO

DON'T KNOW

12. Below is a possible list of tips that came out of the Home Energy Comparison Tool for your POOL AND SPA.

What have you DONE as a RESULT of the Home Energy Comparison Tool? (Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

FILTER POOLS AND SPAS BEFORE 11 A.M. OR AFTER 6 P.M.

KEEP THE POOL AND/OR SPA COVERED WHEN NOT IN USE TO MINIMIZE HEAT LOSS

REPLACE YOUR OLD, INEFFICIENT PUMP/MOTOR ASSEMBLY WITH A NEW ENERGY-EFFICIENT MODEL

NONE

OTHER (please specify)

13. Please check any POOL AND SPA measures you were doing BEFORE you used the Home Energy Comparison Tool: (Check all that apply)

FILTER POOLS AND SPAS BEFORE 11 A.M. OR AFTER 6 P.M.

KEEP THE POOL AND/OR SPA COVERED WHEN NOT IN USE TO MINIMIZE HEAT LOSS

REPLACE YOUR OLD, INEFFICIENT PUMP/MOTOR ASSEMBLY WITH A NEW ENERGY-EFFICIENT MODEL

NONE

14. Did your Home Energy Comparison Tool results include any tips to change your home's LIGHTING? (Check one)

YES

NO

DON'T KNOW

15. Below is a possible list of tips that came out of the Home Energy Comparison Tool for your LIGHTING.

What have you DONE as a RESULT of the Home Energy Comparison Tool? (Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

TURN-OFF LIGHTS WHEN YOU LEAVE A ROOM

INSTALL TIMERS, TIME CLOCKS OR PHOTOCELLS TO ENSURE THAT EXTERIOR LIGHTS ARE TURNED-OFF AT THE

APPROPRIATE TIME

REPLACE INCANDESCENT LIGHTS WITH COMPACT FLUORESCENT LAMPS (CFLs)

NONE

OTHER (please specify)

16. Please check any LIGHTING measures you were doing BEFORE you used the Home Energy Comparison Tool: (Check all that apply)

TURN-OFF LIGHTS WHEN YOU LEAVE A ROOM

INSTALL TIMERS, TIME CLOCKS OR PHOTOCELLS TO ENSURE THAT EXTERIOR LIGHTS ARE TURNED-OFF AT THE

APPROPRIATE TIME

REPLACE INCANDESCENT LIGHTS WITH COMPACT FLUORESCENT LAMPS (CFLs)

NONE

17. Did your Home Energy Comparison Tool results include any tips for SEALING YOUR HOME? (Check one)

YES

NO

DON'T KNOW

18. Below is a possible list of tips that came out of the Home Energy Comparison Tool audit for SEALING YOUR HOME:

What have you DONE as a RESULT of the Home Energy Comparison Tool? (Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

WEATHER-STRIPPING AND CAULKING YOUR HOME

INSULATE YOUR WALLS (R-11 THERMAL RESISTANCE INSULATION RECOMMENDED)

INSULATE YOUR CEILINGS (R-19 THERMAL RESISTANCE INSULATION RECOMMENDED)

NONE

OTHER (please specify)

19. Please check any SEALING YOUR HOME measures you were doing BEFORE you used the Home Energy Comparison Tool: (Check all that apply)

WEATHER-STRIPPING AND CAULKING YOUR HOME

INSULATE YOUR WALLS (R-11 THERMAL RESISTANCE INSULATION RECOMMENDED)

INSULATE YOUR CEILINGS (R-19 THERMAL RESISTANCE INSULATION RECOMMENDED)

NONE

20. Did your Home Energy Comparison Tool results include any tips to change your home's WINDOWS? (Check one)

YES

NO

DON'T KNOW

21. Below is a possible list of tips that came out of the Home Energy Comparison Tool for WINDOWS.

What have you DONE as a RESULT of the Home Energy Comparison Tool? (Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

PURCHASE SPECTRALLY SELECTIVE LOW-E "ENERGY STAR" QUALIFIED WINDOWS

NONE

OTHER (please specify)

22. Please check any WINDOWS measures you were doing BEFORE you used the Home Energy Comparison Tool: (Check all that apply)

PURCHASE SPECTRALLY SELECTIVE LOW-E "ENERGY STAR" QUALIFIED WINDOWS

NONE

23. Did your Home Energy Comparison Tool results include any tips for WHEN YOU'RE ON VACATION? (Check one)

YES

NO

DON'T KNOW

24. Below is a possible list of tips that came out of the Home Energy Comparison Tool for WHEN YOU'RE ON VACATION.

What have you DONE as a RESULT of the Home Energy Comparison Tool? (Please DO NOT mark energy efficiency measures you adopted BEFORE taking the Survey) (Check all that apply)

TURN YOUR ELECTRIC WATER HEATERS AND ELECTRIC CEILING HEATERS OFF AT THE BREAKER

TURN OFF YOUR POOL, SPA, AND WATERBED HEATERS

SET YOUR GAS APPLIANCE PILOT LIGHTS TO "PILOT" POSITION

NONE

OTHER (please specify)

25. Please check any WHEN YOU'RE ON VACATION measures you were doing BEFORE you used the Home Energy Comparison Tool: (Check all that apply)

TURN YOUR ELECTRIC WATER HEATERS AND ELECTRIC CEILING HEATERS OFF AT THE BREAKER

TURN OFF YOUR POOL, SPA, AND WATERBED HEATERS

SET YOUR GAS APPLIANCE PILOT LIGHTS TO "PILOT" POSITION

NONE

26. AS A RESULT of using the Home Energy Comparison Tool, did you: Visit the utility website to get additional info on energy efficiency programs? (Check one)

YES

NO

DON'T KNOW

27. AS A RESULT of using the Home Energy Comparison Tool, did you: Call the utility to get additional info on energy efficiency programs? (Check one)

YES

NO

DON'T KNOW

28. AS A RESULT of using the Home Energy Comparison Tool, did you: Call a contractor to find out more about installing energy efficiency equipment? (Check one)

YES

NO

DON'T KNOW

29. AS A RESULT of using the Home Energy Comparison Tool, did you: Participate in any of these programs? (Please DO NOT mark programs that you were participating in BEFORE you used the Tool.) (Check all that apply)

SDG&E REBATE PROGRAM

APPLIANCE RECYCLING

20 / 20 PROGRAM

LIGHTING EXCHANGE

I RECEIVED A REBATE BUT DON'T REMEMBER THE PROGRAM NAME

DID NOT PARTICIPATE IN ANY PROGRAM

OTHER (please specify)

30. What equipment did you purchase through this(these) program(s)? (Check all that apply)

LIGHTING

INSULATION

WINDOWS

AIR CONDITIONER

FURNACE

CLOTHES WASHER

REFRIGERATOR

DISHWASHER

WATER HEATER

NONE

OTHER (please specify)

31. Did the program(s) provide you with a 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.) (Check one)

YES

NO

DON'T KNOW

32. Please indicate those equipment options where you received a rebate. (Check all that apply)

LIGHTING

INSULATION

WINDOWS

AIR CONDITIONER

FURNACE

CLOTHES WASHER

REFRIGERATOR

DISHWASHER

WATER HEATER

NONE

OTHER (please specify)

33. The results pages of the Home Energy Comparison Tool used charts and tables to compare your energy use with similar households in your area (therms, kWh, and bill dollar amount). How USEFUL was the information about your energy use compared to other similar households? (Check one)

VERY USEFUL

SOMEWHAT USEFUL

NOT VERY USEFUL

NOT AT ALL USEFUL

DON'T KNOW

34. How INFLUENTIAL was this comparison information in your decision to implement the energy efficiency tips? (Check one)

VERY INFLUENTIAL

SOMEWHAT INFLUENTIAL

NOT VERY INFLUENTIAL

NOT AT ALL INFLUENTIAL

This part of the survey asks about your satisfaction with the HOME ENERGY COMPARISON TOOL program.

35. How easy was it to complete the Home Energy Comparison Tool, was it: (Check one)

VERY EASY

SOMEWHAT EASY

SOMEWHAT DIFFICULT

VERY DIFFICULT

36. Please indicate your level of satisfaction with the following: (VERY SATISFIED, MODERATELY SATISFIED, SLIGHTLY SATISFIED, NEUTRAL, SLIGHTLY DISSATISFIED, MODERATELY DISSATISFIED, VERY DISSATISFIED, or DOES NOT APPLY)

A) The AMOUNT OF TIME it took to use the Tool?

B) The CLARITY of the results screens?

C) How ACCURATELY the Tool benchmarked your energy use with similar households in your area?

D) The CLARITY of the tips provided by the tool?

E) The USEFULNESS of the tips provided? OVERALL satisfaction with the Tool?

37. If you could change one thing about the Home Energy Comparison Tool, what would that be? (Open-end)

38. What was the most difficult thing about completing the Home Energy Comparison Tool? (Open-end)

39. Have you recommended the Home Energy Comparison Tool to others? (Check one)

YES

NO

Almost done...Now just a few demographic questions. This final part of the survey asks about general demographic information.

40. Do you currently own or rent your home? (Check one)

RENT

OWN

41. What type of home do you currently live in? (Check one)

SINGLE-FAMILY DETACHED HOME

CONDO

TOWNHOUSE

MOBILE HOME / MANUFACTURED HOME

DUPLEX

APARTMENT

Other (please specify)

42. Including all adults AND children, how many people are in your household? (Insert a numerical answer)

43. Please indicate your age category: (Check one)

UNDER 25 YEARS

25 TO 34 YEARS

- 35 TO 44 YEARS
- 45 TO 54 YEARS
- 55 TO 59 YEARS
- 60 TO 64 YEARS
- 65 YEARS OR OLDER

44. What is the highest level of education you have completed? (Check one)

- HIGH SCHOOL DIPLOMA OR LESS
- SOME COLLEGE
- ASSOCIATES DEGREE
- BACHELORS DEGREE
- GRADUATE OR PROFESSIONAL DEGREE

**45. To help us understand how this program affects different types of families, we ask one income question:
Please indicate the category that best describes your total annual household income: (Check one)**

- LESS THAN \$20,000
- \$20,000 TO \$40,000
- \$40,001 TO \$60,000
- \$60,001 TO \$80,000
- \$80,001 TO \$100,000
- \$100,001 TO \$150,000
- MORE THAN \$150,000

**46. What other programs or offerings could the utility provide to help you manage your energy use better?
(Open-end)**

13.8 TIME OF SALE ENERGY EFFICIENCY CHECK UP PROGRAM SURVEYS

Time of Sale Energy Efficiency Check Up Program Participant Survey Instrument

Hello, my name is _____ and I am calling on behalf of San Diego Gas & Electric...

We're conducting a study with SDG&E customers to find out about their reactions to the "Time of Sale Home Energy Checkup", an energy efficiency inspection conducted at the time a home is bought or sold.

This research effort will take less than 15 minutes to complete and we pay \$20 as a token of appreciation for your time and effort. Is now a good time to conduct this very brief interview?

Q1. Our records show that you had an EnergyCheckUp performed on a home in SDG&E Territory at [Address]. Is this correct?

1. Yes
2. No → TERMINATE

IF Q1 = "Yes": Were you the buyer or the seller of the home that was inspected?

1. Buyer
2. Seller
3. I had an Energy Checkup on a home that I already owned
4. I am the realtor who represented the *buyer* on a home
5. I am the realtor who represented the *seller* on a home
4. I am an inspector and inspected my own home (THANK AND TERMINATE: **Thank you. For this survey we are contacting home buyers and sellers only. One of our professional staff will be contacting you to conduct an interview about your experience with the Time of Sale Energy Checkup program.**)

IF Q1 = "No": Did someone else have an EnergyCheckUp performed on a home that you purchased or sold?

1. Yes
2. No (THANK AND TERMINATE: **For this survey we are speaking to people who had an EnergyCheckup performed. Thank you for your time.**)

Q2. Before calling us, did you use the link in the email you received to review your Energy Checkup report?

1. Yes
2. No

Q3. How did you find out about Home EnergyCheckUp? (Allow multiple responses)

1. THIS PHONE CALL/ I WAS NOT AWARE
2. BUYER'S REALTOR
3. SELLER'S REALTOR
4. ANOTHER REALTOR
5. MY HOME INSPECTOR
6. ANOTHER HOME INSPECTOR
7. CONTRACTOR OR OTHER SERVICE PROVIDER
8. FRIEND / FAMILY
9. FROM OTHER ENERGY CONSERVATION PROGRAM
10. SEMINAR
11. AD/DISPLAY IN STORE
12. AD IN THE NEWSPAPER
13. AD RADIO
14. AD TV
15. AD WEB
16. OTHER (GET DETAILS) _____

Q4. Had you heard about EnergyCheckUp before you bought or sold the house that you had inspected?

1. Yes
2. No

Q5. What were your main reasons for having an EnergyCheckUp on your home?

(Do not read responses, check all that apply)

1. WANTED TO SAVE ENERGY / REDUCE BILL
2. CONTRACTOR RECOMMENDED IT
3. FRIEND / FAMILY MEMBER RECOMMENDED IT
4. CONCERN ABOUT THE ENVIRONMENT
5. MAKE THE HOUSE MORE COMFORTABLE
6. COMPARE MY HOUSE TO OTHERS
7. SHOW ME WHAT OTHER PROGRAMS I COULD PARTICIPATE IN
8. RECOMMENDED BY THE REALTOR
9. RECOMMENDED BY THE HOME INSPECTOR
10. TO INCREASE THE VALUE/APPRaisal OF MY HOME
11. TO HELP MY HOME SELL FASTER
12. SO I COULD FINANCE ENERGY IMPROVEMENTS THROUGH MY MORTGAGE
13. OTHER (SPECIFY: _____)

Q6. And which of those was the most important reason? (Circle answer above)

Q7. [If inspector not mentioned in Q5, ask:] **Did your inspector also suggest the EnergyCheckup?**

1. Yes
2. No
3. Not Sure, DK

Q8. Had you decided on having the EnergyCheckup prior to talking with your inspector?

1. Yes
2. No
3. Not Sure, DK

Q9. [If realtor not mentioned in Q5, ask:] **Did your realtor also suggest the EnergyCheckup?**

1. Yes
2. No
3. Not Sure, DK

Q10. Had you decided on having the EnergyCheckup prior to talking with your realtor?

1. Yes
2. No
3. Not Sure, DK

Q13. How did you get the results of your Energy CheckUp?

1. THE HOME INSPECTOR WENT OVER THE REPORT WITH ME
2. THE REALTOR WENT OVER THE REPORT WITH ME
3. I RECEIVED THE REPORT BY MAIL OR OTHER DELIVERY
4. I DOWNLOADED THE REPORT FROM THE INTERNET
5. OTHER (SPECIFY)_____
6. NOT SURE / DON'T KNOW

Q14. Did the EnergyCheckUp report recommend any improvements to help you save energy? Examples would be more insulation, new windows, a water heater blanket, a more efficient air conditioner, or more efficient EnergyStar appliances.

1. Yes
2. No
3. Not Sure, DK

Q15. Did the inspector or the report tell you about any other San Diego Gas and Electric programs to help you install these measures or save energy in other ways?

1. Yes
2. No
3. Not Sure, DK

Q16. Which improvements recommended by the EnergyCheckUp report do you recall?

- a. MEASURE 1: _____
- b. MEASURE 2: _____
- c. MEASURE 3: _____
- d. MEASURE 4: _____

999. Do not recall any improvements

[If Q16 = 999 Do not recall any improvements, ask the following:]

Q16A. Some of the measures that are commonly recommended by the EnergyCheckUp include:

1. MORE WALL OR CEILING INSULATION,
2. SEALING OF AIR CONDITIONING DUCTS,
3. AN AIR CONDITIONING OR HEATING SYSTEM TUNE-UP,
4. MORE EFFICIENT WINDOWS,
5. ENERGY STAR APPLIANCES,
6. A NEW, HIGH EFFICIENCY HEATING OR COOLING SYSTEM OR HOT WATER HEATER,
7. A PROGRAMMABLE THERMOSTAT,
8. COMPACT FLUORESCENT LIGHT BULBS

Q16AA. Do you recall any of those being recommended?

1. Yes [Go to Q17]
2. No [Go to Q16B]

Q16B. So you would say that to the best of your recollection you did not install any energy savings measures as a result of the EnergyCheckUp. Is this correct?

- 1. Yes [Go to Q22]
- 2. No [Go to Q17]

Q17. Which improvements did you subsequently install?

(If MEASURES given in Q16, Add: **Did you install:** (read MEASURES from Q16))

- a. MEASURE 1? _____
- b. MEASURE 2? _____
- c. MEASURE 3? _____
- d. MEASURE 4? _____

Q18. Would you have installed each of the following improvements if you had not had the EnergyCheckUp performed? Would you have installed: (Ask only about MEASURES installed from Q17)

- a. MEASURE 1? _____
- b. MEASURE 2? _____
- c. MEASURE 3? _____
- d. MEASURE 4? _____

Q19. Did you receive a rebate from SDG&E for [MEASURE]?

- a. MEASURE 1? _____
- b. MEASURE 2? _____
- c. MEASURE 3? _____
- d. MEASURE 4? _____

Q20. Would you have installed [MEASURE] if you had not received the SDG&E rebate?

- 1. Yes, would have installed in near future
- 2. No, would not have installed

3. Would have installed sometime later

MEASURE 1?	MEASURE 2?	MEASURE 3?	MEASURE 4?	MEASURE 5?

21. Are there other recommended measures that you plan to install in the future?

a. MEASURE 1? _____

b. MEASURE 2? _____

c. MEASURE 3? _____

d. MEASURE 4? _____

e. None

[Skip if any measures were installed]

Q22. Why did you not install any of the improvements recommended by the EnergyCheckUp report?

Next, I'd like you to rate your satisfaction with various aspects of your Energy Checkup. For each question I read, please tell me how satisfied or dissatisfied you were.

Q23. First, how satisfied were you with the inspector who conducted the EnergyCheckUp. Would you say you were?

1. Very satisfied
2. Moderately satisfied
3. Slightly satisfied
4. Neutral
5. Slightly dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied with the inspector?

[IF Q23 = 5/6 or 7 any of the "dissatisfied"] **Q24. What would have improved your experience with the EnergyCheckup Inspector?**

Q25. How satisfied were you with how quickly you received the EnergyCheckUp results. Would you say you were?

1. Very satisfied
2. Moderately satisfied
3. Slightly satisfied

4. Neutral
5. Slightly dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied?

[IF Q25 = 5/6 or 7 any of the “dissatisfied”] **Q26. Why were you dissatisfied with how quickly you received your EnergyCheckUp results?**

Q27. How clear you found the EnergyCheckUp report. Would you say you were...

1. Very satisfied
2. Moderately satisfied
3. Slightly satisfied
4. Neutral
5. Slightly dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied?

[IF Q27 = 5/6 or 7 any of the “dissatisfied”]

Q28. Why were you dissatisfied with how clear you found the EnergyCheckUp report?

Interviewers: Questions 29 through 40 should have the following sentence stem: How satisfied were you with..

Q29. How useful you found the EnergyCheckUp report. Would you say you were...

1. Very satisfied
2. Moderately satisfied
3. Slightly satisfied
4. Neutral
5. Slightly dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied?

[IF Q29 = 5/6 or 7 any of the “dissatisfied”]

Q30. Why were you dissatisfied with how useful you found the EnergyCheckUp report?

[Continue if Q17 = MEASURES INSTALLED, else skip to 40]

Q36. How about the performance of the recommended measures you installed.

Would you say you were...

1. Very satisfied
2. Moderately satisfied
3. Slightly satisfied
4. Neutral
5. Slightly dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied?

[IF Q36 = 5/6 or 7 any of the “dissatisfied”]

Q37. What would have improved your satisfaction with the performance of the measures you installed? _____

Q38. And how about the energy savings from the recommended measures you installed.

Would you say you were...?

1. Very satisfied
2. Moderately satisfied
3. Slightly satisfied
4. Neutral
5. Slightly dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied?

[IF Q38 = 5/6 or 7 any of the “dissatisfied”]

Q39. What would have been a satisfying level of energy savings?

Q40. Now I have a few questions about the overall satisfaction with the EnergyCheckUp process.

Would you say you were...?

1. Very satisfied
2. Moderately satisfied
3. Slightly satisfied
4. Neutral
5. Slightly dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied....with the overall EnergyCheckUp process?

[IF Q40 = 5/6 or 7 any of the “dissatisfied”]

Q41. What would have improved your overall satisfaction?

Q42. Have you ever suggested an EnergyCheckUp to someone outside of your household?

1. Yes
2. No

[If Q42 = Yes]

Q43. What did you tell them about the program? (Open-ended)

Q44. Next we would like to know how clear you found the information on the availability of the Home Energy CheckUp. Would you say the information you received was...

1. Very clear
2. Somewhat clear
3. Somewhat unclear
4. Not at all clear
5. Does not apply/did not receive

Some people may have doubts or reservations about having a Home EnergyCheckUp. Prior to having an EnergyCheckUp on your home, can you tell me if you had any doubts or concerns about the following items.

Q45. Did you have doubts about finding a qualified inspector?

1. Yes
2. No

Q46. If YES: Briefly, what happened and how did you overcome this concern? (Open-ended)

Q47. [Did you have doubts about] Finding a qualified contractor to do the installation of recommended improvements?

1. Yes

2. No

Q48. If YES – Briefly, what happened and how did you overcome this concern? (Open-ended)

Q49. Energy savings claims being overstated?

1. Yes

2. No

Q50. If YES – Briefly, what happened and how did you overcome this concern? (Open-ended)

Q51. Energy savings not worth extra price?

1. Yes

2. No

Q52. If YES – Briefly, what happened and how did you overcome this concern? (Open-ended)

Q53. Any other concerns with the EnergyCheckUp prior to participating?

1. Yes

2. No

Q54. If YES – Briefly, what happened and how did you overcome this concern? (Open-ended)

Q55. What suggestions would you make to improve the Home Energy CheckUp? (Open-ended)

Now I'd like to ask you about other energy efficiency programs you might have participated in.

Q56. In the last year, did you make any other energy efficiency purchases for which you received a rebate?

1. Yes

2. No

[If Q56 = Yes]

Q57. What type of equipment was purchased with a rebate?

Q58. Would you like the ability to track the status of your rebate applications on-line using the utility's website?

1. Yes

2. No

3. Not sure

Q59. Please tell me if you have ever heard of the any of the following programs: (Read all)

1. SINGLE FAMILY REBATE PROGRAM
2. FLEX YOUR POWER
3. 20/20
4. LIGHTING EXCHANGE
5. APPLIANCE RECYCLING
6. OTHERS??

Q60. If aware of any programs, follow up by asking if they participated in the program.

1. Yes

2. No

Q61. Do you recall ever visiting SDG&E's website for information?

1. Yes

2. No

[If Q61 = No, go to Q65]

Q62. What information were you looking for? (Allow multiple responses)

1. LIST OF SPECIFIC ENERGY EFFICIENCY PROGRAMS
2. PROGRAM APPLICATION FORMS
3. CONTRACTORS
4. GENERAL INFORMATION ON ENERGY EFFICIENCY MEASURES
5. OTHER BILLING/SERVICE INFORMATION
6. OTHER – (SPECIFY) _____

Q63. Overall, how satisfied were you with the utility website? Would you say you were ...

1. Very satisfied
2. Moderately satisfied
3. Slightly satisfied
4. Neutral
5. Slightly dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied?

[IF Q63 = 5/6 or 7 any of the “dissatisfied”]

Q64. What would have improved your satisfaction with the utility website?

Q65. What other programs or offerings could the utility provide to help you manage your energy use better?
(Record response verbatim) _____

Q98. Lastly I have just a few questions about your home. Do you currently own or rent?

1. Own
2. Rent

Q99. 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 _____

Q100. Including all adults AND children, how many people are in your household?

_____ (number of ALL people in household)

Q101. When was your home originally built?

_____ year

999 Don't know

Q102. Approximately how many square feet is your home?

_____ square footage

999 Don't know

[IF NEEDED: Would you say it is:]

1. Less than 1,400 SQ FT
2. 1,400 TO 2,500 SQ FT
3. 2,500 TO 3,500 SQ FT
4. 3,500 TO 5,000 SQ FT
5. More than 5,000 SQ FT

Q103. What is your age? Are you...

1. Under 25 years
2. 25 through 34 years
3. 35 through 44 years
4. 45 through H 54 years
5. 55 through 59 years
6. 60 through 64 years
7. 65 years or older

Q104. 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

Q105. Please stop me when I read you household's annual income: Is it...

1. Less than \$20,000,
2. \$20,000 to less than \$40,000,
3. \$40,000 to less than \$60,000,
4. \$60,000 to less than \$80,000,
5. \$80,000 to less than \$100,000,

- 6. \$100,000 to less than \$150,000,
- 7. more than \$150,000.

Q106. What best describes your ethnicity/race?

_____ ethnicity/race

Q107. What is your gender?

- 1. Male
- 2. Female

Finally, may I please have your address so that we can mail you your \$20 thank-you check?

<INTERVIEWER: PLEASE WRITE ALL ADDRESSES HERE >

And those are all the questions I have for you. Thank you very much for your time and effort to help us in this important project. We will send the \$20 check to thos address within 2-3 weeks.

NAME: _____

ADDRESS1: _____

ADDRESS2: _____

CITY: _____

STATE: _____

ZIP: _____

Time of Sale Energy Efficiency Check Up Participating Inspector Survey Instrument

Hello! My name is [_____], and I am calling from PWP Inc. on behalf of San Diego Gas and Electric Company regarding the Time-of-Sale Energy Checkup Program. The program's records show that you provided EnergyCheckup™ inspections under the program during 2006 or 2007. Would you mind spending 15 minutes to answer a few questions to help us evaluate and improve the program? Your feedback is very important to the success of the program, and I'll be happy to schedule a time that would be convenient for you. IF NECESSARY, SCHEDULE CALL FOR: _____ AM/PM _____ Date

I'd like to start with the training you received.

1. When were you first trained to perform EnergyCheckup™ inspections as part of traditional home inspections?

_____ 00/00 (Month//Year)

2. Have you received any supplemental EnergyCheckup™ training since then?

___ 1 (Yes) ___ 2 (No) IF YES, When? _____ 00/00 (Month//Year)

3. Had you done any EnergyCheckup™ inspections before you provided any in San Diego Gas and Electric's service territory?

___ 1 (Yes) ___ 2 (No)

4. IF YES, How many had you done outside SDG&E Territory?

___ Number of Inspections

5. About how many EnergyCheckup™ inspections have you provided in San Diego Gas and Electric's service territory?

___ Number of Inspections

6. How many of those inspections, if any, were not done as part of a traditional home inspection.?

___ Number of Inspections

7. Of the Energy Checkups you have done in SDG&E territory, what percentage was done for each of the following:

___ % buyers ___ % sellers ___ % home owners who are not selling ___ % realtors ___ % other (explain)

8. About how much time does it take you to perform a traditional home inspection for a typical 2,000 square foot house? (Include both on-site time and the time to prepare and present your report)

___ Time (minutes; if hours, convert to minutes)

9. And about how much would you charge for a home inspection for a typical 2,000 square foot house?

___ Time (minutes; if hours, convert to minutes)

10. How much extra time does it take you to perform an EnergyCheckup™ inspection, thinking just about the on-site part of the inspection?

___ Time (minutes; if hours, convert to minutes)

11. How long does it take you to install the compact fluorescent bulbs and other direct install measures provided to the customer as part of the EnergyCheckup?

___ Time (minutes) ___ (Don't put in direct install measures)

12. And how much more time does it take to enter and submit the data for the EnergyCheckup report?

___ Time (minutes; if hours, convert to minutes)

13. About how much on-site time does it take to perform the EnergyCheckup™ inspection only (when you are not doing a regular home inspection)?

___ Time (minutes; if hours, convert to minutes)

14. About how many days from the time you conduct the Energy Checkup until the customer receives the report?

___ Time (days; if weeks, convert to days)

15. About how many days from the time you conduct a traditional home inspection until the customer receives that report?

___ Time (days; if weeks, convert to days)

16. Are you planning to continue offering EnergyCheckup™ inspections in the future?

___ 1 (Yes) ___ 2 (No)

17. Do you offer EnergyCheckup™ inspections to all your home inspection customers in San Diego Gas and Electric service territory?

___ 1 (Yes) ___ 2 (No)

18. IF NO: To what percentage do you offer the EnergyCheckup™ inspection?

___ 1 (Yes) ___ 2 (No)

19. IF NO: And how do you determine whether to offer the EnergyCheckup™ inspection?

20. About what percentage of your customers accept the EnergyCheckup™ when you offer it?

___ Percentage

21. IF LESS THAN 100%: What reasons do customers offer for not having the Energy Checkup?

22. What percentage of the customers who currently accept the Energy Checkup would be willing to pay extra for it (over and above the cost of the regular home inspection)?

___ Percentage

23. On average, how much do you think they would be willing to pay? Would you say:

___ \$5-\$25 ___ \$26-50 ___ \$50-75 ___ (more than \$75)

24. When you offer the Energy Checkup to a customer, do you also tell the realtor about it?

___ 1 (Yes) ___ 2 (No) ___ 3 (Sometimes)

25. IF NO OR SOMETIMES, Why do you (sometimes) not tell the realtor?

26. About what percentage of realtors would you say are aware of EnergyCheckup™ inspections?

___ Percentage (IF 0%, SKIP NEXT TWO QUESTIONS)

27. About what percentage of seller's (listing) realtors recommend EnergyCheckup™ inspections?

___ Percentage

28. And about what percentage of buyer's realtors/agents recommend EnergyCheckup™ inspections?

___ Percentage

29. Would it help if more realtors promoted EnergyCheckup™ inspections?

___ 1 (Yes) ___ 2 (No)

30. Would it help if EnergyCheckup™ had better advertising to home buyers and realtors?

___ 1 (Yes) ___ 2 (No)

Next, I'd like you to rate your satisfaction with various aspects of the Energy Checkup program. For each question I read, please tell me if you are very satisfied, moderately satisfied, slightly satisfied, neutral, slightly dissatisfied, moderately dissatisfied or very dissatisfied.

31. The quality of the EnergyCheckup training you received?

___ VERY SATISFIED

___ MODERATELY SATISFIED

___ SLIGHTLY SATISFIED

___ NEUTRAL

___ SLIGHTLY DISSATISFIED

___ MODERATELY DISSATISFIED

___ VERY DISSATISFIED

IF DISSATISFIED: Why are you dissatisfied with the quality of the training?

32. The amount of the incentive you receive for performing the Energy Checkup?

___ VERY SATISFIED

___ MODERATELY SATISFIED

___ SLIGHTLY SATISFIED

___ NEUTRAL

___ SLIGHTLY DISSATISFIED

___ MODERATELY DISSATISFIED

___ VERY DISSATISFIED

IF DISSATISFIED: How much should the incentive be?

\$ _____ (enter dollar value)

33. The support you receive from the Energy Checkup program staff?

___ VERY SATISFIED

___ MODERATELY SATISFIED

___ SLIGHTLY SATISFIED

___ NEUTRAL

___ SLIGHTLY DISSATISFIED

___ MODERATELY DISSATISFIED

___ VERY DISSATISFIED

IF DISSATISFIED: Why are you dissatisfied with the support you receive?

34. The process by which you submit the audit data and provide the customer with a report?

___ VERY SATISFIED

___ MODERATELY SATISFIED

- SLIGHTLY SATISFIED
- NEUTRAL
- SLIGHTLY DISSATISFIED
- MODERATELY DISSATISFIED
- VERY DISSATISFIED

IF DISSATISFIED: Why are you dissatisfied with the process by which you submit data and provide the customer with a report?

35. The quality of the report provided to the customer?

- VERY SATISFIED
- MODERATELY SATISFIED
- SLIGHTLY SATISFIED
- NEUTRAL
- SLIGHTLY DISSATISFIED
- MODERATELY DISSATISFIED
- VERY DISSATISFIED

IF DISSATISFIED: Why are you dissatisfied with the quality of the report provided to the customer?

36. Do you go over the report with the home buyer to explain the EnergyCheckup recommendations?

- 1 (Yes) 2 (No) 3 (Sometimes) 4 (If customer asks)

37. IF NO: Why do you not go over the report? (do not read, check all that apply)

- Report is provided over the internet, no chance to go over it
- Report is self explanatory
- Accompanying information explains the report
- Customers not interested in going over it
- Customers can call me if they have questions
- Other (specify) _____

38. IF YES: Do you go over the report...

__1 (In person) __2 (by phone) __3 (via email) __4 (depends -- specify)?

39. IF YES: How long does it take to go over the report?

___ Time (minutes; if hours, convert to minutes)

40. Do you explain...

__1 (Entire report) __2 (Some portions) __3 (Recommendations only) __4 (Nothing)

For the following 4 questions about the Energy Checkup report, I will ask you if you strongly disagree (1), disagree (2), agree (3), or strongly agree (4).

41. The EnergyCheckup™ recommendations are easy to explain to home buyers

___ Response (1=Strongly Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree)

IF 1 or 2: Why do you disagree? _____

42. The information contained in the EnergyCheckup™ report is informative to home buyers

___ Response (1=Strongly Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree)

IF 1 or 2: Why do you disagree? _____

43. In general, the estimated energy savings from recommended measures are reasonable

___ Response (1=Strongly Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree)

IF 1 or 2: Why do you disagree? _____

44. In general, the estimated costs of recommended measures are reasonable

___ Response (1=Strongly Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree)

IF 1 or 2: Why do you disagree? _____

45. Are you aware that SDG&E may have programs available to offset the cost of some of the recommended energy efficiency measures?

46. What specific programs are you aware of?

47. Do you inform customers that SDG&E may have these programs available to offset the cost of the recommended energy efficiency measures?

48. IF YES: Do you tell customers about specific programs by name?

49. IF NO: Why do you not tell customers about available SDG&E programs?

Now, thinking about specific EnergyCheckup™ recommendations:

50. Which measures do find the easiest to explain?

51. And which do you find the most difficult to explain? Why is that?

52. Which measures do you think customers are most likely to follow up on?

53. Which measures are they least likely to follow up on? Why is that?

54. What could Energy Checkup or SDG&E do to encourage more customers to install the recommended measures?

55. Please provide your overall satisfaction with the EnergyCheckup™ program on a scale from 1 to 4?

___ Response (1 is low and 4 is high) 98 Don't Know 99 Refused to Answer

56. How many homes do you inspect per year?

_____ # Inspections/yr 98 Don't Know 99 Refused to Answer

57. Finally, do you have any suggestions to improve the program?

___ 1 (Yes) ___ 2 (No) 98 Don't Know 99 Refused to Answer

Those are all the questions I have for you today. Thank you very much for your time.

Time of Sale Energy Efficiency Check Up Nonparticipating Inspector Survey Instrument

Hello! My name is [_____], and I am conducting a survey regarding Time-of-Sale Energy Checkup Home Inspection Program funded by San Diego Gas and Electric. Our records show that you were trained in the Energy Checkup earlier this year, but that you have not conducted any Energy Checkup inspections through the program. We would very much appreciate your feedback to help us evaluate and improve the program. Would you mind spending 5 minutes to answer a few questions?

Business Name _____

Last Name _____ **First Name** _____

Address _____ **City** _____ **ZIP** _____

Phone Number _____ **Survey Date** _____ **Interviewer** _____

1. Program records indicate that you attended a training session on how to conduct an Energy Checkup inspection earlier in 2007. Do you recall attending that training?

___ 1 (Yes) ___ 2 (No)

2. Program records also indicate that you have not performed any Energy Checkups in San Diego Gas & Electric territory since you attended the training. Is this correct?

___ 1 (Yes) ___ 2 (No)

3. IF NO: How many Energy Checkups have you performed in SDG&E territory.

___ Number

4. IF YES: Why have you not done any Energy Checkups in SDG&E territory? (check all that apply, and probe for explanations)

- a. No interest from customers (if customers were interested, would you offer Energy Checkup?)
- b. No interest from realtors (if realtors promoted it, would you offer Energy Checkup?)
- c. Takes too long (how long do you think an Energy Checkup would take – minutes)
- d. Incentive too low (what incentive level would make it worth your while?)
- e. Interferes with regular inspection (in what way?)
- f. No support from the program (what kind of support would you find helpful; have you contacted the program for help?)
- g. Training did not prepare me to do them? (How could training have been more helpful?)
- h. Other (specify)

5. About how many conventional home inspections have you done since you attended the Energy Checkup training?

___ Number

6. Did you offer to do an Energy Checkup for any of those customers?
7. IF YES: What reasons did they offer for not wanting an Energy Checkup?
8. About how much time does it take you to perform a traditional home inspection for a typical 2,000 square foot house? (Include both on-site time and the time to prepare and present your report)
 ___ Time (minutes; if hours, convert to minutes)
9. And about how much would you charge for a home inspection for a typical 2,000 square foot house?
 ___ Time (minutes; if hours, convert to minutes)
10. How much extra time do you think it would take you to perform an Energy Checkup inspection, including both on-site time and the time to prepare your report?
 ___ Time (minutes; if hours, convert to minutes)

Next, I'd like you to rate your satisfaction with various aspects of the Energy Checkup program. For each question I read, please tell me if you are very satisfied, moderately satisfied, slightly satisfied, neutral, slightly dissatisfied, moderately dissatisfied or very dissatisfied.

11. The quality of the Energy Checkup training you received?

- ___ VERY SATISFIED
- ___ MODERATELY SATISFIED
- ___ SLIGHTLY SATISFIED
- ___ NEUTRAL
- ___ SLIGHTLY DISSATISFIED
- ___ MODERATELY DISSATISFIED
- ___ VERY DISSATISFIED

IF DISSATISFIED: Why are you dissatisfied with the quality of the training?

12. How could the training have been improved?

13. How satisfied are you with the amount of the incentive offered to you for the Energy Checkup?

- ___ VERY SATISFIED

- MODERATELY SATISFIED
- SLIGHTLY SATISFIED
- NEUTRAL
- SLIGHTLY DISSATISFIED
- MODERATELY DISSATISFIED
- VERY DISSATISFIED

IF DISSATISFIED: How much should the incentive be? (IF DISCUSSED BEFORE, CONFIRM AMT.)

\$ _____ (enter dollar value)

14. How satisfied are you with the support available from the Energy Checkup program staff?

- VERY SATISFIED
- MODERATELY SATISFIED
- SLIGHTLY SATISFIED
- NEUTRAL
- SLIGHTLY DISSATISFIED
- MODERATELY DISSATISFIED
- VERY DISSATISFIED

IF DISSATISFIED: Why are you dissatisfied with the support available from program staff?

15. Do you plan on conducting any Energy Checkup inspections in SDG&E's territory in the future?

16. If not, what changes to the program would encourage you to offer Energy Checkups? (do not read, check all that apply)

- a. Higher incentive
- b. More training
- c. More marketing support
- d. Support from realtors
- e. Other _____

17. Do you have any final comments on the Energy Checkup program?

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

13.9 GENERAL POPULATION SURVEY

INTRO 1

Hello, my name is ____ and I am calling on behalf of <<show UTILITY>>. We are conducting a brief study to learn more about residential energy use and your household was randomly chosen from <<show utility>> customer base.

<<show UTILITY>> and other companies have created programs to help households keep energy costs down and reduce the overall amount of energy they use. We would like to ask you about your awareness of these programs, and any experience you might have had with these programs.

INTRO2

Are you the person who is most knowledgeable about energy use and energy savings practices in your household?

1. Yes (skip to S1)
2. No
9. REF (skip to TERM1)

INTRO3

May I speak to the person who is most knowledgeable about energy use in your household?

1. Person coming to phone (skip to INTRO4)
2. No, refusal (skip to TERM1)

INTRO4

Hello, my name is ____ and I am calling on behalf of <<show UTILITY>>. We are conducting a brief study to learn more about residential energy use and your household was randomly chosen from <<show utility>> customer base.

<<show UTILITY>> and other companies have created programs to help households keep energy costs down and reduce the overall amount of energy they use. We would like to ask you about your awareness of these programs, and any experience you might have had with these programs.

Are you the person who is most knowledgeable about energy use and energy savings practices in your household?

1. Yes (skip to S1)
2. No (ask for knowledgeable respondent)
9. REF (skip to TERM1)

S1. Great, thank you. May I start now?

I would like to start with a few questions about your home. Do you currently own or rent?

1. Own
2. Rent
9. REF

S2. 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, specify: _____
9. REF

A1. Which of the following best describes your approach to using energy in your home:

1. I do very little to save energy
2. I sometimes try to save energy, or
3. I always try to save energy in my home
8. DK
9. REF

If A1 =1 skip to A3

A2. How successful do you think you have been in reducing energy use in your home? Have you been:

1. Very successful
2. Somewhat successful
3. Not very successful

A3. How do you decide what products are energy efficient? (DO NOT READ /Multiple Choice)

1. Energy Star Logo
2. Energy Guide Label on Products
3. Utility recommendation
4. Word of mouth
5. Consumer reports
6. Rely on contractor recommendations
7. Rely on retail salesperson recommendations
8. Other (specify) _____
88. DK

Q1. Since January 2006, have you purchased any of the following:
[Record “yes” or “no” for each option]

- | | |
|-------------------|--------|
| a) Refrigerator | yes/no |
| b) Clothes washer | yes/no |
| c) Dishwasher | yes/no |
| d) New pool pump | yes/no |

e) Central air conditioner or heat pump	yes/no
f) Room/window air conditioner	yes/no
g) Evaporative Cooler	yes/no
h) Water Heater (storage, tankless, central, boiler)	yes/no
i) Furnace	yes/no
j) Insulation (Attic/wall)	yes/no
k) Windows	yes/no
l) Compact Fluorescent light bulb (CFL)	yes/no

[INTERVIEWER: CFLs are small fluorescent bulbs that fit in regular light bulb sockets. CFLs look different than standard bulbs. They are often made out of thin tubes of glass bent into spirals, or they could be globe shaped, or look like a floodlight.]

IF "Yes" TO ANYTHING IN Q1 AND S2 NOT EQUAL 6, THEN SF = 1

IF "Yes" TO ANYTHING IN Q1 AND S2 = 6, THEN MF = 1

IF "Yes" TO CFL IN Q1, THEN CFL = 1

IF "No" TO ALL IN Q1, THEN GP = 1

If CFL = 1 skip to Q9

If GP = 1 skip to Q17

Q2. (Q2a through k) Which of the following statements best describes the role of energy efficiency in your selection of a new [insert Q1a through k if answer = yes] max 3 answers]

1. I did not consider an energy-efficient model
2. I considered an energy-efficient model but did not end up buying it
3. I chose an energy-efficient model
4. I bought a model that is energy-efficient, but I chose it for other reasons
5. I bought a model that is energy-efficient, but it did not qualify for a rebate

8. DK

9. REF

If any responses in Q2a through k > 1 skip to Q4

Q3. Why didn't you buy an energy-efficient model?

1. I did not know that an energy-efficient model existed

2. I could not afford the energy efficient model

3. Installation or maintenance issues involved with an energy –efficient model

4. Other (specify _____)

8. DK

9. REF

Q4. Were you aware of any energy efficiency programs that offered a rebate for an energy-efficient model?

1. Yes

2. No

8. DK

9. REF

If Q4 > 1 skip to Q9

Q5. Did you participate in an energy conservation program where you got a rebate for purchase?

1. Yes

2. No

8. DK

9. REF

If Q5 >1 skip to Q7

Q6. Who sponsored this rebate program?

1. SDG&E
2. Southern California Gas Company
3. Edison/SCE
4. LADWP
5. My water utility
6. My local electric utility
7. Other (specify)_____
8. DK/Don't remember

All skip to Q8

Q7. Why didn't you participate in the program? [DO NOT READ]

1. I didn't have the rebate information
2. I didn't understand the application
3. The program requirements are too restrictive
4. The rebate was not worth the hassle
5. Too much hassle
7. Other (specify)_____
8. DK/Don't remember

IF CFL ne 1 All skip to Q17

Q8. Do you recall the name of the program you participated in? [DO NOT READ]

1. Flex your power
2. 20/20
3. Lighting Exchange
4. Appliance Recycling
5. Other (specify)_____ Had to change this to allow for insert in Q23

8. DK/Don't remember

Insert before I: statement of Q9:

If CFL=1, continue. Else, skip to Q17

Q9. Did you purchase your CFLs in California?

1. Yes
2. No
8. DK
9. REF

Q10. Did the CFLs you purchased indicate on the label that they had a discounted or promotional price from SDG&E or another California utility?

1. Yes
2. No
8. DK
9. REF

Q11. What sizes of CFLs did you purchase? [Read, multiple choice]

1. 13 Watt – 40 Watt equivalent
2. 15 Watt – 60 Watt equivalent
3. 20-23 Watt – 75 Watt equivalent
4. 25-29 Watt – 100 Watt equivalent
5. 38-42 Watt – 150 Watt equivalent
6. 55 Watt – 200-300 Watt equivalent
7. DK/Don't remember

Q12. What are the reasons you purchased CFLs instead of standard incandescent bulbs?

[Do Not Read! Multiple responses allowed]

1. Because of the discount or rebate

2. To save energy
3. Longer bulb life
4. To save money on my utility bill
5. To lessen my impact on the environment
6. Because of global warming
7. Other (SPECIFY _____)
8. DK/Don't remember

Q13. Did you buy singly packaged CFLs or CFLs in multi-packs or both?

1. Single
2. Multi-Packs
3. Both
8. DK/Don't remember

IF Q13 = 1 or 8 skip to Q17

Q14. How many bulbs were in the multi-packs?

1. Two
2. Four
3. Eight
4. Other (SPECIFY _____)
8. DK/Don't remember

Q15. Did you install all of the CFLs you purchased?

1. Yes
2. No
8. DK
9. REF

IF Q15 = 2 skip to Q16 ELSE SKIP to Q17

Q16. How many bulbs did you put into storage?

Enter number ____

Q17. Now I'd like to ask you about other energy efficiency programs you might have participated in. Have you ever had a home energy audit, where someone comes to your home and identifies areas where you can reduce your energy use? These energy audits can also be done by mail or online. Have you ever had one of these energy audits for your home?

1. Yes, in-person home audit (Go To Q18)
2. Yes, audit by mail (Go To Q18)
3. Yes, audit online (Go To Q18)
4. No/Not sure/DK/refused (Go to Q19)

Q18. Since having this home audit, have you had the chance to implement any of the audit's recommendations?

1. Yes
2. No
8. DK/don't remember

If Q18 > 1 skip to Q19

Q18a. What changes did you implement?

Enter verbatim_____

If Q17 = 3 skip to Q20

Q19. How likely would you be to complete a free home energy audit on the Internet if sponsored by SDG&E/SCG? Would you say...

1. Very likely
2. Somewhat likely
3. Somewhat unlikely
4. Very unlikely

8. DK

If Q19 = 2 or 3 skip to Q20

Q19a. Why do you say that?

Enter verbatim_____

Q20. In the last year, do you recall receiving any communication from SDG&E/SCG on energy efficiency programs?

1. Yes

2. No

8. DK/don't remember

Q21. Do you recall hearing any TV ads regarding any of the energy efficiency programs?

1. Yes

2. No

8. DK/don't remember

IF Q21 >1 skip to Q23

Q22. What was the message of that TV ad?

Enter verbatim_____

Q23. Please tell me if you have ever heard of the any of the following programs [READ LIST]:
[DO NOT READ PROGRAM IF ALREADY MENTIONED IN Q8]

1. Flex your power

2. 20/20

3. Lighting Exchange

4. Appliance Recycling

5. None

6. If <utility = SoCalGas> show: Energy Efficiency Kit

Q24. What comes to mind FIRST when you think about <insert utility> programs to help residential customers save energy? [DO NOT READ - Single choice]

1. Saving energy
2. Saving money on the utility bill
3. Protecting the environment
4. Unaware that utility offered energy conservation programs
5. Don't associate utility with energy conservation
6. Other (specify)_____

Q25. Do you recall ever visiting the [insert utility]'s website for information?

1. Yes
2. No
3. DK/Don't remember

If Q25> 1 skip to Q29

Q26. What information were you looking for? [DO NOT READ – multiple choice]

1. List of specific energy efficiency programs
2. Program application forms
3. Contractors
4. General information on energy efficiency measures
5. Other billing/service information
6. Other (specify)_____

Q27. Overall, how satisfied were you with the [insert utility] website, would you say you were...

1. Very satisfied
2. Moderately satisfied
3. Somewhat satisfied

4. Neither satisfied nor dissatisfied (changed the label a tiny bit – is that OK?)
5. Somewhat dissatisfied
6. Moderately dissatisfied
7. Very dissatisfied

If Q27 <= 5 skip to Q29

Q28. What would have improved your satisfaction with the [insert utility] website?

Enter verbatim _____

Q29. What other programs or offerings could the utility provide to help you manage your energy use better?

Enter verbatim _____

If Q4 > 1 or If Q5 > 1 skip to Q37

If CFL = 1 or GP = 1 skip to Q37

Q30. Prior to purchasing energy efficiency equipment or participating in a rebate program, did you have any doubts or concerns about the following items?

How about the rebate application process? Any doubts or concerns?

1. Yes
2. No
3. DK/Don't remember

If Q30>1 skip to Q31

Q30a. Briefly, how did you overcome this concern?

Enter verbatim _____

Q31. Did you have any doubts or concerns finding a qualified contractor to do the installation?

- 1. Yes
- 2. No
- 3. DK/Don't remember

If Q31>1 skip to Q32

Q31a. Briefly, how did you overcome this concern?

Enter verbatim_____

Q32. Did you have any doubts or concerns being able to find parts or a qualified repairman to maintain equipment?

- 1. Yes
- 2. No
- 3. DK/Don't remember

If Q32>1 skip to Q33

Q32a. How did you overcome this concern or doubt?

Enter verbatim_____

Q33. [Did you have any doubts or concerns about] energy savings claims being overstated?

- 1. Yes
- 2. No
- 3. DK/Don't remember

If Q33>1 skip to Q34

Q33a. How did you overcome this concern or doubt?

Enter verbatim_____

Q34. Energy savings not worth extra price?

- 1. Yes
- 2. No
- 3. DK/Don't remember

If Q34>1 skip to Q35

Q34a. How did you overcome this concern or doubt?

Enter verbatim _____

Q35. Is there anything else you had doubts or concerns with:

Enter verbatim _____

~~**Q36.**~~

Q37. Now, I'd like to ask how you would rate <<insert utility>> overall on a scale of 1 to 7, where 1 means very unfavorable and 7 means very favorable. The more favorable you generally feel toward <<insert utility>> the higher the number you would give.

8. DK/Refused

_____ (accept number between 1 and 8)

Q38. Using the same scale of 1 to 7, where 1 means very unfavorable and 7 means very favorable, how would you rate <<insert utility>> on the following:

Q38A. Providing new products and services

8. DK/Refused

_____ (accept number between 1 and 8)

Q38B. Actively promoting energy-efficiency programs

8. DK/Refused

_____ (accept number between 1 and 8)

Q38C. Providing information about ways to save energy in your home

8. DK/Refused

_____ (accept number between 1 and 8)

Q39. How trustworthy is <<insert utility>> as a source of information about saving energy in your home?

Would you say...

1. Very trustworthy

2. Somewhat trustworthy

3. Neither trustworthy nor untrustworthy

4. Somewhat untrustworthy

5. Very untrustworthy

8. DK/Refused

Q40. Your utility is planning for a program that will help save energy and water by promoting more efficient shower technologies. In order to plan for this program, we need to collect information on how families use their showers.

How many showers do you have in your house that are used on a regular basis?

Enter number _____

888. DK/REF

If Q40 = 0 skip to Q57

Q41. Of these showers, how many have a 3-way valve (where hot and cold water are controlled with one faucet) and how many have separate faucets for hot and cold water?

a) _____ # with 3-way valves

b) _____ # with separate hot and cold water faucets

888. DK/REF

Q42. How many showers are taken in your household each day?

Enter number _____

888. DK/REF

If Q42=888 skip to Q45

Q43. Of the <<insert Q42>> showers taken per day, how many are taken within 30 minutes of each other?

Enter number _____

888. DK/REF

Q44. Of the <<insert Q42>> showers taken per day, how many are taken more than 30 minutes from the last shower taken?

Enter number _____

888. DK/REF

Q45. Of all the family members in the house, how many wait for the water to warm up before entering the shower?

Enter number _____

888. DK/REF

If Q45=0 skip to Q57

Q46. How long do these family members wait on average before entering the shower? [READ CATEGORIES]

1. 30 seconds or less

2. 30 to 60 seconds

3. More than 1 minute

4. More than 2 minutes

5. More than 5 minutes

8. DK/REF

Q57. Overall, do you think there are other opportunities to save energy in your home?

1. Yes
2. No
3. DK/Don't remember

If Q57 > 1 skip to Q59

Q58. In which areas of your home do you think you could save energy?

[Probe for multiple areas. Record up to 3]

Area 1: _____

Area 2: _____

Area 3: _____

Q59. I would like to ask you about some specific items in your home. Please let me assure you that this information will be kept confidential; these questions are being asked to gauge the energy savings potential in the market that could be addressed by an energy efficiency program sponsored by your utility.

Do you own an in-ground swimming pool?

[spa or above ground pool = NO]

4. Yes
5. No
6. Part of a multi-family complex

If Q59 > 1 skip to Q65

Q60. What kind of pool pump do you have? [Read All]

6. Single-speed pump
7. Two speed pump
8. Variable speed pump
9. Don't have a pool pump
8. DK

Q61. How old is the pool pump?

- 4. enter number of years
- 888. DK

If Q60 >1 skip to Q65

Q62. Are you aware of the rebates that SDG&E offers to replace single speed pool pumps?

- 3. Yes
- 4. No
- 8. DK

If Q62 > 1 skip to Q65

Q63. How did you hear about the rebate?

- 7. Pool service person
- 8. Word of mouth
- 9. From utility website
- 10. From utility mailing
- 11. From store promotion
- 12. Other (specify) _____
- 8. DK

Q64. What are the reasons you have not replaced your pool pump? [ACCEPT MULTIPLE ANSWERS]

- 6. It works fine
- 7. I do not use my pool much
- 8. I cannot afford to buy new unit
- 9. My service person does not recommend it
- 10. Other (specify) _____
- 8. DK

Q65. What equipment do you use to cool your home? [ACCEPT MULTIPLE ANSWERS]

- 9. Central air conditioning
- 10. Heat pump → SKIP TO Q70
- 11. Room air conditioners
- 12. Evaporate cooler
- 13. Whole house fan → SKIP TO Q70
- 14. Room fans → SKIP TO Q70
- 15. None → SKIP TO Q70
- 16. DK → SKIP TO Q70

IF Q65 = 2 skip to Q70

IF Q65 >4 skip to Q70

Q66. How old is your AC?

1. Enter YEARS: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

IF Q66 < 5 YEARS OLD skip to Q70

IF utility = SoCalGas skip to Q68

Q67. SDG&E offers a program that helps save energy by having air conditioners ‘cycle’ on and off every 30 minutes during very hot days. Would you be willing to have your air conditioner cycled if you received an incentive payment from your utility?

- 4. Yes
- 5. No
- 8. DK/not sure

Q68. What do you think the potential is for saving energy with a new air conditioner in your home? Would you say there...

- 4. High potential
- 5. Medium potential
- 6. Low potential
- 8. DK

Q69. How many days per year do you use your air conditioning equipment?

- 7. Not at all
- 8. 30 days or less
- 9. 31-90 days
- 10. 91-120 days
- 11. More than 120 days
- 8. DK

Q70. What equipment do you use to heat your home? [Multiple response]

- 10. Furnace
- 11. Wall furnace

- 12. Boiler
- 13. Heat pump
- 14. Electric baseboard
- 15. Heating stove → SKIP TO Q74
- 16. Space heater → SKIP TO Q74
- 17. Central – apartment is centrally heated / landlord supplied → SKIP TO Q74
- 18. Other (specify) _____ → SKIP TO Q74
- 77. None

88. DK

IF Q70 > 5 skip to Q74

Q71. How old is your heating equipment?

1. Enter years: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

IF Q71 < 5 YEARS OLD skip to Q74

Q72. What do you think the potential is for saving energy with new heating system in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

- 1. High potential
- 2. Medium potential
- 3. Low potential
- 8. DK

Q73. How many days per year do you use your heating equipment?

- 1. Not at all
- 2. 30 days or less
- 3. 31-90 days
- 4. 91-120 days
- 5. More than 120 days
- 8. DK

Q74. How old is your clothes washer?

1. Enter years: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

222. Don't have a clothes washer

888. DK

If Q74 > 200 skip to Q76

If Q74 < 5 skip to Q76

Q75. What do you think the potential is for saving energy with a new clothes washer? Would you say there is high potential, medium potential, or low potential for energy savings?

1. High potential
2. Medium potential
3. Low potential
8. DK

Q76. How old is your dishwasher?

1. Enter years: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

222. Don't have a dishwasher

888. DK

If Q76 > 200 skip to Q78a

If Q76 < 5 skip to Q78a

Q77. What do you think the potential is for saving energy with a new dishwasher in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. High potential
2. Medium potential
3. Low potential
8. DK

Q78a. How many refrigerators do you have in your home?

7. Record # of refrigerators: _____

Q78b. How many freezers do you have in your home?

1. Record # of freezers: _____

Q79. How old is your Main refrigerator?

1. Enter years: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

888. DK

If Q79 < 5 YEARS OLD SKIP TO Q84

Q80. What do you think the potential is for saving energy with a new refrigerator in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. High potential
2. Medium potential
3. Low potential
8. DK

If utility = SoCalGas skip to Q84

Q81. Are you aware of the Refrigerator Recycling Program?

1. Yes
2. No
8. DK/not sure

If Q81 >1 skip to Q84

Q82. Have you participated?

1. Yes
2. No
8. DK/not sure

If Q82 = 1 or 8 skip to Q84

Q83. Why have you not participated?

Enter verbatim _____

Q84. How old is your water heater?

1. Enter years: _____ (Probe in ranges; 0-2 years, 2-5 years etc.)

222. Don't have a water heater

888. DK

If Q84 > 200 skip to Q86

If Q84 < 5 skip to Q86

Q85. What do you think the potential is for saving energy with a new water heater in your home? Would you say there is high potential, medium potential, or low potential for energy savings?

1. High potential
2. Medium potential
3. Low potential
8. DK

Q86. How many Compact Fluorescent Lightbulbs, or CFLs, do you have installed in your home?

[CFLs are small fluorescent bulbs that fit in regular light sockets. CFLs look different than standard bulbs. They are often made out of thin tubes of glass bent into spirals, or they could be globe shaped, or look like a floodlight.]

Enter number _____

888. DK/REF

Q87. How many lights do you still have in your home that use standard incandescent bulbs, and that are on more than 2 hours per day?

Enter number _____

888. DK/REF

If Q87 < 1 skip to Q89

Q88. What is the reason that you have not replaced these incandescent lamps with the Compact Fluorescent Lamps? (Check all that apply)

9. Don't fit
10. Lamps cost too much

11. Poor light quality
12. Not enough light
13. Keep burning out
14. Lamps are on dimmer
15. Never occurred to me
16. No special reason/DK

Q89. Finally, I have just a few questions about your household. Including all adults AND children, how many people are in your household?

Enter number: _____

999. Ref

Q90. In which year was your home originally built?

1. Enter year _____ (Probe: 1930 or older, 1940s, 1950s etc.)

888. DK

Q91. Approximately how many square feet is your home?

1. Enter square footage#: _____

888. DK

(Probe: less than 1,400sq ft, 1,400 to 2,500 sq ft, 2,500 to 3,500 sq ft)

Q92. What is your age?

1. Enter years: _____ (Probe: under 25, 25 to 35, 35 to 45 etc.)

888. DK

Q93. What is the highest level of education you have completed?

26. High school diploma or less
27. Some college
28. Associates degree
29. Bachelors degree
30. Graduate or professional degree
17. REF

Q94. Please stop me when I read you household's annual income:

- 38. Less than \$20,000
- 39. \$20,000 to less than \$40,000
- 40. \$40,000 to less than \$60,000
- 41. \$60,000 to less than \$80,000
- 42. \$80,000 to less than \$100,000
- 43. \$100,000 to less than \$150,000
- 44. More than \$150,000
- 9. REF

Q95. What best describes your ethnicity or race?

- 34. White or Caucasian
- 35. Hispanic/Latino/a
- 36. Black or African American
- 37. Asian
- 38. Native Hawaiian or Other Pacific Islander
- 39. American Indian or Alaska Native
- 40. Other [specify] _____
- 41. Refused

TERM1

Thank you for your time

DISPOS = 2110

TERM2

Those were all the questions I have for you; on behalf of <<show utility>> I would like to thank you very much for taking the time to help us out with our study. Have a great day.

COMPLETE