Process Evaluation of the PG&E 2006-08 Retail & Hospitality Program

Final Report

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ECONOMICS • FINANCE • PLANNING

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

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1. EXECUTIVE SUMMARY

This is the executive summary for the process evaluation of the Pacific Gas and Electric 2006-08 Retail and Hospitality Program. PG&E targets the Hospitality and Retail market sector customers for energy efficiency measures through the two PG&E Core Programs (PG&E Retail Program and PG&E Hospitality Program) and ten third-party programs. The Core programs offer customized incentives (incentive calculated based on the energy saved) and deemed savings rebates (flat rebate amounts for specific equipment) and target both the non-residential retrofit and new construction markets. The Third Party Programs provide a wide variety of specialized energy efficiency services and financial incentives targeted to specific market segments. Eligible retail customers range from gas station mini-marts to big box chain stores and hospitality businesses include hotels, motels, and restaurants.

This research was conducted in waves. As each phase was complete, we submitted an interim results memo to PG&E so that findings and conclusions could be communicated to the programs real-time and program interventions could be revised.

1.1 PARTICIPANT TELEPHONE SURVEY

ECONorthwest fielded a participant phone survey for the Core Retail and Hospitality Program through Freeman Sullivan in May and June 2009. The survey took about 20 minutes to complete and probed on the following topics:

- **Marketing Effectiveness.** How customers first learned about the program, information needed to make participation/purchase decisions, and the best channels for reaching these customers.
- **Point of Entry.** Ease of application process, barriers to participation, suggestions to make participation easier.
- **Effects of Multiple Programs.** Positive and negative effects of being marketed to by multiple programs.
- **Indirect Impacts.** Information on metrics designed specifically to quantify indirect program impacts.
- **Participation Experience.** Satisfaction with services received, participation drivers, timeliness, suggestions for improvement.
- **Additional Offerings.** Suggestions for other programs or services to help meet customer energy management needs.
- **Non-energy Benefits.** Improvements in comfort, productivity, air quality that can be attributed to the efficiency measures installed.

In total, we surveyed 424 participants: 380 completes from the Deemed Program and 29 completes from the NRR Program. The sample size for each question varies slightly, as some respondents refused to answer certain questions.

In the Core Program participant survey, the largest category of respondents worked in small

specialty retail stores and small grocery/convenience stores. The majority of respondents reported that reducing their energy bill was one of the most important factors in their decision to participate. The greatest barrier to participation was economic uncertainty; other lesser concerns included the hassle of finding a quality contractor, filling out paperwork, and performing future upkeep. Satisfaction levels were very high among respondents with a small portion of respondents reporting dissatisfaction in the arrival time of the rebate check, operation and performance of equipment (specifically with break downs and light quality), and with their contractors. Customers were generally satisfied with bill savings.

The most common non-energy benefit was lower maintenance needs. Other non-energy benefits included employee and customer comfort levels, air quality changes, noise levels, and productivity. The survey also found that about a quarter of respondents proceeded to purchase additional energy efficient equipment and over one-third of those reported the PG&E program was being very influential.

The survey asked if the respondents had ever had any confusion trying to understand which PG&E energy efficiency programs, financial incentives, and other energy efficiency services are available and applicable for their businesses since January 2006. The program menu had confused a substantial share of respondents for both the Deemed and NRR Programs. The most frequently cited reasons for confusion were lack of a central information center, overwhelming options, or difficulty finding information on the PG&E website.

1.2 Segmentation Analysis

The segmentation analysis was conducted in early 2010 as follow-up research to the participant telephone survey. We used two data sources for this analysis, population and participant data provided by PG&E for their retail hospitality customers. First, we geocoded customers to locate them geographically, next we created segments based on NAICS code and then we summarized participation and consumption by customer segment, size and zip code. We generated both tables and maps to present the results.

Just over half of PG&E's retail customers fall into the "general retail" category, with 17 percent grocery and 23 percent restaurants. About six percent of retail customers participated in a PG&E program during the 2006-2008 program period, with grocery stores the most likely to have participated. Grocery stores are more energy intensive than general retail and restaurants, accounting for 36 percent of the electricity usage. Grocery stores account for just over half the electricity savings achieved by retail customers participating in PG&E programs over 2006-2008.

PG&E's hospitality customers are split into hotels (23 percent) and amusement and recreation (77 percent). About four percent of hospitality customers participated in a PG&E program during the 2006-2008 program period, with hotels the most likely to have participated. Hotels are more energy intensive than amusement and recreation customers, accounting for 52 percent of the electricity usage. Hotels also account for 72 percent of the electricity savings achieved by hospitality customers participating in PG&E programs over 2006-2008

1.3 In-Depth Interviews

ECONorthwest conducted in-depth interviews with PG&E customers in the retail and hospitality sectors. The goal of the interviews was to develop a deeper understanding of the customers' awareness of the energy efficiency programs, how to best meet the needs of those customers, and how to best reach out to those customers.

ECONorthwest worked to achieve a mix of large and small, participating and non-participating firms across industries. Customers were considered to be participating if they had participated in any of the commercial energy efficiency programs between 2006 and 2009. During the interviews, we found that many firms initially identified as non-participants had participated in some way. Over half of the respondents in the non-participant category had actually participated in some energy efficiency program through PG&E, either before 2003 or very recently. For the analysis of our findings, we shifted those firms to the 'participant' group. The final distribution of firms by participating status and industry was quite different that the initial targets.

Based on our sample of 52 interviews, only 15 percent had never participated in a PG&E energy efficiency program. The low number of non-participating firms indicates that PG&E has reached a large portion of the customer base that is easily reachable – that is, smaller customers and large customers where PG&E has good contact information (a very small fraction of large customers.)

Half of the non-participating firms in our sample were very small firms. As very small energy consumers the potential savings for such firms would be small. There were two large hotels and two extensive restaurant franchises. All four firms appeared to not be focused on energy consumption. All four found rebates to be the most appealing energy efficiency program. The four firms reported that the best way to reach them is by mail, email, or telephone—all difficult tools if the contact person is not the billing person.

The great majority of our sample (85 percent) was firms that had participated in some energy efficiency program through PG&E. The majority of those firms reported that they had invested in energy efficiency equipment for financial reasons. Many firms also reported wanted to 'be green', but cost savings was identified as the most important motivation.

The current economic downturn has affected the firms' ability to invest in new equipment of any kind, limiting their ability to purchase energy efficiency equipment at this time. Some firms noted that the downturn had made the purchase of energy efficiency equipment more important, to ensure lower operating costs in the long term.

The most favored program offered by PG&E was rebates. Rebates clearly lower the cost of investing in energy efficiency equipment, lowering a fundamental barrier. The respondents also favored energy audits—many had used them and found them to be useful tools to identify where savings are possible. The respondents had a lukewarm reaction to financing offered by PG&E. Many firms reported that they avoid debt as a general rule, and those who might use such a program cautioned that they would use such a program only if the loan terms were favorable.

Few firms were aware of Energy Star benchmarking. The lack of awareness among businesses indicates that PG&E could provide useful information to its customers to increase awareness.

The interviews did not identify any 'best' communication method. The participating and non-participating firms expressed diverse preferences for reaching decision makers about energy efficiency programs. For firms with an account executive, using the account executive is clearly an effective and preferable communication method. For firms without a relationship with an account executive, the most common preferences were for direct mail and email. The interviews clearly show that PG&E must work with a variety of communication methods in order to effectively reach its customers about energy efficiency programs.

1.4 Conjoint Analysis

As part of its process evaluation of PG&E's Retail and Hospitality Programs, ECONorthwest conducted a web-based survey that targeted PG&E customers in the retail and hospitality sectors. The primary goal of this survey was to conduct a conjoint analysis, which was designed to collect customer preference data regarding energy efficiency programs and selected efficiency measures. In addition to the conjoint analysis, additional survey questions were asked regarding customer background to provide context for the conjoint results. The conjoint results yielded several general findings:

- **Equipment cost and energy savings are still dominant factors.** Not surprisingly, annual energy savings and cost (both equipment first cost and rebate) are most important factors driving customer preferences. Annual energy savings were considered important, indicating that customers are beginning to look beyond initial installation costs and more toward ongoing cost reductions through bill savings.
- **Other non-monetary program features are less influential.** Customers showed a slight preference toward having a program provide energy audits, approved vendor lists, and technical assistance. However, when faced with a specific equipment choice these features became less influential relative to equipment cost, rebate, and savings.
- **Customers are experienced with energy efficiency.** The lower importance placed on non-monetary program features such as audits, technical assistance, and vendor lists may be a reflection of this group's prior experience with efficiency programs. The vast majority of the sample indicated that they considered energy efficiency when making these types of equipment purchases and had previously participated in a PG&E efficiency program. This prior experience may lessen the need for audits and technical assistance, but these may still be important offerings for less experienced customers.
- **PG&E's role is important.** In the energy efficiency program conjoint, PG&E was the preferred program provider over local governments or private vendors. Customers also preferred having a PG&E representative as the source for program information.

1.5 Conclusions

The research and analysis conducted for this process evaluation yielded key conclusions about the Retail and Hospitality sectors that are served by PG&E's non-residential programs. Our research indicates that lowering the cost of equipment and delivering energy-cost savings are the primary factors that drive firms to participate in the Program. Other, non-financial tools do not influence firms as much as directly lowered costs.

Energy audits are a useful tool, especially for firms that have never participated in an energy efficiency program. But an audit is useful only as a tool to help firms identify the most cost-effective improvements to allow them to rank the priority of planned improvements.

Firms did not show much interest in financing provided through PG&E. This may be a reflection of current economic conditions, some firms claimed to be debt-adverse. It is also likely that financing costs through traditional financial institutions is very low, and firms perceive that PG&E has little to no advantage over financial institutions.

The research indicates that there is no single 'best' method to communicate with firms in the retail and hospitality sectors. For firms with an account executive, the account executive is an effective means of communication and that person should continue to provide energy efficiency information to those customers. But the many smaller firms without account executives are a diverse group. They reported that their most commonly preferred means of communication was direct mail or email.

Customers in the retail and hospitality sectors expressed a preference to learn about energy efficiency programs from PG&E, over sources such as local governments or private vendors. They appreciate and use lists of approved vendors from PG&E, but there appears to be little advantage to rely on them or local governments to communicate information about energy efficiency programs.

Firms that have participated in energy efficiency programs tend to be satisfied. The new equipment reduces energy consumption, thereby lowering operating costs. Many firms have found that the new equipment has the added benefits of reduced maintenance costs and improved comfort for employees and customers.

Current economic conditions have made it difficult for firms to consider investing in new equipment. Reduced consumer spending has negatively impacted both the retail and hospitality sectors. However, many firms indicated that the economic downturn has made energy efficiency more appealing—any investment in equipment will need to be cost-effective and purchasing efficient equipment will lower long-term costs.

1.6 RECOMMENDATIONS

The most effective way to lower costs for firms in the retail and hospitality sectors is to reduce the cost of energy efficient equipment. Firms prefer that costs be lowered in a straightforward manner, that is, through rebates. Rebates are easy to understand and more easily accounted for. Other tools to reduce costs, such as financing, lack the simple appeal of directly lowering costs.

Communicating with firms is a challenge. There is no single most-effective method to reach out to firms about energy efficiency.

- For those firms with an account executive, that contact should continue to be the primary conduit of information for those customers. The customers know their account executive, and expect that person to provide any information about their energy consumption.

- The firms that do not have an account executive tend to be small and difficult to reach. PG&E will need to continue to use a variety of communication methods. Those customers claim to prefer receiving information through direct mail and email.

PG&E is perceived as knowledgeable about energy efficiency, more so than local governments or private vendors. If firms want to finance the purchase of energy efficient improvement, they are likely to turn to a financial institution. PG&E should focus its dollars and staff time on directing firms to the most effective energy efficiency measures, by directly reducing costs and providing approved vendor lists.

The primary reason firms want to reduce their energy consumption is to reduce costs. The fact that doing so may make the firm more 'green' is often, but not always, perceived as an additional benefit. PG&E's communication with this sector should focus on quantitative benefits of improving equipment and how it can help a firm's bottom line and improve performance. PG&E's best tool to move firms towards energy efficiency is to directly lower the cost of the equipment.

2. INTRODUCTION

This report documents the findings from a process evaluation of the Pacific Gas and Electric 2006-08 Retail and Hospitality Program. PG&E targets the Hospitality and Retail market sector customers for energy efficiency measures through the two PG&E Core Programs (PG&E Retail Program and PG&E Hospitality Program) and ten third-party programs. The Core programs offer customized incentives (incentive calculated based on the energy saved) and deemed savings rebates (flat rebate amounts for specific equipment) and target both the non-residential retrofit and new construction markets. The Third Party Programs provide a wide variety of specialized energy efficiency services and financial incentives targeted to specific market segments. Eligible retail customers range from gas station mini-marts to big box chain stores and hospitality businesses include hotels, motels, and restaurants.

This research was conducted in waves. As each phase was complete, we submitted an interim results memo to PG&E so that findings and conclusions could be communicated to the programs real-time and program interventions could be revised.

2.1 PROGRAM BACKGROUND

Table 1 lists the PG&E Retail and Hospitality Programs for the 2006-2008 cycle. The Core Retail and Hospitality Programs are the focus here and straddle two types of financial incentive offerings at PG&E: the Non-Residential Retrofit (NRR) Program and the Deemed Program. The NRR Program offers incentives for retrofit measures that are calculated per kWh saved, and rates vary by measure type (lighting, HVAC, other). The Deemed Program offers pre-established rebate amounts on new equipment purchases. Rebates are available for food service equipment, HVAC equipment, appliances, refrigeration, boilers and water heating, lighting, and agricultural equipment.

Table 1: PG&E Retail & Hospitality Programs

Retail	Hospitality
Core Programs	**Core Programs**
Non-Residential Retrofit (Calculated Incentives)	Non-Residential Retrofit (Calculated Incentives)
Deemed Program (Flat Rebates)	Deemed Program (Flat Rebates)
Third Party Programs	**Third Party Programs**
Ecology Action Rightlights Program	Ecology Action Lodging Saver Program
KEMA Small Commercial Refrigeration (CoolBiz)	Honeywell Cool Controls
PECI Energy Smart Grocer	QuEST HEEP
PECI Air Care Plus	
TEAA Energy Savers	
Energy Solution Big Box Cool and Light	
QuEST Macy's	

For new construction, the Core Programs also provide free technical assistance to building owners and their design teams. Technical assistance offerings include design and engineering reviews, to help customers design more energy efficient buildings and systems. In addition, PG&E offers incentives for the building owners and their design teams to subsidize the higher

upfront costs of this type of construction. Calculated incentives are available for two types of new construction approaches. The first is a whole building integrated design approach achieved through computer simulation modeling, through which incentives are awarded for buildings designed at least 10 percent more efficient than Title 24, capped at $150,000. In addition, the customer's design team can earn calculated incentives for projects 15 percent more efficient than Title 24. The second is a systems approach, which uses a simpler simulation tool to model the energy savings of individual systems, such as day lighting, interior lighting, HVAC, hot water, and other process systems. Due to a limited sample of these participants, building design measures were excluded from our participant evaluation survey.

The Third Party Programs that serve the retail sector are Rightlights, CoolBiz, Energy Smart Grocer, Air Care Plus, and Energy Savers, Big Box Cool and Light, and the Macy's program. For the hospitality sector, Third Party Programs include Lodging Savers, Cool Controls Plus, and the Hospitality Energy Efficiency Program.

2.2 Evaluation Overview

The evaluation was intended to assess the effectiveness of PG&E's programs that address the retail and hospitality sector. The first research task was to survey program participants. ECONorthwest provided PG&E a summary memorandum on those results in August of 2009. Subsequent to providing those results, the project was redirected to provide timely and actionable research results as the programs were being refined for the 2010-12 program cycle. We conducted a segmentation analysis that provided a series of detailed maps that would assist the program in locating underserved areas. We conducted in-depth interviews with participating and non-participating customers. Finally, we conducted a conjoint analysis with retail and hospitality customers to determine their preferences for services going forward.

2.3 Report Organization

The remainder of this report into seven chapters and four appendices:

- Chapter 3-Program Logic Model and Program Theory
- Chapter 4-Research Methods
- Chapter 5-Participant Telephone Survey Results
- Chapter 6-Segmentation Analysis Results
- Chapter 7-In-Depth Interview Results
- Chapter 8-Conjoint Results
- Chapter 9-Findings, Conclusions, and Recommendations
- Appendix A-Participant Survey Call Disposition
- Appendix B-Participant Telephone Survey Instrument
- Appendix C-In-Depth Interview Guide
- Appendix D-Segmentation Maps

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

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

3.1 CORE RETAIL PROGRAM THEORY

The following program theory for PG&E's Retail Program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. The logic model is presented at the end of this section.

Activities

Marketing
The Retail program provides financial incentives for energy efficiency and free training classes, energy audits, and new construction design assistance to businesses in the retail industry within the PG&E territory. This program is marketed primarily by PG&E Account Representatives, and also through workshops, PG&E website, trade associations, and direct mail.

Training Classes
Training classes on energy efficiency for retail customers are offered at the Food Service Technology Center (San Ramon), the Pacific Energy Center (San Francisco), and the Energy Training Center (Stockton). Classes highlight the financial case for energy efficiency, general energy saving behaviors and equipment, and other PG&E energy efficiency programs and financial incentives.

Energy Analysis
Many retail businesses are not aware of specific measures they can install in order to save energy. PG&E trains field representatives that conduct free, on-site Energy Analyses at business sites to identify energy saving opportunities. Energy Analyses are also available on-line, through the mail, via a CD-ROM, and over the phone.

Design Assistance for New Construction
The PG&E Retail program provides free technical assistance to building owners and their design teams, including design and engineering reviews, to help customers design more energy efficient buildings and systems. In addition, PG&E offers incentives for the building owners and their design teams to subsidize the higher upfront costs of this type of construction. Calculated

incentives are available for two types of new construction approaches. The first is a whole building integrated design approach achieved through computer simulation modeling, through which incentives are awarded for buildings designed at least 10 percent more efficient than Title 24, capped at $150,000. In addition, the customer's design team can earn calculated incentives for projects 15 percent more efficient than Title 24. The second is a systems approach, which uses a simpler simulation tool to model the energy savings of individual systems, such as day lighting, interior lighting, HVAC, hot water, and other process systems.

Rebates and Calculated Incentives
Initial costs of new equipment can be large barriers to retail businesses interested in energy efficiency. To address this impediment, the PG&E Retail program offers both equipment rebates and calculated incentives that reduce the upfront cost of equipment retrofits. For example, rebates are available for reflective window film, T-8 lamps and T-5 lamps with electronic ballasts, CFLs, LED exit signs, adjustable speed drives, HVAC fans, gas hot water boilers, strip curtains for walk-in refrigerators, and occupancy sensors. Calculated incentives are available for equipment and energy efficient new construction.

Quality Assurance
The program engages in pre-installation and post-installation inspections for all jobs that collect financial incentives.

Short-term Outcomes

Retail customers aware of PG&E program services
Through the various marketing activities, retail customers increase their awareness of energy efficiency offerings available for their businesses.

Customers increase knowledge of energy saving techniques and equipment, as well as PG&E program offerings.
Retail customers who attend the energy efficiency trainings gain an understanding of how energy efficiency equipment and behavioral practices can decrease energy bill costs. They increase their awareness of the technical aspects of energy efficient equipment and learn about PG&E Energy Analyses and rebates that can decrease the upfront costs of new energy efficient equipment.

Energy Analysis conducted, customers aware of customized energy saving measures and PG&E financial incentives available for their facilities
PG&E field representatives perform site audits and present customized reports to their customers detailing specific retrofit recommended measures and their estimated energy savings, as well as applicable PG&E resources. As a result, the customer increases his or her awareness of specific energy saving measures that can be implemented at the retail site, PG&E financial incentives, and how annual energy savings can quickly recoup initial investments.

Customers receive design consultation; understand the benefits of energy efficient design
Customers are motivated to construct an energy efficient building due to the energy savings, positive environmental impacts, and performance benefits. Customers use PG&E's design technical assistance, ranging from a design plan review to full energy modeling and financial analysis on multiple options for their systems. As a result, the customers gain a greater

understanding of the best practices energy efficient design and specific plans for their construction projects, the energy savings benefits, as well as the available PG&E calculated incentives.

Rebates and calculated incentives decrease upfront cost, motivate customer to install energy efficient equipment
When purchasing new equipment, the financial incentives offered by the PG&E Retail program are sufficient to motivate customers to install energy efficient equipment, rather than standard efficiency models. In addition, financial incentives for energy efficient new construction compel customers to implement the recommendations of PG&E engineering field reps.

Measures installed correctly and generating verified energy savings
The verification activities ensure that the measures are correctly installed, functioning as designed, and delivering the expected energy savings.

Mid-term Outcomes

New knowledge motivates customers to attend energy classes, ask for an Energy Analysis, request design assistance, and apply for financial incentives.
The marketing is well targeted and convincing and therefore motivates customers to engage in PG&E energy efficiency services. Customers sign up for training classes, request Energy Analyses, use the design assistance, and apply for financial incentives.

kWh, kW, and therm savings, energy bill reductions
Customers have installed new energy efficient equipment at their businesses, adjusted their existing systems to function more efficiently, adopted energy efficient behaviors, and relied on design assistance services to build energy efficient building shells and systems. As a result, they achieve savings in kWh, kW, and therms on their monthly energy bills.

Increased knowledge about energy efficiency, customers understand the benefits of energy efficient behavior and equipment and consider as a priority in future equipment purchases
Customers have increased knowledge about the benefits of energy efficient equipment and behaviors. They recognize the quick payback of energy efficiency and consider energy efficiency to be a priority in future equipment purchases and building design.

Demand for energy efficient equipment and system design in the retail industry increases
Due to increased awareness of energy efficiency equipment and the associated savings benefits, the retail industry as a whole increases its demand for energy efficient products and technical assistance.

Measures replicated at chain establishments
Retail stores have identified an appropriate energy efficiency measure mix for their facility types and encourage other businesses in the chains or partner retail stores to implement similar measures through the PGE Retail program.

Customers trust PG&E as a resource for energy saving consultations and enroll in other PG&E programs
Due to a positive experience with PG&E's energy efficiency services, customers trust PG&E for further assistance and seek advice on other energy saving programs applicable to their businesses. PG&E is customers' primary resource for further information on energy efficient equipment and practices.

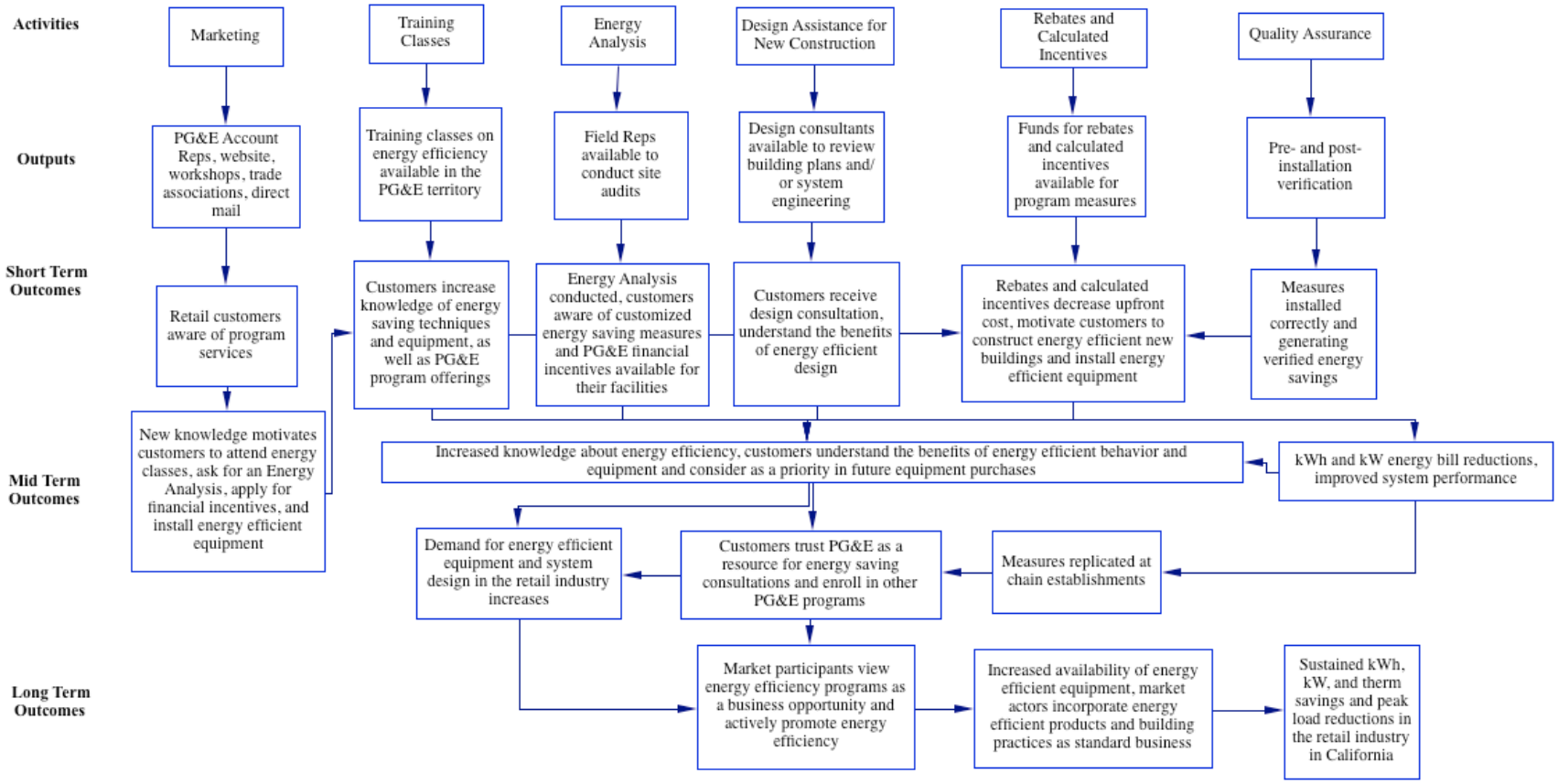
Long-term Outcomes

Market participants view energy efficiency programs as a business opportunity and actively promote energy efficiency
Retailers, manufacturers, and distributors in recognize the growing demand for energy efficient equipment in the retail industry. 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.

Increased availability of energy efficient equipment, market actors incorporate energy efficient products and building practices into standard business
As a result of sustained demand for energy efficient equipment and increased understanding of the benefits of purchasing energy efficiency equipment, energy efficient products and services become standard business practices in the retail industry.

Sustained kWh, kW, and therm savings and peak load reductions in the retail industry in California
Energy efficiency becomes a standard part of retail owners' purchase decisions. In addition, market actors incorporate energy efficient products and services as standard business practices. As a result, retail businesses continue to purchase energy efficient equipment and sustained energy savings and peak load reductions are achieved.

Figure 1: Core Retail Program Logic Model



3.2 CORE HOSPITALITY PROGRAM THEORY

The following program theory for PG&E's Hospitality Program builds on the program logic model and provides additional detail on program activities, outputs, and outcomes. The logic model is presented at the end of this document.

Activities

Marketing
The Hospitality program provides financial incentives for energy efficiency and free training classes, energy audits, and new construction design assistance to businesses in the hospitality industry within the PG&E territory. This program is marketed primarily by PG&E Account Representatives, and also through workshops, PG&E website, trade associations, and direct mail.

Training Classes
Free training classes on energy efficiency for hospitality customers are offered at the Food Service Technology Center (San Ramon), the Pacific Energy Center (San Francisco), and the Energy Training Center (Stockton). Classes highlight the financial case for energy efficiency, general energy saving behaviors and equipment, and other PG&E energy efficiency programs and financial incentives.

Energy Analysis
Many hospitality businesses are not aware of specific measures they can install in order to save energy. PG&E trains field representatives that conduct free, on-site Energy Analyses at business sites to identify energy saving opportunities. Energy Analyses are also available on-line, through the mail, via a CD-ROM, and over the phone.

Design Assistance for New Construction
The PG&E Hospitality program provides free technical assistance to building owners and their design teams, including design and engineering reviews, to help customers design more energy efficient buildings and systems. In addition, PG&E offers incentives for the building owners and their design teams to subsidize the higher upfront costs of this type of construction. Calculated incentives are available for two types of new construction approaches. The first is a whole building integrated design approach achieved through computer simulation modeling, through which incentives are awarded for buildings designed at least 10 percent more efficient than Title 24, capped at $150,000. In addition, the customer's design team can earn calculated incentives for projects 15 percent more efficient than Title 24. The second is a systems approach, which uses a simpler simulation tool to model the energy savings of individual systems, such as day lighting, interior lighting, HVAC, hot water, and other process systems.

Rebates and Calculated Incentives
Initial costs of new equipment can be large barriers to hospitality businesses interested in energy efficiency, as they tend to focus renovations on aesthetic improvements and luxury amenities. To address this impediment, the PG&E Hospitality program offers both equipment rebates and calculated incentives that reduce the upfront cost of equipment retrofits. For example, rebates are available for reflective window film, T-8 lamps and T-5 lamps with electronic ballasts, CFLs, LED exit signs, adjustable speed drives, HVAC fans, gas hot water boilers, strip curtains for

walk-in refrigerators, and occupancy sensors. Calculated incentives are available for equipment and energy efficient new construction.

Quality Assurance
The program engages in pre-installation and post-installation inspections for all jobs that collect financial incentives.

Short-term Outcomes

Hospitality customers aware of PG&E program services
Through the various marketing activities, hospitality customers increase their awareness of energy efficiency offerings available for their businesses.

Customers increase knowledge of energy saving techniques and equipment, as well as PG&E program offerings.
Customers who attend the energy efficiency trainings gain an understanding of how energy efficiency equipment and behavioral practices can decrease energy bill costs. They increase their awareness of the technical aspects of energy efficient equipment and learn about PG&E Energy Analyses and rebates that can decrease the upfront costs of new energy efficient equipment.

Energy Analysis conducted, customers aware of customized energy saving measures and PG&E financial incentives available for their facilities
PG&E field representatives perform site audits and present customized reports to their customers detailing specific retrofit recommended measures and their estimated energy savings, as well as applicable PG&E resources. As a result, the customer increases his or her awareness of specific energy saving measures that can be implemented at the hotel, PG&E financial incentives, and how annual energy savings can quickly recoup initial investments.

Customers receive design consultation; understand the benefits of energy efficient design
Customers are motivated to construct an energy efficient building due to the energy savings, positive environmental impacts, and performance benefits. Customers use PG&E's design technical assistance, ranging from a design plan review to full energy modeling and financial analysis on multiple options for their systems. As a result, the customers gain a greater understanding of the best practices energy efficient design and specific plans for their construction projects, the energy savings benefits, as well as the available PG&E calculated incentives.

Rebates and calculated incentives decrease upfront cost, motivate customer to install energy efficient equipment
When purchasing new equipment, the financial incentives offered by the PG&E Hospitality program are sufficient to motivate customers to install energy efficient equipment, rather than standard efficiency models. In addition, financial incentives for energy efficient new construction compel customers to implement the recommendations of PG&E engineering field reps.

Measures installed correctly and generating verified energy savings
The verification activities ensure that the measures are correctly installed, functioning as designed, and delivering the expected energy savings.

Mid-term Outcomes

New knowledge motivates customers to attend energy classes, ask for an Energy Analysis, request design assistance, and apply for financial incentives.
The marketing is well targeted and convincing and therefore motivates customers to engage in PG&E energy efficiency services. Customers sign up for training classes, request Energy Analyses, and apply for financial incentives.

KWh, kW, and therm savings, energy bill reductions
Customers have installed new energy efficient equipment at their businesses, adjusted their existing systems to function more efficiently, adopted energy efficient behaviors, and relied on design assistance services to build energy efficient building shells and systems. As a result, they achieve savings in kWh, kW, and therms on their monthly energy bills.

Increased knowledge about energy efficiency, customers understand the benefits of energy efficient behavior and equipment and consider as a priority in future equipment purchases
Customers have increased knowledge about the benefits of energy efficient equipment and behaviors. They recognize the quick payback of energy efficiency and consider energy efficiency to be a priority in future equipment purchases and building design.

Demand for energy efficient equipment and system design in the hospitality industry increases
Due to increased awareness of energy efficiency equipment and the associated savings benefits, the hospitality industry as a whole increases its demand for energy efficient products and technical assistance.

Measures replicated at chain establishments
Hotels and motels have identified an appropriate energy efficiency measure mix for their facility types and encourage other businesses in the chains or partner hotels to implement similar measures through the PGE Hospitality program.

Customers trust PG&E as a resource for energy saving consultations and enroll in other PG&E programs
Due to a positive experience with PG&E's energy efficiency services, customers trust PG&E for further assistance and seek advice on other energy saving programs applicable to their businesses. PG&E is customers' primary resource for further information on energy efficient equipment and practices.

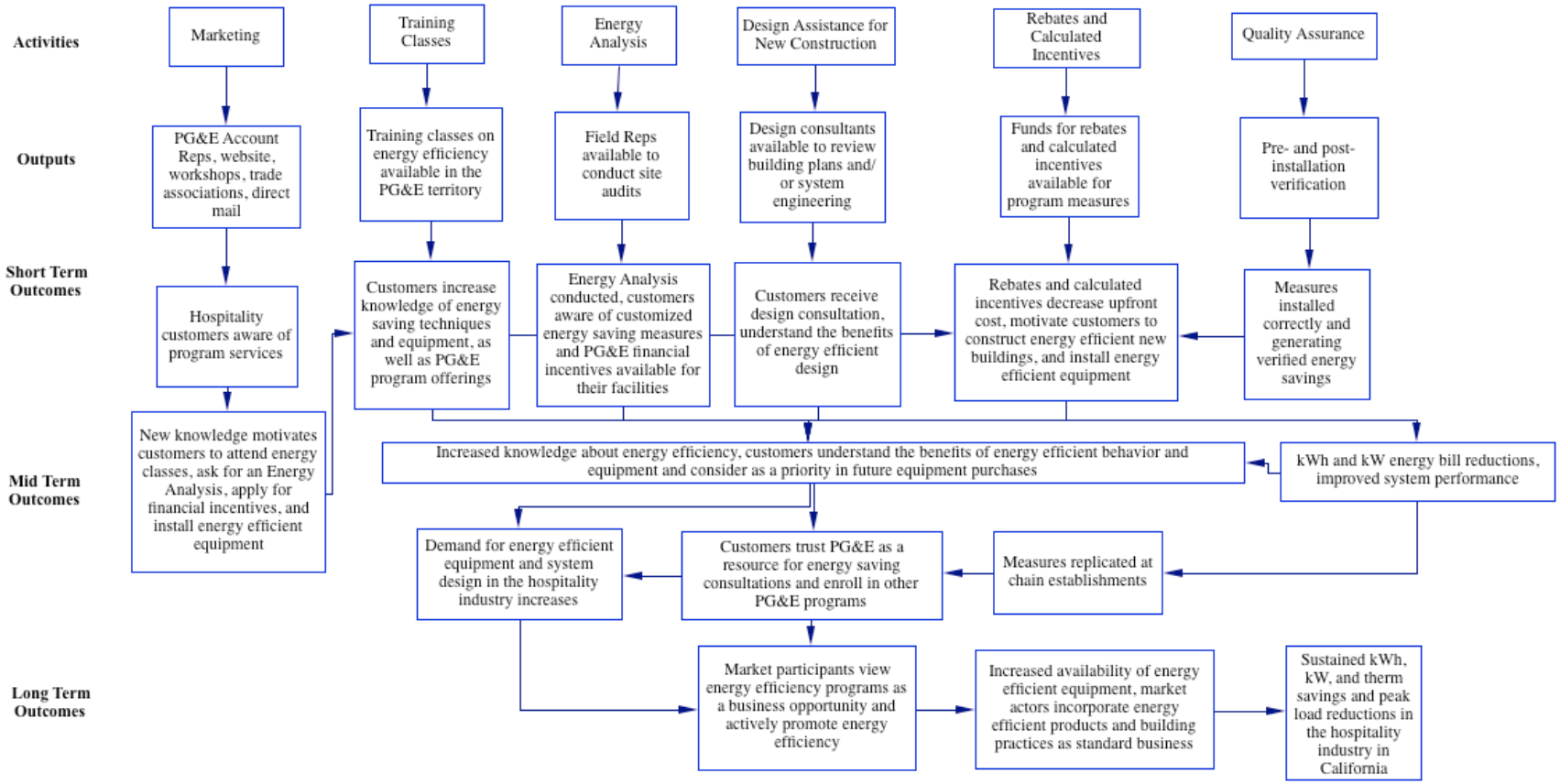
Long-term Outcomes

Market participants view energy efficiency programs as a business opportunity and actively promote energy efficiency
Retailers, manufacturers, and distributors in recognize the growing demand for energy efficient equipment in the hospitality industry. 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.

Increased availability of energy efficient equipment, market actors incorporate energy efficient products and building practices into standard business
As a result of sustained demand for energy efficient equipment and increased understanding of the benefits of purchasing energy efficiency equipment, energy efficient products and services become standard business practices in the hospitality industry.

Sustained kWh, kW, and therm savings and peak load reductions in the hospitality industry in California
Energy efficiency becomes a standard part of hotel owners' purchase decisions. In addition, market actors incorporate energy efficient products and services as standard business practices. As a result, hospitality businesses continue to purchase energy efficient equipment and sustained energy savings and peak load reductions are achieved.

Figure 2: Core Hospitality Program Logic Model



4. RESEARCH METHODS

This section describes the research issues explored by this study and the methods used to investigate them.

4.1 KEY RESEARCH ISSUES

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

1. Program purpose (as perceived by the interviewee)
2. How the program actually works
3. What is working well, and not working well
4. Potential program changes to consider

Based on the program theory, a review of program documents (*e.g.*, quarterly reports, PIP), through the in-depth interviews, and the discussion at the kick-off meeting, the additional research issues below were identified. These research issues helped to direct the focus of all data collection tasks, including participant survey development, and are as follows:

1. What are the indirect impacts of the program that can be accounted for in future impact evaluations? For the 2006-2008 program cycle, spillover was not counted in CPUC impact evaluations, but will be calculated into the 2009-2011 cycle.

2. What combinations of rebates, design assistance, financing, audits, and kWh/kW incentives are most effective in optimizing energy savings? What happens if the incentive is doubled or tripled? How do customer rankings change as they move along the adoption curve?

3. What energy efficiency measures are still needed in these sectors? Are there still CFLs/T8s left to install, or is it just HVAC?

4. Recent changes in economic conditions, such as higher energy and food prices, may affect how customers view the costs and benefits of energy efficiency. How do customers rank the importance of various participant drivers?

5. Given the multiple channels of the Core and Non-Core Retail and Hospitality programs, how easy it is for customers to identify and access the various program offerings? In the past, the process of locating the appropriate service was perceived as difficult. Have things improved?

6. Do mid-stream market actors that deliver the program accurately represent the program processes and expected energy savings to customers?

7. Are there untapped opportunities to achieve therm savings? Most Core and Non-Core program savings are in kW and kWh, and generating therm savings is reported to be a challenge.

4.2 Participant Phone Survey Methods

To address these research issues, ECONorthwest fielded a participant phone survey for the Core Retail and Hospitality Program through Freeman Sullivan in May and June, 2009. The survey took about 20 minutes to complete and probed on the following topics:

- **Marketing Effectiveness.** How customers first learned about the program, information needed to make participation/purchase decisions, and the best channels for reaching these customers.
- **Point of Entry.** Ease of application process, barriers to participation, suggestions to make participation easier.
- **Effects of Multiple Programs.** Positive and negative effects of being marketed to by multiple programs.
- **Indirect Impacts.** Information on metrics designed specifically to quantify indirect program impacts.
- **Participation Experience.** Satisfaction with services received, participation drivers, timeliness, suggestions for improvement.
- **Additional Offerings.** Suggestions for other programs or services to help meet customer energy management needs.
- **Non-energy Benefits.** Improvements in comfort, productivity, air quality that can be attributed to the efficiency measures installed.

ECONorthwest aimed for a total of 200 completes in each sector and exceeded targets with 219 completes in the retail sector and 205 completes in the hospitality sector shown in Table 2. The survey sample included participants from the Non-residential Retrofit (NRR) (calculated incentive) Program and the Deemed (rebate) Program. Our sample pool for the NRR Program was quite small with only 110 participants, and consisted primarily of large chain stores (for which it was often difficult to reach the appropriate contact). In total, we surveyed 424 participants: 380 completes from the Deemed Program and 29 completes from the NRR Program. The sample size for each question varies slightly, as some respondents refused to answer certain questions.

In this survey, some questions probe on the specific equipment purchased through the PG&E incentive program. If the respondent had purchased more than one equipment type in our sample, they were asked about a random selection of up to three measures.

Results in this survey are presented on the industry sector level, to highlight any differences between retail and hospitality participants. However, when appropriate, such as for the program

satisfaction questions, the survey results are further sub-divided by program (NRR versus Deemed). Call distribution details can be found in Appendix A.

Table 2: Total Surveys Completed

Industry Sector	Total Sample	Quota	Completed	Percent of Quota
Deemed (Rebate) Program				
Retail	5,221	190	201	106%
Hospitality	5,796	190	194	102%
Non-Residential Retrofit (NRR) Program				
Retail	74	10	18	180%
Hospitality	36	10	11	110%
Total	**11,127**	**400**	**424**	**106%**

4.3 SEGMENTATION ANALYSIS METHODS

The segmentation analysis was conducted as follow-up research to the participant telephone survey that was conducted for the 2006-2008 PG&E Retail and Hospitality process evaluation. This analysis was outlined in a memo delivered on February 1, 2010 to PG&E that summarized our approach to the remaining research tasks for this project. Subsequent tasks include in-depth interviews and conjoint analysis with an online customer survey.

We used two data sources for this analysis:

- Population data provided by PG&E in the fall of 2008 and billing data in March 2010:
  - Hospitality and retail customers in PG&E service territory – defined by PG&E using the variable "NAICS1_TGT_SEG=RET OR LOG" (NAICS1 refers to the customer's location, not the site location)
  - NAICs code, zip code and annual billing data

- Participant data provided by PG&E in the summer of 2008 and March 2010:
  - PG&E hospitality and retail customers that participated in PG&E's target market, mass market, third party or local government partnership programs during 2006-2009
  - NAICs code, zip code and first-year energy savings

The approach to conducting segmentation analysis for PG&E's retail and hospitality sectors was:

- Geocode customers in Arcview mapping software
- Define segments within the two sectors based on NAICS1 code (definitions provided by PG&E)
  - Hospitality (700000 – 722000)
    - Amusement and Recreation – (700000 – 721000, 721200 – 722000)
    - Hotels – (721100 – 721199)
  - Retail (440000 – 454390, 722100 – 722410)
    - General Retail – (440000 – 445000, 446100 – 454390)

  - Grocery – (445100 – 446000)
  - Restaurants – (722100 – 722410)
- Create a size variable based on kW energy usage data
- Summarize participation data (first-year energy savings) by customer and by zip code
- Summarize energy consumption data (annual energy usage) by customer and by zip code
- Generate tables summarizing the analysis results
- Generate maps for each segment presenting the participation and non-participation results

4.4 In-depth Interview Methods

ECONorthwest conducted in-depth interviews with PG&E customers in the retail and hospitality sectors. The goal of the interviews was to develop a deeper understanding of the customers' awareness of the energy efficiency programs, how to best meet the needs of those customers, and how to best reach out to those customers. PG&E had expressed interest in understanding why the non-participants had not participated, and we worked to include non-participants in our research.

ECONorthwest worked with PG&E staff to determine an appropriate sample and interview guide.

Sample

The sample consisted of participating and non-participating PG&E customers. Customers were considered to be participating if they had participated in any of the commercial energy efficiency programs between 2006 and 2009. The sample covered a mix of firm types and firm size.

The non-participating sample was broken into large and small customers. To be considered a 'large' customer, the firm had to have purchased 200 kw at some time of between 2006 and 2009.

The initial targeted sample across industries was as follows in Table 3.

Table 3 - Targeted sample size

Participants		**Non-Participants**	
Restaurants	5	Restaurants	9
General retail	5	General retail-large	5
		General retail-small	5
Grocery	5	Grocery-large	5
		Grocery-small	5
Amusement-small	5	Amusement-small	5
Hotel	5	Hotel-large	3
		Hotel-small	3
Total	**25**		**40**

For participating firms, the database provided contact information (telephone and name) for the staff person responsible for making decision about energy-efficient equipment. For non-participants, the database only provided contact information for the person responsible for billing issues. No other contact information was available for non-participants.

As ECONorthwest proceeding with conducting the interviews, it became clear that certain categories were particularly difficult to reach.

- We found that large, non-participating firms were hard to contact. As a large firm, they often had a large staff with discrete functions. We found that the billing department had no contact with the facilities department. Because we only had billing department contact information, it took numerous calls and staff people at the firms to find a staff member knowledgeable about energy-efficiency equipment. Given the difficulty of reaching decision makers at large, non-participating firms, PG&E agreed to shift the sample to include more participants.
- During the interview process, ECONorthwest discovered that the amusement sector had mistakenly included NAICS code 722000—Food Services and Drinking Places. The NAICS code had been mistakenly provided to ECO as an industrial sector to be considered 'Amusement'. The 722000 code made up 90 percent of the Amusement sample; removing it drastically reduced the size of the Amusement sample, making it difficult to find willing respondents in the sector. Remaining firms represented a varied assortment of firms—fraternity and sorority houses, RV parks, youth softball organizations, camps, and ski areas. The firms were such a broad assortment of firm-types, that it would be difficult to extrapolate any findings from those firms to a broader industry. PG&E agreed that ECONorthwest should discontinue interviewing that sector.

Ten ECONorthwest staff members worked to complete the targeted sample over a five-week period. Based on a disappointing complete rate, we began to offer $20 gift cards to firms willing to complete the interview. After a strong effort to complete the 65 calls, PG&E agreed that we were unlikely to gain more insight after completing 52 calls. Table 4 below summarizes the final number of completed interviews, by industry, firm size, and participation status.

Table 4 - Targeted and completed sample size

	Targeted				Completed			Completes as % of Target		
	Non-Part	Part	Total		Non-Part	Part	Total	Non-Part	Part	Total
Restaurants	9	5	14		7	11	18	78%	220%	129%
Retail-large	5	5	15		0	9	12	0%	180%	80%
Retail-small	5	na			3	na		60%		
Grocery-large	5	5	15		0	6	6	0%	120%	40%
Grocery-small	5	na			0	na		0%		
Amusement	5	5	10		3	0	3	60%	0%	30%
Hotel-large	3	5	11		3	8	13	100%	160%	118%
Hotel-small	3	na			2	na		67%		
Total	**40**	**25**	**65**	**0**	**18**	**34**	**52**	**45%**	**136%**	**80%**

The firms in the Food Services and Drinking Places industrial category that had been included in the Amusement category have been correctly counted in the Restaurant category. There were two participants and one non-participating firm that had to be re-categorized after we conducted the interview.

Survey topics and interview guides

ECONorthwest worked with PG&E staff to develop an appropriate interview guide. The basic topics for non-participants included:

- Awareness/Participation/Barriers/Drivers
  - Awareness of energy efficiency programs?
  - If yes, participated? What was driver of participation? Was their experience favorable? If not why not?
  - If no (and aware), why not participate (barriers)?
- Baseline/Potential/EE sophistication
  - Do you have an energy manager
  - How important is energy usage?
  - Plans to do energy efficiency projects in the future?
  - If yes, drivers
  - If no, barriers
  - Payback/ROI/constraints to implementing energy efficiency projects/capital and financing constraints
  - Probe with 2 examples – 2 year payback, > 2 year payback
- Marketing/Communication
  - What's the best way to inform you about energy efficiency programs?
  - Interaction with trade allies, associations
  - Use of social media, email, internet
  - Have they gone on PG&E's website

  - Preferences for communications
- Business concerns/constraints/opportunities
  - What are your major concerns about your business? (mark primary, all others?)
  - Probe on recession
  - Probe on environmental/energy legislation such as cap and trade, AB1103 benchmarking, EISA
- Interest in PG&E program components/barriers/drivers
  - Rebates that partially off-set the cost
  - Financing – on-bill, municipal loans
  - Audits –
  - Help finding vendors that provide energy efficiency services and equipment
  - Assistance with ENERGY STAR benchmarking (AB1103 – ENERGY STAR.gov)
- Firmographics/respondent characteristics
  - Job title
  - Role regarding energy

Interview topics for participating firms included:

- Marketing/Communication
  - What's the best way to inform you about energy efficiency programs?
  - Interaction with trade allies, associations
  - Use of social media, email, internet
  - Have they gone on PG&E's website
  - Preferences for communications
- Motivation
  - reasons for buying energy efficiency equipment in the past
  - Potential for additional energy efficiency projects
  - What would motivate the firm to buy energy efficiency equipment in the future
  - Impact of the recession on purchasing energy efficiency equipment
- Interest in PG&E program components/barriers/drivers
  - Rebates that partially off-set the cost
  - Financing – on-bill, municipal loans
  - Audits –
  - Help finding vendors that provide energy efficiency services and equipment
  - Assistance with ENERGY STAR benchmarking (AB1103 – ENERGY STAR.gov)
- Firmographics/respondent characteristics
  - Job title
  - Role regarding energy

The interview guides are provided in Appendix C.

4.5 Conjoint Analysis Methods

As part of its process evaluation of PG&E's Retail and Hospitality Programs, ECONorthwest conducted a web-based survey that targeted PG&E customers in the retail and hospitality sectors. The primary goal of this survey was to conduct a conjoint analysis, which was designed to collect customer preference data regarding energy efficiency programs and selected efficiency

measures. In addition to the conjoint analysis, additional survey questions were asked regarding customer background to provide context for the conjoint results.

Sample

PG&E provided contact information for about 2,600 large customers. In order to generate a sample of customers that would enough completed surveys to conduct the conjoint analysis, PG&E provided a sample that included customers in the "office" category in addition to the retail and hospitality industrial sectors. Using that data, we formulated a target of 200 completed surveys across the major retail and hospitality customer groups. Table 5 shows the number of customer accounts by industry and our sample quotas.

Table 5. Targeted Sample Size

	Total Number of Large Customers	Goal
Offices	1,474	113
Restaurants	75	6
Retail	405	31
Grocery	262	20
Hotels	387	30
Total	2,603	200

ECONorthwest coordinated with The FSC Group to recruit firms to participate in the survey. ECONorthwest and FSC developed steps to recruit firms based on the contact information we had for the firms. Based on available contact information, we identified three categories of firms for recruitment purposes: Customers with an Account Executive; Customers without an Account Executive, but with a phone number; and Customers without an Account Executive and without a phone number. FSC used the following approaches to reach the appropriate staff person.

Group A. Customers with an Account Executive:

- FSC called these customers, and had the name of the Account Executive available in the event that the customer wanted to check in with the Account Executive. If the customer was not available on the telephone, FSC sent an email with the Account Executive's contact information included in the email.
- During the recruitment phone call, FSC confirmed or collected the email address for the contact person.

Group B. Customers without an Account Executive, but with a phone number:

- FSC called these customers.
- If there was no contact name, FSC asked to be directed to the person who was most knowledgeable or involved in how the business uses energy.

- During the recruitment phone call, FSC confirmed or collected the email address for the contact person.

Group C. Customers without an Account Executive and without a phone number:

- FSC searched for contact information on the Internet. FSC has used this method in the past and have found it to effective.
- When they call the company, FSC asked to be directed to the person who was most knowledgeable or involved in how the business uses energy.
- FSC collected the contact's email during the recruitment phone call.

Once a customer was identified as a willing participant, FSC sent that contact an email with a link to the website, instructions, and a unique identifier that would be used to limit the number of times any one person could take the survey.

ECONorthwest and FSC coordinated to re-contact willing participants who did not take the survey within a few days of initial contact. Staff at the two firms checked in with each other every few days to match up willing participants with those who have completed the survey. Anyone who had not completed the survey received an additional email and a reminder telephone call that said we had just re-sent the email. Those customers that completed the online survey were mailed an incentive check for $50.

Conjoint Analysis Overview

The second component of the online survey was a conjoint analysis exercise that asked respondents to rank a series of choices relating to energy efficiency. Conjoint analysis is a stated preference survey technique that involves having respondents sort through and rank options that reflect different choices. For this exercise, a choice was initially designed to reflect a type of energy efficiency program. Additional scenarios followed that showed choices for lighting and air conditioning equipment options. For all these scenarios, each choice was defined by several attributes (discussed below) and respondents were asked to rank the options from most to least preferred based on these attributes.

Conjoint analysis has the advantage of presenting several program or equipment characteristics simultaneously, which forces the respondent to make tradeoffs between attributes. By presenting attributes simultaneously, respondents must decide which features are most important, much as they would if they were actually shopping for new equipment or deciding whether or not to participant in an energy efficiency program. Past experience as well as existing literature indicates that the most successful conjoint designs limit each exercise to ranking 16 choices at a time, with 4 to 6 attributes defining each choice. Including more than 16 options or additional attributes tends to overwhelm respondents and results in less reliable data.

The values used to describe each choice option are randomly assigned, which forces the respondent to choose which attributes to focus on to rank the choices. To accomplish this, the conjoint application uses an orthogonal design, which means that there is zero correlation between each of the choice attributes. This is critical to the analysis, as correlation across

attributes results in a loss of precision and makes it difficult to estimate the importance that respondents place on each attribute. For example, consider the situation where purchase price and rebate are two of the characteristics being evaluated, and on each choice the purchase price is high and the rebate amount is also high and expressed as a fixed proportion of price. Since purchase price and rebate are perfectly correlated, there is no way to determine from the data if a respondent is ranking the cards based on price or rebate. For this reason, having an orthogonally (i.e., not correlated) designed study is essential.

For this conjoint exercise, respondents were first asked to rank 16 possible options for an energy efficiency program. Each program was defined as a combination of program support, sponsorship, rebates, etc. The various attribute levels for each of these characteristics are shown in Table 6. These attribute levels were randomly assigned to create 16 possible programs that the respondent then ranked during the on-line conjoint session.

Table 6. Energy Efficiency Program Attributes

Energy Efficiency Program Characteristics	Possible Values
Services offered by program	Rebate, Financing, Audit, Technical Assistance
Source of program information	Email, Utility Rep, Trade Association, Website
Entity delivering the program	PG&E, Private Company, Local Government

Once they ranked the program scenarios, respondents were then asked to rank choices relating to a lighting retrofit and an air conditioning retrofit. In both cases, the equipment choices were defined as a combination of cost, rebate, energy savings, and whether the program provided a list of approved vendors. For the lighting choice, respondents were also given the possibility of having an energy audit. For AC, respondents were sometimes offered technical assistance. The various attribute levels for the lighting and air conditioning retrofit scenarios are shown in Table 7.

Table 7. Lighting and AC Characteristics

Lighting Equipment Characteristics	Possible Values
Cost	$2500, $5000, $7500
Rebate	$0, $1000, $2000
Savings	$0, $500, $1000
Qualified Vendor List	Yes, No
Energy Audit	Yes, No
AC Equipment Characteristics	**Possible Values**
Cost	$10000, $20000, $30000
Rebate	$0, $2500, $5000
Savings	$0, $2000, $5000
Qualified Vendor List	Yes, No
Technical Assistance	Yes, No

Conjoint Discrete Choice Model

Once the conjoint data have been collected for a specific choice as discussed above, the information is used to determine how the ranked equipment options vary with changes to the attributes provided for each choice. A logit model was used to estimate how the attribute levels influence the rankings using the following equation (lighting rankings used as an example):[1]

[1] A more complete description of how ranked conjoint data can be analyzed using this logit specification is contained in "Logit Models for Sets of Ranked Items", Nicholos Christakis and Paul Allison, *Sociological Methodology*, Volume 24, 1994, pp. 199-228.

$$Rank_i = \beta' Cost_i + \beta' Savings_i + \beta' Rebate_i + \beta' Vendor_i + \beta' Audit_i + \varepsilon_i$$

Where :

$Rank_i$ = *Rank value between 1 and 16, based on respondents' relative assessment of each lighting choice*

$Cost_i$ = *Dollar value for lighting option i*

$Savings_i$ = *Dollar value of expected annual savings for lighting option i*

$Rebate_i$ = *Dollar value of rebate offered for lighting option i*

$Vendor_i$ = *1 if qualified vendor list offered for choice i, 0 otherwise*

$Audit_i$ = *1 if energy audit offered for choice i, 0 otherwise*

ε_i = *Random error term assumed logistically distributed*

β = *Coefficient to be estimated*

While coefficients estimates do provide some information on the influence of the variable on total utility, it is misleading to look only at the coefficient to gauge the influence of that variable. For example, if the savings coefficient is ten times the magnitude of the price coefficient, this may be reflecting the fact that the annual savings is typically only a fraction of the equipment cost. Only looking at the magnitude of the coefficients would give the misleading impression that savings is considered much more important than price. To address this issue, "relative importance statistics" are calculated that combine both the coefficient and attribute value to get an overall measure of the influence on total utility. The relative importance statistic can be interpreted as each attribute's contribution to total "utility", or the perceived benefit associated with that choice. This statistic measures the importance of one design feature, relative to that of all other design features in determining the total utility for each equipment or program choice.

The total utility of each card can be calculated by inserting attribute values into the estimated regression equation:

$$Total\ Utility_i\ (U_i) = \beta' Cost_i + \beta' Savings_i + \beta' Rebate_i + \beta' Vendor_i + \beta' Audit_i$$

Using the coefficient estimates and the values for the variables used in the conjoint analysis, the importance statistic is defined as:

$$Relative\ Importance_j = \frac{\Delta u_j}{\Delta U} = \frac{Maximum\ utility\ change\ due\ to\ attribute\ j}{Maximum\ utility\ change\ due\ to\ all\ attributes}$$

The importance statistic measures the percentage of the total maximum change in utility across all card choices that is attributable to a single feature. Stated another way, the importance statistic measures each feature's contribution to the total utility based on the six attributes included in the conjoint analysis.

5. PARTICIPANT TELEPHONE SURVEY RESULTS

This section details participant telephone survey results for the Core Programs, as well as a participant survey of seminar participants at the Food Service Technology Center (FSTC) in San Ramon, California. Overall, participants of both programs were satisfied with their experience, and came away more knowledgeable about actions they could take to improve energy efficiency.

In the Core Program participant survey, the largest category of respondents worked in small specialty retail stores and small grocery/convenience stores. The majority of respondents reported that reducing their energy bill was one of the most important factors in their decision to participate. The greatest barrier to participation was economic uncertainty; other lesser concerns included the hassle of finding a quality contractor, filling out paperwork, and performing future upkeep. Satisfaction levels were very high among respondents with a small portion of respondents reporting dissatisfaction in the arrival time of the rebate check, operation and performance of equipment (specifically with break downs and light quality), and with their contractors. Customers were generally satisfied with bill savings.

The most common non-energy benefit was lower maintenance needs. Other non-energy benefits included employee and customer comfort levels, air quality changes, noise levels, and productivity. The survey also found that about a quarter of respondents proceeded to purchase additional energy efficient equipment and over one-third of those reported the PG&E program was being very influential.

The survey asked if the respondents had ever had any confusion trying to understand which PG&E energy efficiency programs, financial incentives, and other energy efficiency services are available and applicable for their businesses since January 2006. The program menu had confused a substantial share of respondents for both the Deemed and NRR Programs. The most frequently cited reasons for confusion were lack of a central information center, overwhelming options, or difficulty finding information on the PG&E website.

The FSTC is a research facility that tests the performance of energy efficient equipment for the food service setting and also hosts seminars on energy efficiency in the food service industry. The evaluation team observed the "Fundamentals of Energy Efficiency in Foodservice" in 2008, where attendees included PG&E customers who work in the food service industry, PG&E staff members, energy service providers, and food service equipment manufacturers and suppliers. ECONorthwest designed a brief follow-up survey instrument to field to 63 attendees of the five PG&E seminars held in 2008 at the Center.

The most common source of information regarding the classes was the PG&E website with additional respondents learning of the classes from emails and FSTC promotional materials. Almost half of the survey respondents reported they participated in the seminar because they were motivated by a desire to learn about ways to save energy; about one-quarter because they wanted to better serve their customers. Respondents were clearly satisfied with the seminars—no respondents gave a satisfaction rating lower than neutral.

5.1 CORE PROGRAM PARTICIPANT TELEPHONE SURVEY RESULTS

Demographics

The following eight tables present basic demographic information about the business participants surveyed in the Core Program participant survey. Table 8 shows that most hospitality respondents (NAICS sector 72) are in the full-service restaurant business (33 percent), work in hotels (21 percent), or operate fast food or limited service restaurants (19 percent).

Moreover, respondents in the retail sectors (NAICS 43 and 44) primarily work in small specialty retail stores (31 percent) and small grocery/convenience stores (31 percent)—see Table 9. Only eight percent work in large grocery stores and only five percent work in large, chain stores. In part, the smaller share of large retail businesses in the sample reflects the difficulty of reaching the decision-makers of chain stores for a phone survey.

Similarly, 63 percent of respondents have only one business location (see Table 10). Twenty percent have between two and four locations, and only 16 percent of respondents have five or more.

Table 8: Hospitality Sector

	Percent (N=202)
Full-Service or Sit-Down Restaurant	33%
Hotel	21%
Fast Food or Limited Service Restaurant	19%
Motel	10%
Cafeteria-Style Dining Establishment	5%
Bar	3%
Small Specialty Retail Store	2%
Big Box Store/Large Retail Store/Large Chain Retail Store	1%
Bed & Breakfast	1%
Other	5%

Table 9: Retail Sector

	Percent (N=213)
Small Specialty Retail Store	31%
Small Grocery Sore/Convenience Store	31%
Large Grocery Store	8%
Gas Station	6%
Big Box Store/Large Retail Store/Large Chain Retail Store	5%
Auto Retail Sales	2%
Hotel	1%
Fast Food or Limited Service Restaurant	1%
Cafeteria-Style Dining Establishment	1%
Bar	1%
Department Store	1%
Wholesale	1%
Auto Services	1%
Laundry/Dry Cleaners	1%
Other	10%

Table 10: Number of Locations

	Hospitality Percent (N=201)	Retail Percent (N=211)	Total Percent (N = 412)
1	61%	64%	63%
2 to 4	17%	23%	20%
5 to 10	8%	6%	7%
11 to 25	6%	1%	4%
Over 25	5%	6%	5%
Don't know	2%	0%	1%

In addition, Table 11 shows the number of employees at each location. In general, the hospitality businesses represented in our sample supported larger staffs than the retail locations. Overall, the majority of businesses in our sample had 10 or fewer employees at the respective location (address in our dataset).

Table 11: Employees at Location

	Hospitality Percent (N=198)	Retail Percent (N=207)	Total Percent (N=405)
1 to 5	29%	49%	39%
6 to 10	20%	18%	19%
11 to 20	19%	11%	15%
21 to 50	17%	12%	14%
51 to 100	7%	5%	6%
Over 100	7%	3%	5%
Don't know	2%	1%	1%

Table 12 shows that roughly half of respondents in each industry sector own their own facilities, while the other half rent space.

Table 12: Own or Rent Facility?

	Hospitality Percent (N=200)	Retail Percent (N=209)	Total Percent (N=409)
Own	49%	42%	45%
Rent	48%	58%	53%
Other	3%	0%	1%
Don't know	<1%	0%	<1%

Among respondents, the most common business size is between 1,500 and 4,999 square feet (32 percent). Twenty-four percent work in a business between 5,000 and 24,999 square feet, 11 percent work in a facility between 25,000 and 999,999 square feet, and only five percent work in a business 100,000 square feet or larger. The percent of air-conditioned square feet forms a similar distribution and is presented in Table 14.

Table 13: Square Feet of Location

	Hospitality Percent (N=200)	Retail Percent (N=210)	Total Percent (N = 410)
Less than 1,500 sq ft	15%	9%	12%
1,500 - 4,999 sq ft	28%	35%	32%
5,000 - 9,999 sq ft.	13%	15%	14%
10,000 - 24,999 sq ft	5%	15%	10%
25,000 - 49,999 sq ft	5%	12%	9%
50,000 - 74,999 sq ft	2%	1%	1%
75,000 - 99,999 sq ft	2%	1%	1%
Over 100,000 sq ft	7%	3%	5%
Don't know	25%	10%	17%

Table 14: Air Conditioned Square Feet of Location

	Hospitality Percent (N=199)	Retail Percent (N=208)	Total Percent (N = 407)
Less than 1,500 sq ft	28%	37%	32%
1,500 - 4,999 sq ft	23%	21%	22%
5,000 - 9,999 sq ft.	8%	11%	9%
10,000 - 24,999 sq ft	5%	13%	9%
25,000 - 49,999 sq ft	3%	4%	4%
50,000 - 74,999 sq ft	2%	0%	1%
75,000 - 99,999 sq ft	1%	0%	0%
Over 100,000 sq ft	6%	2%	4%
Don't know	27%	13%	20%

Table 15 shows that the number of years that each respondent's business had operated out of that particular location. The responses are widely distributed. One-quarter of businesses had been established at that location for five years or less and 17 percent had been operating at their sites for more than 30 years.

Table 15: Years at Site

	Hospitality Percent (N=196)	Retail Percent (N=208)	Total Percent (N=404)
5 years or less	28%	22%	25%
6 to 10 years	19%	16%	17%
11 to 20 years	20%	30%	25%
21 to 30 years	13%	14%	14%
More than 30 years	18%	17%	17%
Don't know	2%	1%	1%

When asked if their facilities had a full-time facility manager or engineer, 29 percent of hospitality respondents said that they did, and only 15 percent of retail respondents reported this service.

Table 16: Full-Time Facility Manager or Engineer?

	Hospitality Percent (N=198)	Retail Percent (N=209)	Total Percent (N=407)
Yes	29%	15%	22%
No	69%	84%	77%
Other	0%	<1%	<1%
Don't know	2%	0%	1%

Moreover, respondents were asked to estimate their utility bills as a percent of their total operating costs. As shown in Table 17, responses are similar for both the retail and hospitality respondents. About forty percent did not know, but the most frequent guess was between zero and nine percent (33 percent of respondents). Sixteen percent of respondents approximated their utility bill at 10-19 percent of their operating costs, and only about two percent guessed higher.

Table 17: Utility Bill as Percent of Operating Cost

	Hospitality Percent (N=195)	Retail Percent (N=207)	Total Percent (N=402)
0-9%	34%	31%	33%
10-19%	16%	16%	16%
20-29% / 25%	4%	9%	6%
30-39%	3%	2%	2%
40-49%	0%	1%	0%
50-59%	1%	0%	<1%
60-69%	1%	0%	<1%
70-79% / 75%	1%	0%	<1%
80-89%	0%	0%	<1%
90-100%	1%	0%	<1%
Don't know	41%	40%	41%

Motivations and Sources of Program Awareness

Effectiveness of Marketing Strategies

Early in the survey, respondents were asked a series of questions to probe the effectiveness of the Core Program's marketing strategies and to better understand which factors affected the purchase decisions.

Table 18 shows how the respondents first found out about the incentive program. Survey data indicate that the most effective marketing channels for both the retail and hospitality sectors are the contractors selling the equipment or providing services (first source of awareness for 35 percent of respondents) and PG&E Account Representatives (first source of awareness for 25 percent of respondents).

Table 18: First Source of Awareness about Incentive Program

	Hospitality Percent (N=204)	Retail Percent (N=218)	Total Percent (N=422)
From a contractor selling equipment or providing services	30%	40%	35%
Your PG&E Account Representative	25%	26%	25%
Regular mail (direct mail/bill inserts)	9%	6%	8%
Other businesses	6%	3%	5%
Family/Friend	2%	5%	4%
The PG&E website	2%	3%	3%
Flyer or brochure	6%	0%	3%
Energy Analysis/Energy Audit from PG&E	2%	2%	2%
Other PG&E Program	2%	2%	2%
Local government	0%	1%	<1%
Trade shows	1%	0%	1%
Other special events	<1%	<1%	<1%
Corporate Office	1%	0%	1%
Co-worker	1%	1%	1%
Customer	0%	1%	1%
Energy Consultant	0%	1%	0%
TV/News	1%	0%	0%
Called PG&E and asked	0%	1%	0%
Used rebates in past	0%	0%	0%
Other	4%	2%	3%
Don't know	7%	6%	7%

Purchase Decision

In addition, respondents were asked to rate the importance of various factors in their purchase decisions. Table 19 and Table 20 present these results for the hospitality and retail sectors, respectively. Within both sectors, the highest share of respondents rated the desire to reduce their energy bills as extremely important. Roughly 60 percent of respondents also rated "the "availability of the PG&E rebate" and "wanting to become a greener business" as extremely important.

Table 19: Factors that Influenced Purchase Decision: Hospitality Sector

	Extremely Important	Quite Important	Somewhat Important	A Little Important	Not At All Important	Don't Know
Info/recommendation from your contractor (N=204)	34%	19%	13%	5%	25%	5%
Wanted to reduce energy bill (N=204)	89%	2%	2%	2%	3%	1%
Wanting to become a greener business (N=204)	64%	16%	9%	2%	7%	2%
Trade association recommended it (N=201)	20%	14%	13%	4%	42%	7%
Friend/business associate recommended it (N=204)	24%	16%	8%	5%	41%	6%
Parent company recommended/required it (N=201)	20%	10%	9%	1%	49%	10%
Availability of the PG&E rebate	63%	13%	7%	2%	11%	3%
Concerns about global warming (N=204)	50%	15%	16%	3%	15%	1%

Table 20: Factors that Influenced Purchase Decision: Retail Sector

	Extremely Important	Quite Important	Somewhat Important	A Little Important	Not At All Important	Don't Know
Info/recommendation from your contractor (N=218)	40%	17%	15%	5%	19%	4%
Wanted to reduce energy bill (N=218)	88%	5%	3%	0%	1%	2%
Wanting to become a greener business (N=218)	58%	14%	14%	6%	7%	1%
Trade association recommended it (N=212)	17%	15%	12%	8%	40%	9%
Friend/business associate recommended it (N=213)	31%	14%	16%	4%	29%	5%
Parent company recommended/required it (N=210)	21%	8%	10%	4%	45%	12%
Availability of the PG&E rebate (N=217)	62%	15%	9%	3%	8%	3%
Concerns about global warming (N=218)	44%	16%	15%	9%	16%	1%

As expected, when asked to select the overall most important factor, 70 percent of respondents said that they wanted to reduce their energy bills (see Table 21). Notably, the desire to become a greener business ranked higher than the availability of the PG&E rebate.

Table 21: Most Important Factor

	Hospitality Percent (N=204)	Retail Percent (N=218)	Total Percent (N = 422)
Wanted to reduce energy bill	69%	70%	69%
Wanting to become a greener business	13%	15%	14%
Availability of the PG&E rebate	5%	7%	6%
Concerns about global warming	5%	4%	4%
Info/recommendation from your contractor	2%	2%	2%
Parent company recommended/required it	2%	0%	1%
Trade association recommended it	0%	0%	0%
Friend/business associate recommended it	0%	0%	0%
Don't know	3%	1%	2%

Table 22 shows that only six percent of respondents claimed to be "extremely knowledgeable" about financial assistance and other energy efficiency program offerings that are available for their businesses from PG&E. The most common response (31 percent of respondents) was "a little knowledgeable. As a substantial share of respondents (23 percent) claimed to be "not at all knowledgeable," there is room for improvement.

Table 22: Knowledge about PG&E Energy Efficiency Offerings

	Hospitality Percent (N=204)	Retail Percent (N=218)	Total Percent (N = 422)
Extremely knowledgeable	7%	5%	6%
Quite knowledgeable	13%	16%	14%
Somewhat knowledgeable	29%	23%	26%
A little knowledgeable	28%	33%	31%
Not at all knowledgeable	23%	24%	23%

Barriers to Participation

Respondents were asked to consider various potential barriers to participation in a PG&E energy efficiency program and if they had any doubts or concerns about each one prior to participation in the Core Programs. The results are presented both by program (Deemed versus NRR) and by industry sector in Figure 3 through Figure 6. Respondents rated each barrier as a major, moderate, minor concern, or not a concern. Barriers investigated include:

1. Finding a qualified contractor to do the installation
2. Finding parts or a qualified technician to maintain the equipment
3. The amount of energy your equipment will save may be exaggerated
4. The energy savings would not be worth the higher price
5. The required paperwork, delays, and other potential hassles of working with PG&E
6. The quality and performance of the energy efficient equipment
7. Customer or employee dissatisfaction with the new equipment
8. Uncertainty about the economy and the future of your business

The greatest concern for Deemed Program respondents was uncertainty about the economy and the future of their businesses: 14 percent of hospitality respondents and 17 percent of retail respondents said that the economy was a major concern when they were thinking about

purchasing energy efficient equipment through a PG&E incentive program (see Figure 3 and Figure 4).

Nearly 30 percent respondents in the Deemed Program considered the possibility of exaggerated energy savings a moderate or minor concern. Respondents were least concerned about finding a qualified contractor, maintaining the equipment, and filling out the incentive paperwork.

Figure 3: Barriers To Participation – Deemed Program Hospitality (N=190)

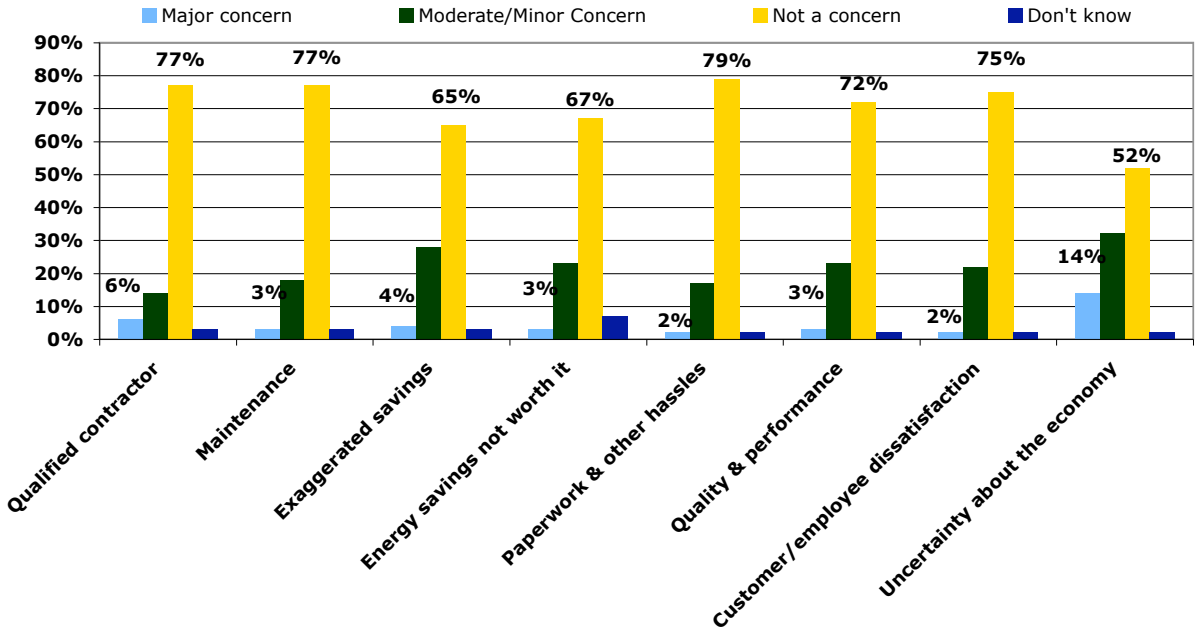


Figure 4: Barriers To Participation – Deemed Program Retail (N=198)

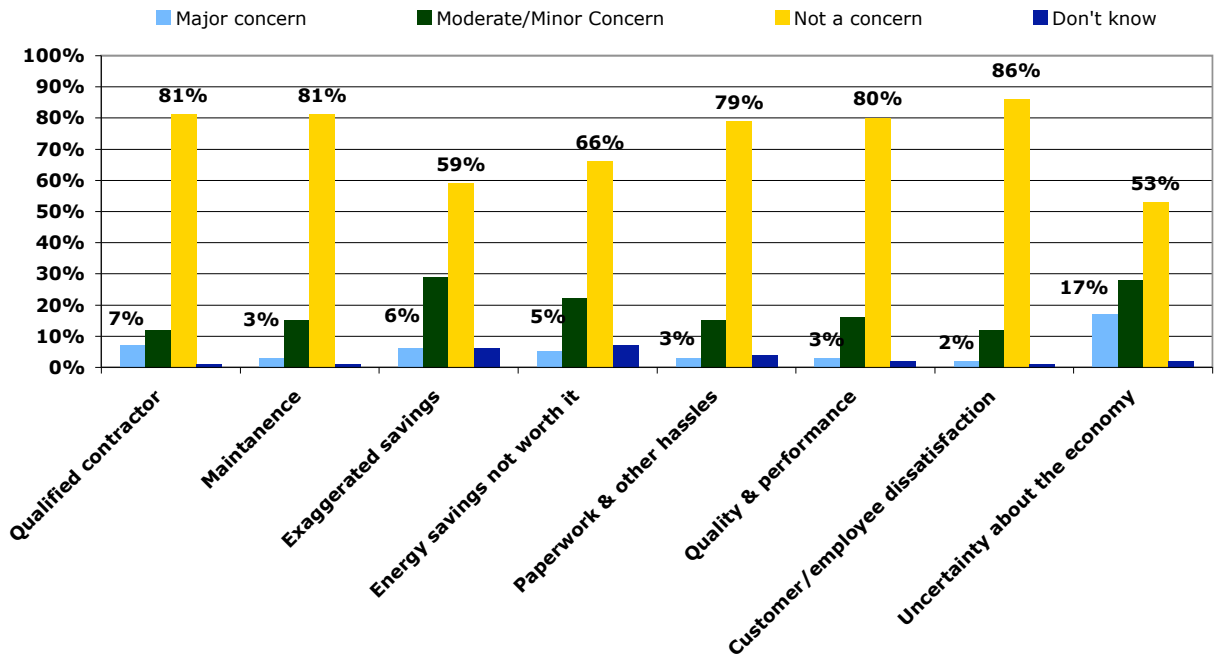


Figure 5 and Figure 6 depict the concerns of the 29 respondents surveyed in the NRR Program. The small sample size makes it difficult to identify trends.

Only one hospitality respondent reported a major concern about any of the factors: exaggerated energy savings. Overall, over 40 percent hospitality respondents in the NRR Program considered paperwork and uncertainty about the economy to be moderate or minor concerns.

Most frequently, retail respondents in the NRR Program considered paperwork/other hassles (17 percent) and the economy (12 percent) to be major concerns. The savings not being worth the extra price and finding a qualified contractor to install the equipment were considered moderate or minor concerns.

Figure 5: Barriers To Participation – NRR Program Hospitality (N=11)

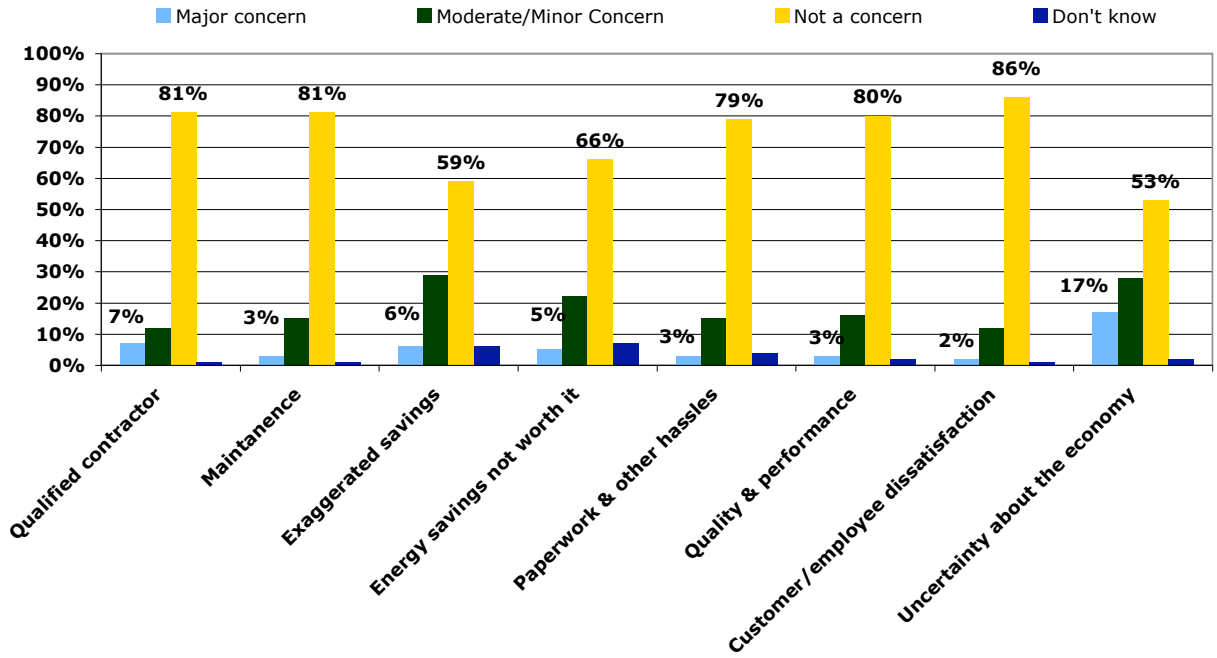
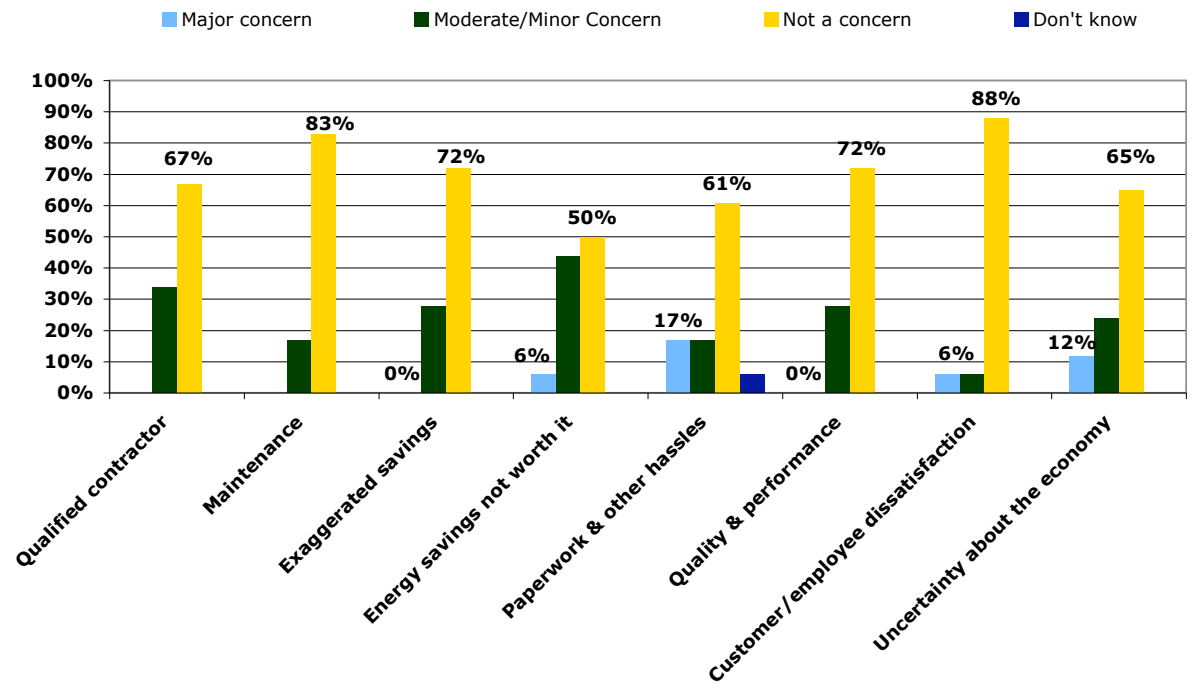


Figure 6: Barriers To Participation – NRR Program Retail (N=18)



Program Satisfaction

The evaluation survey measured respondent satisfaction with their equipment and Deemed/NRR Program procedures. Respondents were asked about their satisfaction with six metrics:

1. Operation and performance of equipment
2. Contractors that installed the equipment
3. Rebate amounts
4. Time to receive the rebate check
5. Ease of filling out the application
6. Energy savings.

As some of these metrics are sensitive to specific program procedures, the following satisfaction tables are presented by both program type (Deemed versus NRR) and by industry sector. The small sample sizes for the NRR Program limit the applicability of the results.

Figure 7 and Figure 8 illustrate the satisfaction scores assigned by respondents in the Deemed Program. Figure 7 depicts the results for the hospitality sector and Figure 8 presents the results for the retail sector.

Respondents expressed high levels of satisfaction with the Deemed Program across both industry sectors. Less than eight percent of hospitality respondents were dissatisfied (slightly, moderately, or very dissatisfied) with any particular satisfaction metric.

- Six percent of hospitality respondents were dissatisfied with the operation and performance of the equipment, the contractors that installed the equipment, and the energy savings.
- Seven percent of retail respondents were dissatisfied with the operation and performance of the equipment and five percent were dissatisfied with their contractors.

The majority of respondents were very or moderately satisfied for all metrics, with the exception of "time to receive rebate check." A high share of respondents marked "don't know or not applicable" for this metric because often project sponsors received the rebate check (such as a contractor) rather than the business customer. Therefore, many respondents cannot comment on the expediency of the rebate check process.

Figure 7: Satisfaction with Deemed Program: Hospitality Sector (N=193)

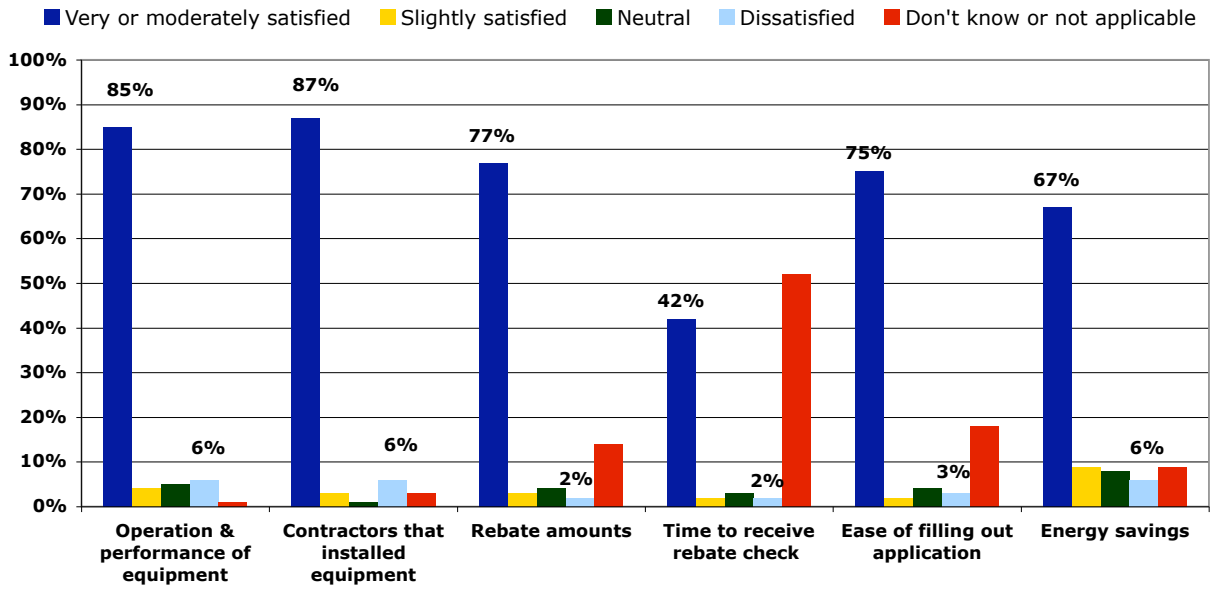


Figure 8: Satisfaction with Deemed Program: Retail Sector (N=200)

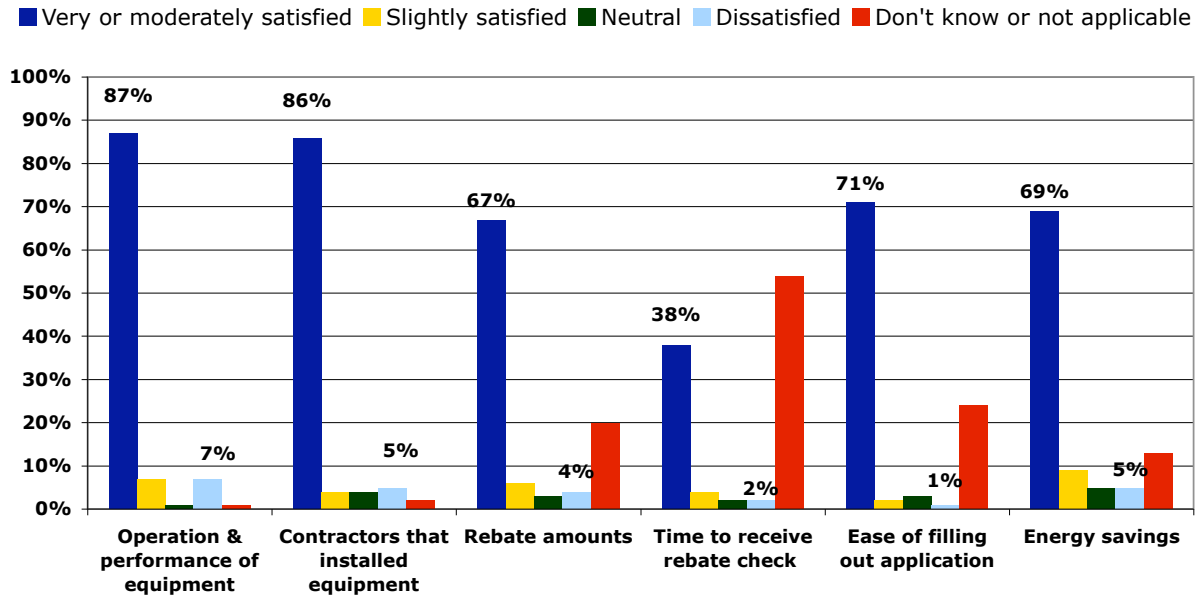


Figure 9 and Figure 10 depict respondent satisfaction with the NRR (customized incentive) Program. Only 29 NRR participants were surveyed, 11 in the hospitality sector and 18 in the retail sector. The majority of hospitality respondents (see Figure 9) were very or moderately

satisfied for all satisfaction metrics. Two respondents were dissatisfied with the ease of filling out the application and one was dissatisfied with the contractors who installed the equipment.

Again, for the retail sector, most respondents were very or moderately satisfied for all the satisfaction metrics. As explained with the Deemed Program, often the rebate check is mailed to the project sponsor instead of the business customers. Therefore, a substantial share of retail respondents said "don't know" or "not applicable" when asked about the time to receive the rebate check.

Three retail respondents were dissatisfied with the ease of filling out the rebate application, two were dissatisfied with the time to receive the rebate check, and one was dissatisfied with the contractors that installed the equipment.

Figure 9: Satisfaction with NRR Program: Hospitality Sector (N=11)

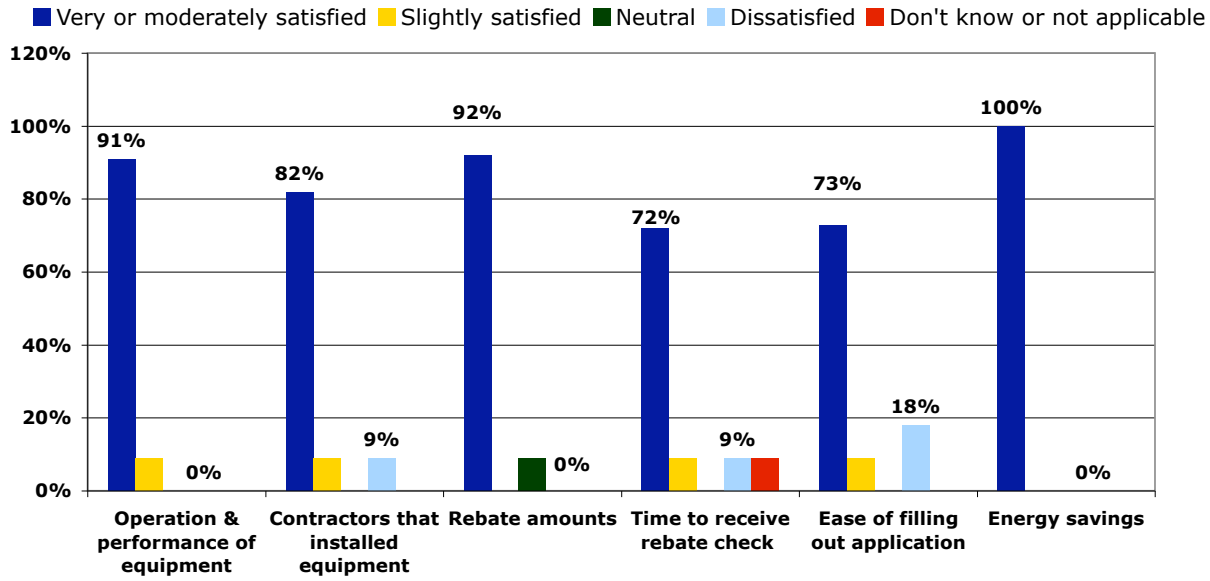
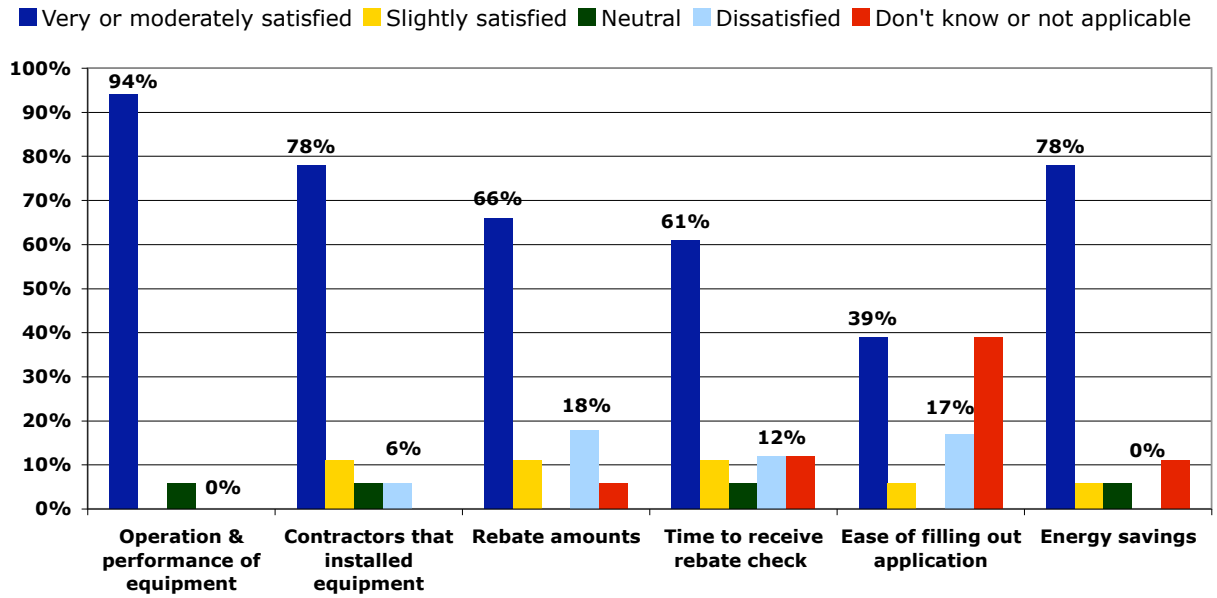


Figure 10: Satisfaction with NRR Program: Retail Sector (N=18)



Reasons for Dissatisfaction

While only a small share of respondents were dissatisfied with any of the metrics, those who did were asked to explain the cause of their dissatisfaction. The following tables present these findings, by program and industry sector.

Dissatisfaction with Operation and Performance of Equipment

Table 23 shows why Deemed Program respondents were dissatisfied with the operation and performance of their equipment. The responses were diverse, however, the top two responses were that the equipment breaks down more often and that they were unhappy with the light quality of the new energy efficient lighting.

None of the NRR respondents were dissatisfied with the operation and performance of their equipment.

Table 23: Dissatisfaction with Operation and Performance of Equipment

Deemed Program			
	Hospitality Percent (N=10)	Retail Percent (N=11)	Total Percent (N=21)
It breaks down more often	30%	18%	24%
Quality of the light is not very good/ugly	30%	18%	24%
Equipment wore-out very quickly	20%	18%	19%
Bill is still high	10%	18%	14%
Equipment not functioning properly	10%	18%	14%
Contractors did not install properly/problems	10%	9%	10%
Customers are unhappy with the equipment	10%	0%	5%
Temperature is too hot	10%	0%	5%
Can't find lamps anywhere	10%	0%	5%
Other	0%	9%	5%

Multiple responses accepted

Dissatisfaction with Contractors that Installed Equipment

Table 24 shows why Deemed and NRR Program respondents were dissatisfied with the contractors that installed the equipment. For the Deemed Program, the most frequent responses were that the equipment was installed incorrectly (53 percent) and that the contractor made mistakes (47 percent). The other responses were as follows:

- Didn't do much
- [Contractors] haven't given deposit of $3,000 back and they were recommended by PG&E…
- [Contractor] gave me $1,099 for the cost of tax

The two NRR respondents who were dissatisfied with their contractors also mentioned that the measures were installed incorrectly and that mistakes were made.

Table 24: Dissatisfaction with Contractors that Installed Equipment

Deemed Program			
	Hospitality Percent (N=10)	**Retail Percent (N=9)**	**Total Percent (N=19)**
Installed measures incorrectly	40%	67%	53%
Made mistakes	50%	44%	47%
Were not careful enough	30%	44%	37%
Left a mess	20%	22%	21%
Slower than expected / too many delays	20%	11%	16%
Hard to get my questions answered	30%	0%	16%
Charged too much money for their services	10%	11%	11%
Did not finish work	20%	0%	11%
Disorganized	10%	11%	11%
Too pushy	0%	11%	5%
Other	10%	22%	16%
NRR Program			
	Hospitality Percent (N=1)	**Retail Percent (N=1)**	**Total Percent (N=2)**
Made mistakes	100%	0%	50%
Installed measures incorrectly	0%	100%	50%
Sensor switches were bad	100%	0%	0%

Multiple responses accepted

Dissatisfaction with Rebate Amounts

Table 25 shows the varied explanations detailing why Deemed and NRR Program respondents were unhappy with their rebate amounts. In the Deemed Program, only three hospitality and eight retail customers were dissatisfied. The most common response was that the respondent never received the rebate check.

Table 25: Dissatisfaction with Rebate Amounts

Deemed Program	Hospitality Percent (N=3)	Retail Percent (N=8)	Total Percent (N=11)
Did not receive rebate	33%	25%	27%
The rates are too low	0%	25%	18%
Initial savings estimates were inflated	0%	25%	18%
Rebate amount changed – received half of what I expected	0%	13%	9%
Finding the information was confusing	33%	0%	9%
Even being free it was a waste of time	33%	0%	9%
Don't know	0%	13%	9%
NRR Program	**Hospitality Percent (N=0)**	**Retail Percent (N=3)**	**Total Percent (N=3)**
Initial savings estimates were inflated	0%	33%	33%
The rates are too low	0%	66%	66%

Multiple responses accepted

Dissatisfaction with Time to Receive Rebate Check

Table 26 shows that the majority of respondents who were discontent with the time to receive their incentive checks said, "it took too long." These respondents were asked how long they waited. Deemed respondents said that the check came after two months, three months (two respondents), and six months. NRR respondents said it took one year (two respondents) and more than two years.

For the Deemed Program, the other response was "I had to reissue the documentation three times, the person I originally talked to left and had to start the process over. I had difficulty finding out who to talk to, and they were slow in getting back to me…"

Table 26: Dissatisfaction with Time to Receive Rebate Check

Deemed Program			
	Hospitality Percent (N=3)	**Retail Percent (N=4)**	**Total Percent (N=7)**
Took too long	67%	50%	57%
Never received check	0%	25%	14%
Not enough savings	0%	25%	14%
Other	33%	0%	14%
NRR Program			
	Hospitality Percent (N=1)	**Retail Percent (N=2)**	**Total Percent (N=3)**
Took too long	100%	100%	100%

Multiple responses accepted

Dissatisfaction with Application Paperwork

Table 27 lists why respondents were discontent with the ease of filling out the application paperwork. This includes only six Deemed and five NRR Program respondents.

Table 27: Dissatisfaction with Application Paperwork

Deemed Program	Hospitality Percent (N=4)	Retail Percent (N=2)	Total Percent (N=6)
Did not understand the directions on the forms/information was not clear	25%	50%	33%
Too many forms to fill out	50%	0%	33%
Hard to obtain necessary information	25%	50%	33%
Needed help to fill out the forms	0%	50%	17%
New people did not know what they were doing	25%	0%	17%
Too many websites, too difficult to fill out the paperwork	25%	0%	17%
NRR Program	**Hospitality Percent (N=2)**	**Retail Percent (N=3)**	**Total Percent (N=5)**
Too many forms to fill out	100%	33%	60%
Did not understand the directions on the forms/information was not clear	0%	67%	40%
Needed help to fill out the forms	0%	33%	20%
Had to fill out forms three times (took over one year) because they kept losing the forms	50%	0%	20%

Multiple responses accepted

Dissatisfaction with Energy Savings

As shown in Table 28, Deemed Program respondents who were dissatisfied with the energy savings from their new equipment said that they were not reaping enough energy savings (37 percent) or they were not observing any energy savings (32 percent). Other responses included:

- Bill
- Gaskets are falling off
- Only good for the smaller stores

None of the NRR respondents expressed dissatisfaction with their energy savings.

Table 28: Dissatisfaction with Energy Savings

Deemed Program	Hospitality Percent (N=11)	Retail Percent (N=8)	Total Percent (N=19)
Not enough energy savings	55%	13%	37%
Not any energy savings	27%	38%	32%
Bill went up	0%	13%	5%
Don't know how much I'm saving	9%	0%	5%
Energy savings disappeared after a few months	0%	13%	5%
Other	9%	25%	16%

Multiple responses accepted

Energy Savings Expectations

A special section of the Core Program participant survey probed on respondent energy savings expectations, specifically if these expectations were met and what information source formed those expectations.

As shown in Table 29, 60 percent of respondents noticed a lowering of energy use in their energy bills since the equipment was installed, 28 percent did not, and 12 percent did not know. Subsequently, respondents were asked if their savings were more than they expected, less than they expected, or about what they expected (see Table 30). Respondents who *did not know* if there was a change were excluded from this follow-up question.

Most respondents (61 percent) who noticed a change saved about what they expected, 15 percent saved more than they expected, and 18 percent saved less than they expected. Alternatively, 39 percent of respondents who did not notice a change saved about what they expected and 35 percent saved less than what they expected.

Table 29: Lowered Energy Bills After Measures Installed?

	Hospitality Percent (N=203)	Retail Percent (N=216)	Total Percent (N=419)
Yes	58%	62%	60%
No	29%	26%	28%
Don’t know	13%	12%	12%

Table 30: How Well Did Your Savings Meet Your Expectations?

	Noticed lower energy use			Did not notice lower energy use		
	Hospitality Percent (N=118)	Retail Percent (N=131)	Total Percent (N=249)	Hospitality Percent (N=56)	Retail Percent (N=54)	Total Percent (N=110)
Saved More Than Expected	14%	17%	15%	-	-	-
Saved Less Than I Expected	16%	21%	18%	36%	33%	35%
Saved About What I Expected	65%	56%	61%	34%	44%	39%
Don't know	5%	6%	6%	30%	22%	26%

All respondents were also asked what information source formed their expectations of the energy savings associated with the measures they installed through the incentive program. Table 31 shows that the most common responses are the contractors (33 percent) who installed the equipment and PG&E Account Representatives (26 percent). Ten percent of respondents reported to rely on their own knowledge of the equipment and nine percent depended on claims presented in PG&E marketing materials or the PG&E website. Five percent pointed to the literature that came with the equipment.

Table 31: Information Source of Energy Savings Expectations

	Hospitality Percent (N=201)	Retail Percent (N=216)	Total Percent (N=417)
Your Contractor	27%	39%	33%
PG&E Account Representative	28%	25%	26%
Your own knowledge of the equipment	12%	11%	12%
Claims on the PG&E marketing materials/PG&E website	12%	6%	9%
Literature that came with the equipment/Literature by manufacturer	6%	5%	5%
Friend/neighbor	2%	1%	2%
Independent research on the web	1%	1%	1%
Your Internal Maintenance/Operation staff	1%	0%	1%
Customer	0%	1%	<1%
Coworker	0%	<1%	<1%
TV	<1%	0%	<1%
Appliance store	1%	0%	<1%
PG&E audit	<1%	0%	<1%
Owners	<1%	<1%	<1%
Equipment manufacturers/suppliers	<1%	<1%	<1%
Magazine	0%	<1%	<1%
I guessed	<1%	<1%	<1%
Business association	0%	1%	<1%
Had no expectations	0%	1%	<1%
An energy efficiency program	1%	0%	<1%
Other	2%	2%	2%
Don't know	11%	11%	11%

As shown in Table 32, 43 percent of respondents were very satisfied with how realistically the energy savings were presented to them prior to making the purchase and 27 percent were moderately satisfied. Five percent were dissatisfied (slightly, moderately, or very dissatisfied).

Table 32: Satisfaction with How Realistically Energy Savings Were Presented Prior to Purchase

	Hospitality Percent (N=202)	Retail Percent (N=218)	Total Percent (N=420)
Very satisfied	41%	46%	43%
Moderately satisfied	28%	25%	27%
Slightly satisfied	7%	6%	7%
Neutral	7%	7%	7%
Slightly dissatisfied	3%	2%	3%
Moderately dissatisfied	0%	2%	1%
Very dissatisfied	1%	1%	1%
Don't know	12%	10%	11%

Respondents who were dissatisfied with how energy savings were presented prior to purchase were asked to explain their discontents. The majority of this group (76 percent) said that the energy savings were a lot lower than expected. Three retail sector respondents and one hospitality respondent said that PG&E staff provided false information. Two hospitality respondents and one retail respondent said that the PG&E marketing literature was misleading.

Table 33: Reasons for Dissatisfaction

	Hospitality Percent (N=10)	Retail Percent (N=11)	Total Percent (N=21)
The savings were a lot lower than expected	80%	73%	76%
PG&E's staff gave false information about energy savings	10%	27%	19%
The savings were a little lower than expected	10%	18%	14%
PG&E's brochures/marketing literature was misleading about energy savings	20%	9%	14%
Equipment does not function properly	10%	0%	5%
Contractors did not educate us, just wanted PG&E money	0%	9%	5%
Equipment broke down often	10%	0%	5%
Received no information on energy savings	0%	9%	5%
Don't know	10%	0%	5%

Multiple responses accepted

Only five respondents were "very dissatisfied" with how the energy savings were presented prior to purchase. As shown in Table 34, these respondents received this information from their

contractors, PG&E Account Representatives, claims on the PG&E marketing materials, and friends or neighbors.

Table 34: Source of Energy Savings Information for "Very Dissatisfied"

	Hospitality Percent (N=3)	Retail Percent (N=2)	Total Percent (N=5)
Your Contractor	33%	50%	40%
PG&E Account Representative	33%	0%	20%
Claims on the PG&E marketing materials/PG&E website	33%	50%	40%
Friend/neighbor	33%	0%	20%

Multiple responses accepted for "information source"

Non-energy Benefits

Furthermore, respondents were asked to consider the non-energy effects of up to three measures they installed through the Core Program. For those respondents who installed more than three measures, the measures for this question battery were randomly selected. For each measure, respondents were asked to ponder changes in the following six metrics, both positive and negative:

- Change in employee comfort
- Change in customer comfort
- Change in air quality
- Change in noise level
- Change in maintenance required
- Change in productivity

Respondents were asked about a total of 77 different measure types. The 424 respondents were asked about a total of 724 measures in the non-energy benefits question battery, and these measure are divided into eight categories for efficacy of presentation. Table 35 lists these measure categories and the sample size of each one. Lighting and refrigeration measures are the most common measures installed through by respondents in our sample. The other categories of HVAC, water, food service, controls and other, insulation, and process and motors are much smaller. The sample N for the remainder of this section will refer to the number of measures, rather than the number of respondents (as respondents were asked about up to three measures each).

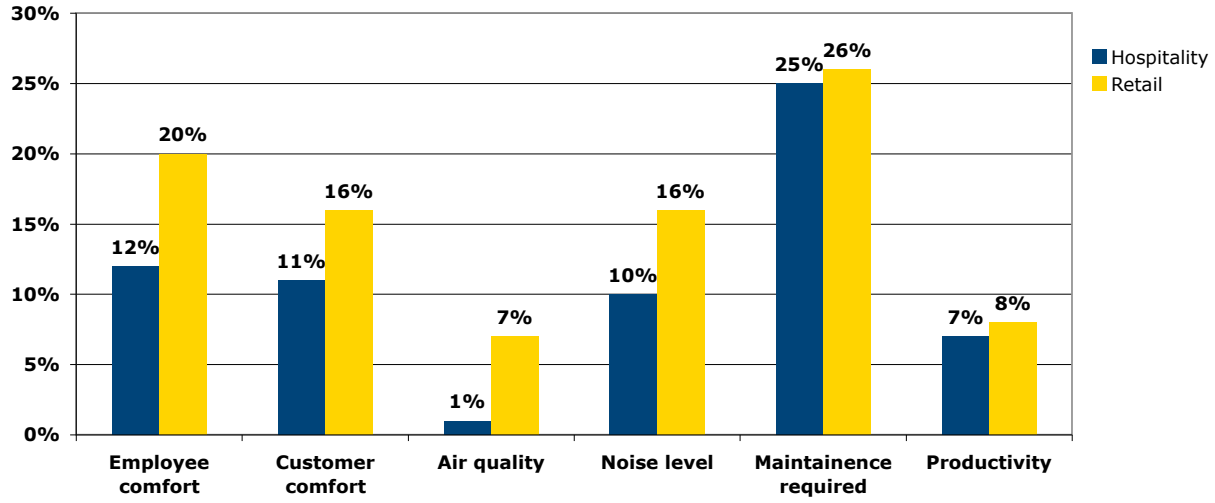
Table 35: Measures in Non-Energy Benefits Question Battery

	Hospitality	Retail	Total
Lighting	135	202	337
Refrigeration	75	146	221
HVAC	31	16	47
Water	40	4	44
Food Service	31	6	37
Controls and Other	9	11	20
Insulation	4	6	10
Process and Motors	4	4	8
Total	**329**	**395**	**724**

Figure 11 summarizes the non-energy benefits respondents reported in our evaluation survey. In both the hospitality and retail sectors, the most common non-energy benefit is a change in the maintenance required for the equipment (roughly 25 percent of measures in each sector). In addition, for 20 percent of the measures, retail respondents reported an improvement in employee comfort.

The remainder of this section presents detailed results for each non-energy effect metric. Survey results for each non-energy metric are presented by measure category and by industry sector.

Figure 11: Summary of Non-Energy Benefits



First off, Table 36 shows that for over 75 percent of measures, respondents in both sectors did not notice a change in employee comfort due to the measures they installed through the Core Program. Hospitality respondents observed a positive change in employee comfort for 12

percent of the measures, a negative change for six percent of the measures, and did not know for five percent of the measures. Retail respondents perceived a positive change for 20 percent of the measures, a negative change for only two percent of the measures, and were not sure for two percent of the measures.

Table 36: Change in Employee Comfort?

Hospitality				
	Positive change in employee comfort	**Negative change in employee comfort**	**No change in employee comfort**	**Don't know**
Lighting (N=134)	7%	7%	81%	5%
HVAC (N=31)	23%	10%	61%	6%
Process (N=4)	0%	0%	100%	0%
Refrigeration (N=75)	12%	8%	76%	4%
Water Heating (N=39)	21%	3%	72%	5%
Insulation (N=4)	25%	25%	50%	0%
Controls (N=9)	11%	0%	89%	0%
Food Service (N=31)	10%	0%	81%	10%
Total (N=327)	**12%**	**6%**	**77%**	**5%**
Retail				
	Positive change in employee comfort	**Negative change in employee comfort**	**No change in employee comfort**	**Don't know**
Lighting (N=201)	24%	2%	72%	1%
HVAC (N=15)	27%	7%	60%	7%
Process (N=4)	25%	0%	75%	0%
Refrigeration (N=146)	12%	1%	83%	3%
Water Heating (N=4)	50%	0%	50%	0%
Insulation (N=6)	0%	0%	100%	0%
Controls (N=10)	20%	0%	80%	0%
Food Service (N=6)	17%	0%	83%	0%
Total (N=392)	**20%**	**2%**	**76%**	**2%**

For each non-energy effect, respondents who noticed a change were asked to explain the specific positive or negative effect. Table 37 presents the positive effects on employee comfort in the

hospitality and retail sectors. The top response for hospitality is that the temperature is more comfortable and the most popular response for retail is that the lighting quality has improved.

Table 37: Why a Positive Change in Employee Comfort?

Hospitality								
	Lighting (N=10)	HVAC (N=7)	Refrig (N=9)	Water (N=8)	Insulation (N=1)	Controls (N=1)	Food Service (N=3)	Total (N=39)
Temperature more comfortable	20%	71%	22%	25%	100%	0%	0%	31%
Lighting quality improved	70%	0%	0%	0%	0%	0%	0%	18%
Equip is less noisy	0%	14%	33%	13%	0%	0%	33%	15%
Easier to operate/faster	0%	0%	11%	13%	0%	100%	0%	8%
Other	0%	0%	0%	38%	0%	0%	0%	8%
More reliable/less to worry about	0%	14%	11%	0%	0%	0%	0%	5%
Equip now functions properly	0%	0%	0%	13%	0%	0%	33%	5%
Equip more attractive	0%	0%	0%	0%	0%	0%	33%	3%
Improved security/safety	10%	0%	0%	0%	0%	0%	0%	3%
There's more room.	0%	0%	11%	0%	0%	0%	0%	3%
It's cooler	0%	0%	11%	0%	0%	0%	0%	3%

Retail								
	Lighting (N=49)	HVAC (N=4)	Process (N=1)	Refrig (N=18)	Water (N=2)	Controls (N=2)	Food Service (N=1)	Total (N=77)
Lighting quality has improved	63%	0%	100%	6%	0%	0%	0%	43%
Temperature more comfortable	18%	75%	0%	39%	0%	0%	100%	26%
Equipment is more attractive	10%	0%	0%	6%	0%	0%	0%	8%
Equip now functions properly/better	0%	0%	0%	28%	0%	0%	0%	6%
Easier to operate or faster	0%	25%	0%	6%	100%	0%	0%	5%
Equip less noisy	0%	0%	0%	17%	0%	0%	0%	4%
Improved security/safety	2%	0%	0%	0%	0%	0%	0%	1%
Changed attitude of the staff	0%	0%	0%	0%	0%	50%	0%	1%
No chemical odor, air fresher, easier to operate, no maintenance, no hazardous waste	0%	0%	0%	0%	0%	50%	0%	1%
Don't know	6%	0%	0%	0%	0%	0%	0%	4%

Table 38 displays the negative changes in employee comfort. Most frequently, hospitality respondents explained that their new refrigeration equipment was in the way or inconvenient and that their new lighting turned on too slowly. The most common response for retail respondents was that the lighting quality decreased.

Table 38: Why a Negative Change in Employee Comfort?

Hospitality						
	Lighting (N=9)	**HVAC (N=3)**	**Refrig (N=6)**	**Water (N=1)**	**Insulation (N=1)**	**Total (N=20)**
Equipment gets in way, impedes access, inconvenient	0%	0%	83%	0%	0%	25%
Lights turn on slowly	33%	0%	0%	0%	0%	15%
Temperature less comfortable	0%	33%	0%	0%	100%	10%
Lighting quality decreased	11%	0%	0%	0%	0%	5%
Equipment less attractive	0%	0%	17%	0%	0%	5%
Hard to operate	0%	33%	0%	0%	0%	5%
Other	56%	33%	0%	100%	0%	35%
Retail						
	Lighting (N=4)	**HVAC (N=1)**	**Refrigeration (N=2)**	**Water (N=0)**	**Insulation (N=0)**	**Total (N=7)**
Lighting quality decreased	50%	0%	0%			29%
Temperature less comfortable	25%	0%	0%			14%
Lights turn on slowly	25%	0%	0%			14%
Hard to operate	0%	100%	0%			14%
Equipment gets in way, impedes access, inconvenient	0%	0%	50%			14%
Other	0%	0%	50%			14%

As shown in Table 39, the effect of the measures on customer comfort is similar to that reported for employee comfort. Hospitality respondents perceived a positive change in customer comfort for 11 percent of the measures and a negative change for four percent of measures. For retail measures, respondents discerned a positive change for 16 percent of measures and a negative change for only one percent.

Table 39: Change in Customer Comfort?

Hospitality				
	Positive change in customer comfort	**Negative change in customer comfort**	**No change in customer comfort**	**Don't know**
Lighting (N=134)	10%	5%	81%	4%
HVAC (N=31)	32%	16%	42%	10%
Process (N=4)	0%	0%	100%	0%
Refrigeration (N=66)	11%	0%	88%	2%
Water Heating (N=37)	8%	0%	86%	5%
Insulation (N=4)	25%	25%	50%	0%
Controls (N=9)	0%	0%	100%	0%
Food Service (N=31)	6%	0%	84%	10%
Total (N=316)	**11%**	**4%**	**80%**	**5%**
Retail				
	Positive change in customer comfort	**Negative change in customer comfort**	**No change in customer comfort**	**Don't know**
Lighting (N=193)	19%	1%	77%	3%
HVAC (N=15)	20%	7%	67%	7%
Process (N=4)	0%	0%	100%	0%
Refrigeration (N=144)	12%	0%	83%	5%
Water Heating (N=4)	0%	0%	100%	0%
Insulation (N=5)	0%	0%	100%	0%
Controls (N=10)	40%	0%	60%	0%
Food Service (N=6)	17%	0%	83%	0%
Total (N=381)	**16%**	**1%**	**80%**	**4%**

Most frequently, respondents in the hospitality sector who noticed a positive effect said that their customers found the temperature more comfortable (47 percent of measures) and that the lighting quality had improved (25 percent of measures). Similarly, the top response among retail respondents who thought their measures had positive outcomes on customer comfort was that the equipment improved the lighting quality.

Table 40: Why a Positive Change in Customer Comfort?

Hospitality								
	Lighting (N=13)	HVAC (N=10)	Refrig (N=7)	Water (N=3)	Insulation (N=1)	Controls (N=0)	Food Service (N=2)	Total (N=36)
Temperature more comfortable	23%	70%	57%	67%	100%		0%	47%
Lighting quality improved	69%	0%	0%	0%	0%		0%	25%
Equipment less noisy	0%	10%	0%	0%	0%		0%	3%
Equipment more attractive	0%	0%	0%	0%	0%		50%	3%
Increased security provided by new lighting	8%	0%	0%	0%	0%		0%	3%
More regulated temperature	0%	10%	0%	0%	0%		0%	3%
More reliable	0%	10%	0%	0%	0%		0%	3%
Place is cleaner because of the curtains	0%	0%	14%	0%	0%		0%	3%
Products stay cooler	0%	0%	14%	0%	0%		0%	3%
Central A/C more efficient (part of same package)	0%	0%	0%	33%	0%		0%	3%
Makes ice faster	0%	0%	0%	0%	0%		50%	3%
Don't know	0%	0%	14%	0%	0%		0%	3%

Retail								
	Lighting (N=36)	HVAC (N=3)	Refrig (N=17)	Water (N=0)	Insulation (N=0)	Controls (N=4)	Food Service (N=1)	Total (N=61)
Lighting quality has improved	72%	0%	6%			25%	0%	46%
Temp more comfortable	17%	67%	41%			25%	100%	28%
Equipment is more attractive	11%	0%	6%			0%	0%	8%
More reliable	0%	33%	0%			0%	0%	2%
Products a lot colder	0%	0%	35%			0%	0%	10%
Works properly	0%	0%	12%			0%	0%	3%
They are very comfortable knowing that their garments no longer go	0%	0%	0%			25%	0%	2%
Very well received, that's why we are busier	0%	0%	0%			25%	0%	2%

Relatively few respondents observed a negative change in customer comfort due to their new energy efficiency measures. The most common response for hospitality respondents who perceived a negative effect was that the lighting quality decreased (31 percent of measures). Only three respondents from the retail sector mentioned a negative effect.

Table 41: Why a Negative Change in Customer Comfort?

Hospitality				
	Lighting (N=7)	**HVAC (N=5)**	**Insulation (N=1)**	**Total (N=13)**
Lighting quality decreased	57%	0%	0%	31%
Temperature less comfortable	0%	20%	100%	15%
Some customers complain it takes too long for lights to	29%	0%	0%	15%
Takes too long to come on, lights go off unexpectedly when people are there.	14%	0%	0%	8%
Customers never want AC to go off.	0%	20%	0%	8%
Customers are not cool enough.	0%	20%	0%	8%
Seniors have a tough time trying to understand the new equipment; they don't know how to operate digital	0%	20%	0%	8%
Harder to control, switched back to manual control.	0%	20%	0%	8%
Retail				
	Lighting (N=2)	**HVAC (N=1)**	**Insulation (N=0)**	**Total (N=3)**
Lighting quality decreased	50%	0%		33%
One area of showroom is darker	50%	0%		33%
Having problems operating.	0%	100%		33%

Table 42 shows that for nearly all measures installed through the Core Program (95 percent), hospitality respondents did not notice a change in air quality and for one percent of measures, hospitality respondents observed a positive change. In the retail sector, for 88 percent of measures, respondents noticed no change, and for seven percent, they mentioned a positive change. Only one hospitality respondent noted any negative change in air quality due to the installed measures, and none did in the retail industry.

Table 42: Change in Air Quality?

Hospitality				
	Positive change in air quality	**Negative change in air quality**	**No change in air quality**	**Don't know**
Lighting (N=130)	1%	0%	95%	5%
HVAC (N=31)	3%	0%	87%	10%
Process (N=4)	0%	0%	100%	0%
Refrigeration (N=69)	6%	0%	88%	6%
Water Heating (N=37)	8%	0%	89%	3%
Insulation (N=4)	0%	0%	100%	0%
Controls (N=9)	11%	0%	89%	0%
Food Service (N=31)	6%	3%	81%	10%
Total (N=315)	**1%**	**<1%**	**95%**	**5%**
Retail				
	Positive change in air quality	**Negative change in air quality**	**No change in air quality**	**Don't know**
Lighting (N=200)	4%	0%	93%	4%
HVAC (N=15)	20%	0%	60%	20%
Process (N=4)	25%	0%	75%	0%
Refrigeration (N=146)	9%	0%	86%	5%
Water Heating (N=3)	0%	0%	100%	0%
Insulation (N=6)	0%	0%	100%	0%
Controls (N=10)	30%	0%	70%	0%
Food Service (N=6)	17%	0%	67%	17%
Total (N=390)	**7%**	**0%**	**88%**	**5%**

The positive effects on air quality are reported in Table 43. The top response in both the retail and hospitality sectors is that the air is cleaner and the second is that the air is cooler. Only one respondent in the hospitality sector noted a negative effect on air quality and said: "Drinks are not as cool because it goes off for two hours to save energy, so customers don't like non-cold drinks."

Table 43: Why a Positive Change in Air Quality?

Hospitality	Lighting (N=1)	HVAC (N=1)	Process (N=0)	Refrig (N=5)	Water (N=4)	Controls (N=1)	Food Service (N=3)	Total (N=15)
Air seems cleaner	100%	0%		40%	50%	100%	67%	53%
Air is cooler	0%	0%		40%	25%	0%	0%	27%
Air seems drier	0%	0%		20%	25%	0%	0%	13%
Air filters in the ice machine	0%	0%		0%	0%	0%	33%	7%
Don't Know	0%	100%		0%	0%	0%	0%	7%

Retail	Lighting (N=9)	HVAC (N=4)	Process (N=1)	Refrig (N=15)	Water (N=0)	Controls (N=5)	Food Service (N=1)	Total (N=35)
Air seems cleaner	22%	75%	0%	40%		60%	100%	43%
Air is cooler	56%	0%	0%	27%		0%	0%	26%
Smells better	0%	0%	0%	7%		40%	0%	9%
Air seems more humid	11%	0%	0%	0%		0%	0%	3%
Because the ballast didn't burn out like it used to happen periodically	11%	0%	0%	0%		0%	0%	3%
Boiler room temperature cooler	0%	25%	0%	0%		0%	0%	3%
More circulation- better air	0%	0%	100%	0%		0%	0%	3%
Keeps dust out of cooler	0%	0%	0%	7%		0%	0%	3%
Don't Know	0%	0%	0%	20%		0%	0%	9%

Table 44 shows that hospitality respondents noticed a positive change in noise level for ten percent of measures and noted a negative change for only one percent of measures. Moreover, retail respondents perceived a positive change in noise level for 16 percent of measures. Retail respondents reported an undesirable effect for less than one percent of measures installed.

Table 44: Change in Noise Level?

Hospitality				
	Positive change in noise level	**Negative change in noise level**	**No change in noise level**	**Don't know**
Lighting (N=130)	1%	1%	92%	6%
HVAC (N=29)	24%	7%	62%	7%
Process (N=4)	0%	0%	100%	0%
Refrigeration (N=70)	21%	0%	77%	1%
Water Heating (N=39)	10%	0%	87%	3%
Insulation (N=4)	0%	0%	100%	0%
Controls (N=9)	11%	0%	89%	0%
Food Service (N=28)	14%	0%	75%	11%
Total (N=313)	**10%**	**1%**	**84%**	**5%**
Retail				
	Positive change in noise level	**Negative change in noise level**	**No change in noise level**	**Don't know**
Lighting (N=201)	11%	0%	88%	1%
HVAC (N=14)	29%	0%	57%	14%
Process (N=4)	50%	0%	50%	0%
Refrigeration (N=146)	21%	1%	78%	1%
Water Heating (N=4)	25%	0%	75%	0%
Insulation (N=6)	0%	0%	100%	0%
Controls (N=10)	20%	0%	80%	0%
Food Service (N=5)	20%	0%	80%	0%
Total (N=390)	**16%**	**<1%**	**82%**	**1%**

As shown in Table 45, for all measures in the hospitality sector and for 94 percent of measures in the retail category, the positive change in noise level was that the new equipment was quieter.

Table 45: Why a Positive Change in Noise Level?

Hospitality								
	Lighting (N=1)	HVAC (N=7)	Process (N=0)	Refrig (N=15)	Water (N=4)	Controls (N=1)	Food Service (N=4)	Total (N=15)
Quieter equipment	100%	100%		100%	100%	100%	100%	100%
Retail								
	Lighting (N=22)	HVAC (N=4)	Process (N=2)	Refrig (N=30)	Water (N=1)	Controls (N=2)	Food Service (N=1)	Total (N=62)
Quieter equipment	100%	100%	100%	90%	0%	100%	100%	94%
Old system used to create heat inside; new system is outside, so business is cooler	0%	0%	0%	3%	0%	0%	0%	2%
Stopped squeaking	0%	0%	0%	7%	0%	0%	0%	3%
Timing of AC operation	0%	0%	0%	0%	100%	0%	0%	2%

Table 46 lists the few comments by respondents who noted a negative change in noise level due to their new equipment.

Table 46: Why a Negative Change in Noise Level?

Hospitality			
	Lighting (N=1)	HVAC (N=2)	Total (N=3)
Louder	0%	100%	67%
Burn out too fast	100%	0%	33%
Retail			
	Refrig (N=1)		Total (N=1)
Louder	100%		100%

Table 47 shows that a substantial percent of respondents noticed a favorable change in the maintenance required for their new energy efficient equipment. For about 25 percent of the measures in both sectors, respondents observed a positive change.

Table 47: Change in Maintenance Required?

Hospitality				
	Positive change in maintenance required	**Negative change in maintenance required**	**No change in maintenance required**	**Don't know**
Lighting (N=132)	27%	8%	64%	2%
HVAC (N=30)	23%	17%	53%	7%
Process (N=4)	0%	0%	100%	0%
Refrigeration (N=72)	15%	1%	81%	3%
Water Heating (N=39)	26%	3%	67%	5%
Insulation (N=4)	0%	0%	100%	0%
Controls (N=9)	33%	0%	67%	0%
Food Service (N=30)	50%	0%	40%	10%
Total (N=320)	**25%**	**5%**	**66%**	**4%**
Retail				
	Positive change in maintenance required	**Negative change in maintenance required**	**No change in maintenance required**	**Don't know**
Lighting (N=198)	30%	2%	67%	2%
HVAC (N=15)	20%	7%	67%	7%
Process (N=4)	25%	25%	50%	0%
Refrigeration (N=145)	20%	4%	74%	2%
Water Heating (N=4)	25%	0%	75%	0%
Insulation (N=6)	17%	0%	83%	0%
Controls (N=9)	22%	0%	78%	0%
Food Service (N=6)	50%	0%	50%	0%
Total (N=387)	**26%**	**3%**	**70%**	**2%**

As shown in Table 48, for 86 percent of the measures, hospitality respondents noted that maintenance is needed less frequently. Retail respondents also reported less frequent maintenance as the primary benefit (72 percent of the measures for which there was a positive change).

Table 48: Why a Positive Change in Maintenance?

Hospitality									
	Lighting (N=35)	**HVAC (N=7)**	**Process (N=0)**	**Refrig (N=11)**	**Water (N=10)**	**Insulation (N=0)**	**Controls (N=3)**	**Food Service (N=15)**	**Total (N=81)**
Maintenance is needed less frequently	94%	71%		82%	80%		100%	80%	86%
No maintenance is needed for the equipment	6%	14%		9%	10%		0%	20%	10%
Equipment is easier to service/maintain	0%	14%		9%	0%		0%	0%	2%
Leak in previous valve no longer	0%	0%		0%	10%		0%	0%	1%
Retail									
	Lighting (N=59)	**HVAC (N=3)**	**Process (N=1)**	**Refrig (N=28)**	**Water (N=1)**	**Insulation (N=1)**	**Controls (N=2)**	**Food Service (N=3)**	**Total (N=98)**
Maintenance is needed less frequently	66%	100%	100%	75%	100%	100%	100%	100%	72%
No maintenance is needed for the equipment	24%	0%	0%	18%	0%	0%	0%	0%	19%
Equipment is easier to service/maintain	8%	0%	0%	4%	0%	0%	0%	0%	6%
Have done no maintenance so far	2%	0%	0%	0%	0%	0%	0%	0%	1%
Other	0%	0%	0%	4%	0%	0%	0%	0%	1%

The most frequent negative changes in maintained in both the hospitality and retail sectors were that maintenance is needed more frequently and that the equipment is harder to service (see Table 49)

Table 49: Why a Negative Change in Maintenance?

Hospitality						
	Lighting (N=11)	**HVAC (N=5)**	**Process (N=0)**	**Refrig (N=1)**	**Water (N=1)**	**Total (N=18)**
Maintenance is needed more frequently	64%	60%		0%	100%	61%
Equipment is harder to service/maintain	18%	20%		100%	0%	22%
Had to replace all of them.	9%	0%		0%	0%	6%
CFLs are not compatible with fixtures in older buildings (est. 1940s-50s)	9%	0%		0%	0%	6%
Maintenance is more expensive for each visit	0%	0%		0%	0%	0%
Don't know	0%	20%		0%	0%	6%

Retail						
	Lighting (N=5)	**HVAC (N=1)**	**Process (N=1)**	**Refrig (N=7)**	**Water (N=0)**	**Total (N=14)**
Maintenance is needed more frequently	20%	100%	0%	43%		36%
Equipment is harder to service/maintain	40%	0%	100%	14%		29%
Contractor has not come back to fix problems with burned out lights and curtains and refrigerator door gaskets	20%	0%	0%	0%		7%
Door gaskets fall off. We have to pop them back in	0%	0%	0%	14%		7%
Need to retape it to make it work; contractor messed up	0%	0%	0%	14%		7%
Spent more time	0%	0%	0%	14%		7%
Maintenance is more expensive for each visit	0%	0%	0%	0%		0%
Keep failing	20%	0%	0%	0%		0%

Table 50 shows that respondents in both sectors noticed a positive change in productivity for about seven percent of the measures and a negative change for only about two percent.

Table 50: Change in Productivity?

Hospitality				
	Positive change in productivity	**Negative change in productivity**	**No change in productivity**	**Don't know**
Lighting (N=133)	2%	1%	92%	5%
HVAC (N=29)	7%	3%	79%	10%
Process (N=4)	0%	0%	100%	0%
Refrigeration (N=67)	6%	4%	87%	3%
Water Heating (N=38)	21%	3%	71%	5%
Insulation (N=4)	0%	0%	100%	0%
Controls (N=9)	11%	0%	89%	0%
Food Service (N=31)	16%	0%	74%	10%
Total (N=315)	**7%**	**2%**	**85%**	**5%**
Retail				
	Positive change in productivity	**Negative change in productivity**	**No change in productivity**	**Don't know**
Lighting (N=198)	4%	0%	93%	3%
HVAC (N=14)	14%	0%	71%	14%
Process (N=4)	0%	0%	100%	0%
Refrigeration (N=142)	10%	3%	85%	2%
Water Heating (N=3)	67%	0%	33%	0%
Insulation (N=6)	17%	0%	83%	0%
Controls (N=9)	22%	11%	56%	11%
Food Service (N=6)	17%	0%	83%	0%
Total (N=382)	**8%**	**1%**	**88%**	**3%**

As shown in Table 51, for 91 percent of respondents who observed a productivity benefit, hospitality respondents said that their new measures allowed them to perform work more efficiently. Retail respondents also named this efficiency benefit for 68 percent of measures.

Table 51: Why a Positive Change in Productivity?

Hospitality	Lighting (N=3)	HVAC (N=2)	Refrig (N=4)	Water (N=8)	Insulation (N=0)	Controls (N=1)	Food Service (N=5)	Total (N=23)
Equipment allows work to be performed more efficiently/quickly	100%	100%	100%	88%		100%	80%	91%
Unit is much larger & it still costs me less.	0%	0%	0%	0%		0%	20%	4%
Don't know	0%	0%	0%	13%		0%	0%	4%

Retail	Lighting (N=7)	HVAC (N=2)	Refrig (N=13)	Water (N=2)	Insulation (N=1)	Controls (N=2)	Food Service (N=1)	Total (N=28)
Equipment allows work to be performed more efficiently/quickly	71%	50%	62%	100%	0%	100%	100%	68%
Things work properly	0%	0%	15%	0%	0%	0%	0%	7%
Time saved on maintenance allows us to do other things	0%	50%	0%	0%	0%	0%	0%	4%
Other	14%	0%	15%	0%	100%	0%	0%	14%
Don't know	14%	0%	8%	0%	0%	0%	0%	7%

Table 51 shows the responses of the handful of respondents who observed a negative change in productivity due to their new energy efficiency measures.

Table 52: Why a Negative Change in Productivity?

Hospitality						
	Lighting (N=1)	HVAC (N=1)	Refrig (N=3)	Water (N=1)	Controls (N=0)	Total (N=6)
Equipment allows work to be performed less efficiently/slower	0%	0%	100%	100%		67%
Require more frequent changing	100%	0%	0%	0%		17%
Ability for staff to productively service customers	0%	100%	0%	0%		17%
Retail						
	Lighting (N=0)	HVAC (N=0)	Refrig (N=4)	Water (N=0)	Controls (N=1)	Total (N=5)
Equipment allows work to be performed less efficiently/slower			75%		100%	80%
Coolers go out due to gasket malfunctioning.			25%		0%	20%

Indirect Effects

The participant survey investigated additional energy efficient equipment purchases and behaviors adopted following Core Program participation. As shown in Table 53, after program participation, 24 percent of respondents said that they purchased additional energy efficient equipment for their businesses.

Table 53: Other Efficient Equipment Purchases After Program Participation

	Hospitality Percent (N=200)	Retail Percent (N=217)	Total Percent (N=417)
Yes	26%	23%	24%
No	74%	75%	74%
Don't know	1%	2%	2%

Table 54 shows what equipment types these respondents purchased. The 100 respondents reported a total of 128 equipment purchases. The most frequent purchases were lighting (28 percent), HVAC (25 percent), and refrigeration measures (25 percent).

Table 54: Types of Efficient Equipment Purchased

	Hospitality Percent (N=51)	Retail Percent (N=49)	Total Percent (N = 100)
Lighting Equipment / Lighting Controls	30%	24%	28%
HVAC Equipment / HVAC Controls	20%	31%	25%
Refrigeration/Freezer Equipment / Refrigeration/Freezer Controls	24%	27%	25%
Water Heating Equipment	8%	0%	4%
Dishwashers/Sanitizers	2%	2%	2%
Cooking Equipment	5%	0%	2%
Insulation	0%	3%	2%
Solar System	2%	2%	2%
Clothes Washers/Dryers	2%	2%	2%
Occupancy Based Thermostat	3%	2%	2%
Computers	0%	4%	2%
Toilets	2%	2%	2%
Process System	0%	2%	1%
Windows	2%	0%	1%
Pool Equipment	0%	2%	1%
Cool Roof	0%	2%	1%
Laundry Ozone System	2%	0%	1%
General Energy Management System	0%	2%	1%
Door Cooler	0%	2%	1%
Motors	0%	2%	1%
Bathroom Hand Dryer	0%	2%	1%
Ice Machine	2%	0%	1%
Vending Machine Controls	0%	2%	1%
Shirt-Pressing Machine	0%	2%	1%
Sink aerator	2%	0%	1%
Phone	2%	0%	1%
Other	6%	2%	4%

Multiple responses accepted

A follow-up question gauged the level of the Core Program's influence on the respondent's decision to purchase that additional equipment. Respondents were asked: "How influential was your experience with PG&E's Equipment Incentive Program in your decision to make that purchase?" As shown in Table 55, for 39 percent of these additional equipment purchases, the program was deemed "very influential." For 20 percent of these purchases, the program was "not at all influential." Note that the sample N refers to the equipment purchased rather than the number of respondents.

Table 55: Influence of Prior Program Experience in Purchase Decision

	Hospitality Percent (N=66)	Retail Percent (N=62)	Total Percent (N=128)
Very Influential	33%	45%	39%
Somewhat Influential	36%	24%	31%
Not Very Influential	6%	10%	8%
Not At All Influential	24%	16%	20%
Don't know	0%	5%	2%

For each equipment purchase that was driven by prior program participation (very influential), respondents were asked why they attribute the program influence to the equipment purchase (see Table 56). For half of the additional measures, respondents said that the energy savings of the incentivized measures motivated them and for 20 percent of the additional purchases, respondents said that their PG&E Account Representative recommended the equipment.

Table 56: Why the Program Was "Very Influential" on Equipment Purchase

	Hospitality Percent (N=22)	Retail Percent (N=29)	Total Percent (N=51)
Was motivated by the energy savings of the measures I received incentives for	64%	41%	51%
My PG&E Account Rep recommended it	18%	21%	20%
Recommendations of engineering staff	0%	14%	8%
My contractor (who installed this/these measures) recommended it	0%	7%	4%
A symposium in San Francisco about the same time.	5%	0%	2%
Increased awareness	5%	0%	2%
Because the other green equipment runs better	5%	0%	2%
Corporate office recommended it	5%	0%	2%
My own personal knowledge	0%	3%	2%
Motivated by internal desire to save energy.	0%	3%	2%
The other machine was #1 so wanted the shirt-pressing machine to be #1 too	0%	3%	2%
Was motivated by the rebates	0%	3%	2%
Don't know	0%	3%	2%

For each purchase, respondents were also asked if they received a PG&E incentive. Table 57 shows that PG&E incentives subsidized 43 percent of the additional purchases.

Table 57: Receive a PG&E Incentive for Purchase

	Hospitality Percent (N=66)	Retail Percent (N=62)	Total Percent (N = 128)
Yes	38%	48%	43%
No	58%	50%	54%
Don't know	5%	2%	3%

Table 58 shows what equipment purchases can be considered the indirect effect of the Core Program. This includes equipment that was purchased due to prior program participation (program was "very influential") and that was not funded by a PG&E rebate.

Table 58: Indirect Effects—Other Equipment Purchases

	Hospitality Percent (N=66)	Retail Percent (N=62)	Total Percent (N = 128)
Lighting Equipment / Lighting Controls	5	3	8
HVAC Equipment / HVAC Controls	1	3	4
Refrigeration/Freezer Equipment / Refrigeration/Freezer Controls	0	2	2
Ice Machine	1	0	1
Insulation	0	1	1
Occupancy Based Thermostat	0	1	1
Shirt-Pressing Machine	0	1	1
Water Heating Equipment	1	0	1
Windows	1	0	1
Other	1	0	1
Total	10	11	21

This same analysis was repeated for energy efficient behaviors. Respondents were asked if their businesses had changed any behaviors or business practices to save energy since they participated in the incentive program. As shown in Table 59, 32 percent of respondents said that they had implemented a new energy efficient behavior or business practice.

Table 59: New Energy Efficient Behavior?

	Hospitality Percent (N=200)	Retail Percent (N=216)	Total Percent (N = 416)
Yes	37%	28%	32%
No	63%	69%	66%
Don't know	1%	3%	2%

Table 60 lists the behaviors or business practices the respondents mentioned. Of those who implemented a change, the most common measure was to turn off the lights that are not in use (49 percent of respondents). Other frequent measures were to raise the air conditioning set point (16 percent of respondents), to change the lighting equipment in the facility (10 percent of respondents), to lower the heating temperature set point (nine percent of respondents), and to turn of the computers when not at use or at night (eight percent of respondents). Overall, 134 respondents executed 194 energy efficient behaviors.

Table 60: Behavior Implemented

	Hospitality Percent (N=73)	Retail Percent (N=61)	Total Percent (N = 134)
Turn off the lights that are not in use	52%	46%	49%
Raise Air Conditioning temperature set point	18%	13%	16%
Change lighting	8%	13%	10%
Lower Heating temperature set point	8%	10%	9%
Turn off computers when not in use/at night	10%	7%	8%
Use day lighting instead of lights during the day	4%	7%	5%
Add Occupancy Sensor/timer	8%	0%	4%
Increase recycling	3%	5%	4%
Reduce operating hours	4%	2%	3%
Maintain doors/vents/seals	1%	5%	3%
Reduced refrigeration operating hours	4%	2%	3%
Be more aware of energy consumption	4%	0%	2%
Engage in refrigerator maintenance	1%	3%	2%
Add lighting controls/Reduce lighting levels	3%	2%	2%
Reduced hours for HVAC	3%	2%	2%
Turn off equipment that is not in use	3%	2%	2%
Develop and implement awareness program for employees/customers	1%	2%	1%
Change laundry/cleaning practices	3%	0%	1%
Make sure doors are closed	0%	3%	1%
Cover freezer/refrigerator	0%	3%	1%
Purchase Energy Efficient/ENERGY STAR products.	3%	0%	1%
Other	10%	13%	11%
Don't know	1%	0%	1%

As shown in Table 61, for 36 percent of the behavior types implemented, respondents said that their experiences with the incentive program were "very influential" on their decisions to make the change. For 22 percent of behavior changes, respondents said that the program was "not at all influential" on their decisions.

Table 61: Influence of Incentive Program on New Behavior

	Hospitality Percent (N=110)	Retail Percent (N=84)	Total Percent (N=194)
Very Influential	38%	32%	36%
Somewhat Influential	26%	30%	28%
Not Very Influential	16%	10%	13%
Not At All Influential	17%	27%	22%
Don't know	3%	1%	2%

As with equipment purchases, respondents were asked why they considered the Core Program very influential on their decisions to execute these behavioral changes at their businesses. As with additional equipment purchases, most commonly, respondents said that they were motivated by the energy savings from the program measures and PG&E Account Representatives (see Table 62). Account Representatives were a more common motivating factor for the retail sector than the hospitality sector. Other frequent influences include an energy audit and the contractor who installed the equipment.

Table 62: Why the Program Was "Very Influential" on Behavior Change

	Hospitality Percent (N=42)	Retail Percent (N=27)	Total Percent (N=69)
Was motivated by the energy savings of the measures I received incentives for	41%	33%	38%
My PG&E Account Representative recommended it	12%	22%	16%
My PG&E field rep recommended it during an Energy Audit	14%	7%	12%
My contractor (who installed this/these measures) recommended it	10%	7%	9%
Wanted to be green.	5%	0%	3%
Benefits us, and cheaper.	2%	0%	1%
We are more aware of saving energy.	2%	0%	1%
Heard about it at green symposium.	2%	0%	1%
Program suggested new practice.	2%	0%	1%
Smart lights made energy savings seem simple	2%	0%	1%
Motivated by desire to prevent global warming.	0%	4%	1%
Reputation.	0%	4%	1%
Save energy.	0%	4%	1%
The efficiency and beauty of case inspired us.	0%	4%	1%
Didn't burn as many bulbs.	0%	0%	0%
Don't know	2%	15%	7%

Table 63 shows what new behavioral measures can be considered the indirect effect of the Core Programs. This includes behaviors that were instigated by prior program participation (program was "very influential").

Table 63: Indirect Effects—Behavioral Measures

	Hospitality	Retail	Total
Turn off the lights that are not in use	17	8	25
Change lighting	3	6	9
Turn off computers when not in use/at night	4	1	5
Lower Heating temperature set point	2	2	4
Raise Air Conditioning temperature set point	3	1	4
Add lighting controls/Reduce lighting levels	2	1	3
Reduced hours for HVAC	2	1	3
Be more aware of energy consumption	2	0	2
Engage in refrigerator maintenance	1	1	2
Maintain doors/vents/seals		2	2
Reduce operating hours	2		2
Use day lighting instead of lights during the day	1	1	2
Add Occupancy Sensor/timer	1		1
Change laundry/cleaning practices	1		1
Cover freezer/refrigerator		1	1
Make sure doors are closed		1	1
Purchase Energy Efficient/ENERGY STAR products.	1		1
Reduced refrigeration operating hours	1		1
Other	3	1	4
Total	46	27	73

Multiple responses accepted

Effects of Multiple Programs

In order to identify potential way for PG&E to improve its coordination, respondents were asked about their experience accessing multiple PG&E programs for business customers. Specifically, respondents were asked if they had ever had any confusion trying to understand which PG&E energy efficiency programs, financial incentives, and other energy efficiency services are available and applicable for their businesses since January 2006. Table 64 shows that the program menu had confused a substantial share of respondents—26 percent of Deemed Program respondents and 32 percent of NRR Program respondents. Deemed retail program respondents tended to have more trouble than hospitality respondents.

Table 64: Confusion about Eligibility for PG&E Offerings Since Jan 2006?

Deemed Program			
	Hospitality Percent (N=190)	Retail Percent (N=197)	Total Percent (N=387)
Yes	21%	31%	26%
No	75%	62%	68%
Don't know	5%	7%	6%
NRR Program			
	Hospitality Percent (N=11)	Retail Percent (N=17)	Total Percent (N=28)
Yes	36%	29%	32%
No	64%	65%	64%
Don't know	0%	6%	4%

Respondents who had been confused by the PG&E energy efficiency program menu were asked to explain why. Table 65 details these results for the Deemed Program. Thirty-three percent of hospitality respondents said that there did not seem to be a central place for all the information, 18 percent said all the options were overwhelming, 15 percent said that they could not find information on the program they were looking for, and 15 percent said that there was not enough information on the PG&E website.

Retail respondents most frequently said that they did not know whom to contact to get information (20 percent). Other common responses included that there was no central place to get all the information (18 percent), they could not find information on the program they were looking for (18 percent), and that they could not figure out if their business was eligible (18 percent).

Similarly, Table 67 presents points of confusion for NRR respondents when trying to access the PG&E energy efficiency program menu since January 2006. Two retail respondents could not figure out if their businesses were eligible and three hospitality respondents said that there was not enough information available on the PG&E website.

Respondents who said that they could not figure out if their businesses were eligible were asked what program they were researching. Hospitality respondents said "all programs," "any rebate," "gasket rebates," "I wasn't sure which programs were available," "rebates and interest rate loan program," "to understand what PG&E means by each program," and "incentive and other types of programs." Retail respondents said "cooling," "discount over a year," "lighting," "lighting retrofit and HVAC," "LED lighting for my parking lot areas," "PG&E Deemed incentive program," "I needed more knowledge about rebates," and "rebate."

Table 65: Why Confused About Eligibility for PG&E Offerings Since Jan 2006?
Deemed Program

	Hospitality Percent (N=39)	Retail Percent (N=61)	Total Percent (N=100)
There is no central place to get all the information	33%	18%	24%
Could not find information about a program I was looking for	15%	18%	17%
Could not figure out if my business was eligible	15%	18%	17%
I did not know who to contact to get information	13%	20%	17%
There was not enough information on the PG&E website	15%	12%	13%
All the options are overwhelming	18%	10%	13%
Was given conflicting information from various people that work at PG&E	8%	8%	8%
Need more advertising	3%	7%	5%
My Account Rep did not know enough about the programs	3%	5%	4%
Did not know what offerings were available	3%	3%	3%
Did not know how to look for program information	5%	0%	2%
Don't have time to weed through info	3%	2%	2%
Legal wording is confusing	0%	3%	2%
PG&E staff not knowledgeable about equipment/paperwork	3%	0%	1%
Not sure what equipment qualified for a rebate	3%	0%	1%
Concern about honesty of all these different programs being pushed	3%	0%	1%
Confusion about role of Third Party Contractors	0%	2%	1%
Website difficult to navigate	0%	2%	1%
Have to dig to find information	0%	2%	1%
Other	8%	3%	5%
Don’t know	3%	3%	3%

Multiple responses accepted

Table 66: Why Confused About Eligibility for PG&E Offerings Since Jan 2006?
NRR Program

	Retail Percent (N=4)	Hospitality Percent (N=5)	Total Percent (N=9)
Could not figure out if my business was eligible (Follow-up: For which program?)	50%	10%	44%
There was not enough information on the PG&E website	25%	60%	44%
All the options are overwhelming	25%	40%	33%
There is no central place to get all the information	25%	40%	33%
My Account Rep did not know enough about the programs	0%	40%	22%
I did not know who to contact to get information	25%	20%	22%
Could not find information about a program I was looking for (Follow-up: Where did you look?)	0%	20%	11%
Was given conflicting information from various people that work at PG&E	0%	20%	11%
Do not have an Account Rep and would like to get help from one	0%	20%	11%
Was uncertain about the rebate amount until I received check	25%	0%	11%
There is a multitude of programs, so which one is best suited is confusing	25%	0%	11%
Other	0%	20%	11%

Multiple responses accepted

Table 67 shows that the majority (63 percent) of Deemed Program respondents considered their confusion about applicable PG&E program offerings a "very" or "somewhat" serious problem. Twenty-eight percent of respondents in the Deemed Program considered their confusion a "very serious" problem, and this was higher for the retail sector. Thirty-five percent of Deemed Program respondents said that the confusion was a "somewhat serious" problem.

Two respondents from the NRR Program considered the confusion a very serious problem and five said it was somewhat serious.

Table 67: How Serious A Problem?

Deemed Program	Hospitality Percent (N=39)	Retail Percent (N=60)	Total Percent (N=99)
Very serious	23%	32%	28%
Somewhat serious	31%	38%	35%
Not very serious	46%	28%	35%
Don't know	0%	2%	1%
NRR Program	**Hospitality Percent (N=4)**	**Retail Percent (N=5)**	**Total Percent (N=9)**
Very serious	25%	20%	22%
Somewhat serious	50%	60%	56%
Not very serious	25%	20%	22%

Respondents were also asked if they had ever had any confusion trying to figure out who to contact or how to access various PG&E energy efficiency offerings for their businesses since January 2006. Table 68 shows that 21 percent of Deemed and 18 percent of NRR Program respondents had experienced this type of confusion.

Table 68: Confusion About Who to Contact Since Jan 2006?

Deemed Program			
	Retail Percent (N=190)	**Hospitality Percent (N=195)**	**Total Percent (N=385)**
Yes	19%	23%	21%
No	79%	72%	76%
Don't know	2%	5%	3%
NRR Program			
	Retail Percent (N=11)	**Hospitality Percent (N=17)**	**Total Percent (N=28)**
Yes	0%	29%	18%
No	100%	65%	79%
Don't know	0%	6%	4%

As before, respondents were probed for details on their confusion. Table 69 lists these results for Deemed Program customers. About half of these customers said that they did not know whom to contact to get more information. The second most common answer was that they did not know what number to call (20 percent), and this percentage was higher for hospitality respondents. Moreover, 22 percent of hospitality respondents mentioned that there was no central location to get the information.

The five NRR respondents who had been confused about whom to contact for energy efficiency information for their businesses since January 2006 offered a wide variety of explanations. These findings are presented in Table 70.

Table 69: Why Confused About Whom to Contact Since Jan 2006?
Deemed Program

	Retail Percent (N=37)	Hospitality Percent (N=45)	Total Percent (N=82)
Did not know who to contact to get more information	46%	44%	45%
Did not know what phone number to call	30%	20%	24%
There is no central place to get all the information	11%	22%	17%
Made an inquiry (phone call, e-mail) to the listed contact but never heard back	11%	9%	10%
Did not know what website to visit	8%	7%	7%
All the options are overwhelming	8%	4%	6%
My Account Rep did not know enough about the program	3%	7%	5%
My Account Rep referred me to the wrong person	3%	4%	4%
Had trouble finding contractors	0%	2%	1%
Did not know where to start	0%	2%	1%
Given incorrect info	0%	2%	1%
Information not always accurate when we dial phone numbers, don't know which department to contact.	3%	0%	1%
Never get just one person and never get the same answer every time you call.	3%	0%	1%
Not enough information available for businesses	3%	0%	1%
Always get recordings	0%	2%	1%
High employee turnover so hard to know whom to contact and slow response time.	0%	2%	1%
Other	3%	11%	7%
Don't know	3%	2%	2%

Multiple responses accepted

Table 70: Why Confused About Whom to Contact Since Jan 2006?
NRR Program

	Retail Percent (N=0)	Hospitality Percent (N=5)	Total Percent (N=5)
Did not know who to contact to get more information	0%	20%	20%
My Account Rep referred me to the wrong person	0%	40%	40%
My Account Rep did not know enough about the program	0%	40%	40%
Did not know what phone number to call	0%	20%	20%
Did not know what website to visit	0%	20%	20%
Made an inquiry (phone call, e-mail) to the listed contact but never heard back	0%	40%	40%
All the options are overwhelming	0%	40%	40%
There is no central place to get all the information	0%	60%	60%
Do not have an assigned account rep.	0%	20%	20%
The engineer did all the work, otherwise I wouldn't have known.	0%	20%	20%
Confusion about Third Party contractors – if they worked for PG&E.	0%	20%	20%

Multiple responses accepted

As shown in Table 71, respondents were also asked to rate the importance of the problem they had when they were trying to figure out who to contact or how to access various PG&E energy efficiency offerings for their businesses. Most (68 percent) of Deemed Program respondents said the problem was very or somewhat serious: Thirty-one percent of Deemed Program respondents said it was very serious and 37 percent said it was somewhat serious.

Table 71: How Serious A Problem?

Deemed Program	Retail Percent (N=37)	Hospitality Percent (N=45)	Total Percent (N=82)
Very serious	24%	36%	31%
Somewhat serious	35%	38%	37%
Not very serious	41%	22%	31%
Don't know	0%	4%	2%
NRR Program	**Retail Percent (N=0)**	**Hospitality Percent (N=5)**	**Total Percent (N=5)**
Very serious	0%	20%	20%
Somewhat serious	0%	40%	40%
Not very serious	0%	40%	40%

Overall Suggestions for Core Programs

Table 74 and Table 75 list respondent comments when asked what they would do to improve the Deemed and NRR Programs, respectively. While the answers vary widely, the most frequent response for both programs was to raise incentive amounts (12 percent). The next most popular answers for the Deemed Program were to advertise the programs more (nine percent) and have rebates for more types of equipment (six percent). Respondents who desired a wider selection of rebates were asked what equipment they had in mind. Hospitality customers mentioned the following measures:

- Air conditioner maintenance
- Air conditioner
- Commercial washing machines
- Door hinges and door closures
- Fluorescent lighting
- Furnaces
- Kitchen equipment
- Specific hotel business equipment: ice machine, washer
- Refrigeration (three respondents)
- Solar lighting for parking lots
- Swimming pool equipment (two respondents)

Retail respondents mentioned:

- Air conditioner
- Insulation
- Lighting (three respondents)
- On demand system-instant hot water for Laundromat
- Rebates for solar energy
- Refrigeration
- Refrigeration equipment for beverages (liquor & convenience store)
- Solar lighting for parking lots
- Windows

Table 72: What Would You Do To Improve the Program?
Deemed Program

	Hospitality Percent (N=189)	Retail Percent (N=197)	Total Percent (N=386)
Higher incentive amounts	12%	12%	12%
Advertise more/ Better external communication about programs	10%	9%	9%
Rebates for more types of equipment	8%	5%	6%
Make the eligibility requirements clearer	6%	4%	5%
More knowledgeable Account Reps	3%	5%	4%
More thorough/better design assistance	5%	4%	4%
Less paperwork	3%	2%	2%
Paperwork that is easier to understand and complete	3%	1%	2%
Faster turnaround time to receive incentive check	3%	1%	2%
Have a list of recommended/approved contractors	2%	2%	2%
Engage in personal outreach to businesses	1%	3%	2%
Have better contractors	0%	1%	1%
Have better equipment	1%	1%	1%
Have a central program/source for information	1%	1%	1%
More clarity in marketing materials	1%	2%	1%
Better explanation of role of Third Party contractors	0%	1%	1%
Customize information for individual business	2%	0%	1%
Cut rates	1%	1%	1%
Advertise via e-mail	1%	1%	1%
Follow-up after equipment has been installed	2%	1%	1%
Provide information to customer before contractor arrives	0%	1%	1%
Promote LED lights	1%	0%	1%
Advertise through mailers	1%	2%	1%
Solar energy programs	1%	1%	1%
Advertise via TV/Newspaper	2%	1%	1%
Provide information on contractors in mailers	0%	1%	<1%
Faster bulb replacement program.	1%	0%	<1%
Faster installation time	0%	1%	<1%
Provide an incentive for energy production	0%	1%	<1%
Get local government involved in promoting	0%	1%	<1%

Have comprehensive programs	1%	0%	<1%
Allow us to do paperwork online	1%	0%	<1%
Have PG&E front capital	0%	1%	<1%
Pro-rate cost of measures over time	0%	1%	<1%
Solicit more feedback from customers	1%	0%	<1%
Have more audits	1%	0%	<1%
Don't know	38%	48%	43%
Other	5%	4%	4%

Multiple responses accepted

Table 73: What Would You Do To Improve the Program?
NRR Program

	Hospitality Percent (N=11)	Retail Percent (N=17)	Total Percent (N=28)
Higher incentive amounts	9%	18%	14%
Less paperwork	9%	6%	7%
Paperwork that is easer to understand and complete	9%	12%	11%
More knowledgeable Account Reps	0%	12%	7%
Central 1-800 number staffed by knowledgeable staff	0%	12%	7%
Rebates for more types of equipment	0%	6%	4%
Make the eligibility requirements clearer	0%	6%	4%
More advertising	9%	0%	4%
Inform customer of expected incentive before check comes	9%	0%	4%
Be able to ask questions online	9%	0%	4%
Make sure that PG&E checks-up on their contractors. Customer never received a bill from the contractor, although thinks PG&E was billed	0%	6%	4%
More communication between PG&E and the customer.	0%	6%	4%
More money for new construction	0%	6%	4%
Eliminate overlap: PG&E & consultants calling for same information.	0%	6%	4%
Simplify and streamline the process	9%	0%	4%
Don't know	36%	41%	39%

Multiple responses accepted

Table 74 and Table 75 show what other PG&E energy efficiency offerings respondents desired to help them reduce energy use a their businesses.

For the Deemed Program, the top responses were: rebates for more types of equipment (17 percent), a walk-through to point to specific things that can be improved (nine percent), higher incentives for energy efficient equipment (eight percent), and programs with alternative energy (seven percent).

As shown in Table 75, NRR respondents most frequently requested programs with alternative energy and rebates for more types of equipment (11 percent each).

Table 74: Other Types of Program Offerings Desired
Deemed Program

	Retail Percent (N=190)	Hospitality Percent (N=193)	Total Percent (N=383)
Rebates for more types of equipment	19%	15%	17%
Walk-through and point to specific things that can be improved	9%	9%	9%
Higher incentives for energy efficient equipment	8%	7%	8%
Programs with alternative energy (wind, solar, etc.)	4%	9%	7%
More communication/info/increase awareness	2%	2%	2%
Demand Response Incentives/Programs	1%	1%	1%
Self-Generation Incentives/Programs	0%	1%	1%
Equipment performance testing/ Research emerging technologies	2%	1%	1%
List of contractors qualified to install energy efficient equipment	1%	1%	1%
More knowledgeable Account Representatives	0%	3%	1%
Training Classes/Seminars	1%	0%	1%
Cut rates	1%	1%	1%
Discounts for lower usage	1%	1%	1%
Door-to-door marketing/personal visit by Account Representative	0%	2%	1%
Financing	1%	1%	1%
Info on cooler energy efficiency	1%	1%	1%
More efficient gas equipment	1%	0%	1%
Info on behavioral measures	0%	1%	<1%
Better equipment	0%	1%	<1%
Retrocomissioning or Commissioning	0%	1%	<1%
Provide a cost-benefit analysis of running different pieces of equipment constantly to reduce peak pricing loads.	1%	0%	<1%
Energy monitoring program	1%	0%	<1%
Info about freezer energy efficiency	1%	0%	<1%
Inspection for leaks around doors and windows	1%	0%	<1%
Lighting for large stores	1%	0%	<1%
Refrigerator recycling program	1%	0%	<1%
Info on efficient sprayers	1%	0%	<1%
Other	5%	2%	3%
Don't know	51%	51%	51%

Multiple responses accepted

Table 75: Other Types of Program Offerings Desired
NRR Program

	Hospitality Percent (N=11)	Retail Percent (N=17)	Total Percent (N=28)
Programs with alternative energy (wind, solar, etc.)	18%	6%	11%
Rebates for more types of equipment	18%	6%	11%
Walk-through and point to specific things that can be improved	0%	11%	7%
Higher incentives for energy efficient equipment	9%	6%	7%
More knowledgeable Account Reps	0%	11%	7%
More advertising and outreach to churches	9%	0%	4%
More metering on specific items	0%	6%	4%
Need more on water savings in conjunction w/energy	9%	0%	4%
Boiler tune-up	0%	6%	4%
Demand Response Incentives/Programs	0%	6%	3%
Training Classes/Seminars	0%	6%	3%
Don't know	36%	59%	50%

Multiple responses accepted

Respondents were also asked to identify what energy efficiency service from PG&E they find to be the most valuable for their businesses (see Table 74 and Table 75). Most frequently, Deemed Program respondents named financial incentives (37 percent). Other common responses include energy audits (eight percent) and lighting programs (eight percent).

The top response among NRR program respondents was also financial incentives (29 percent). The next most popular responses were their Account Representatives and lighting programs—14 percent each.

Table 76: Most Valuable Energy Efficiency Service for Your Business Deemed Program

	Retail Percent (N=188)	Hospitality Percent (N=186)	Total Percent (N=374)
Financial Incentives/Rebates	45%	28%	37%
Energy Audit/Analysis	7%	8%	8%
Lighting program	5%	11%	8%
Information from Account Rep	2%	2%	2%
Design Assistance	1%	1%	1%
Retrocomissioning or Commissioning	1%	0%	<1%
A/C program	1%	1%	1%
AC Cycling program	1%	1%	1%
CFL program	1%	0%	1%
Free bulbs	1%	1%	1%
Information in mail	1%	0%	1%
Refrigeration program	1%	1%	1%
This program	0%	2%	1%
Web information	1%	1%	1%
Control box	0%	1%	<1%
Emergency assistance	0%	1%	<1%
Gaskets	1%	0%	<1%
Lodging Savers program	1%	0%	<1%
Motors	0%	1%	<1%
Roof program	0%	1%	<1%
Solar program	0%	1%	<1%
Strip curtains	0%	1%	<1%
Other	1%	2%	1%
Don't know	31%	37%	34%

Table 77: Most Valuable Energy Efficiency Service for Your Business NRR Program

	Retail Percent (N=11)	Hospitality Percent (N=17)	Total Percent (N=28)
Financial Incentives/Rebates	36%	24%	29%
Lighting program	18%	12%	14%
Information from Account Rep	18%	12%	14%
Energy Audit	9%	12%	11%
HVAC program	0%	6%	4%
Other	0%	6%	4%
Don't know	18%	35%	29%

Table 78 and Table 79 show what respondents said was the most difficult part about participating in the incentive program. Across both the Deemed and NRR Programs, respondents named filling out the paperwork as the most challenging element. Notably, for the Deemed program, this top response only encapsulated five percent of respondents.

Table 78: Most Difficult Thing About Program
Deemed Program

	Retail Percent (N=176)	Hospitality Percent (N=176)	Total Percent (N=352)
Paperwork that had to be filled out	6%	3%	5%
Figuring out if I was eligible	5%	2%	4%
Protracted install time/delays	3%	2%	3%
Finding a contractor to install the equipment	1%	3%	2%
Getting the correct information from the Account Rep	1%	3%	2%
Trusting that the equipment will perform well	2%	2%	2%
Waiting a long time for the incentive check	2%	1%	1%
Trusting that the equipment will generate the promised energy savings	1%	0%	1%
Contractor did poor work	1%	2%	1%
Cost	0%	1%	1%
Disposing old lighting equipment	1%	1%	1%
Energy savings not enough/no savings	1%	1%	1%
Equipment not working properly/performance of the equipment	2%	1%	1%
Finding the program	1%	2%	1%
Lack of information in general	1%	2%	1%
Limited equipment choices within program	1%	0%	1%
Limiting install work during business hours/scheduling time for contractor to work	1%	1%	1%
Post-installation inspection	1%	0%	<1%
Learning about how to do energy efficient design	1%	0%	<1%
Getting approval from management at my company	1%	0%	<1%
My Account Representative	0%	1%	<1%
CFLs	1%	0%	<1%
Contacting contractor	0%	1%	<1%
Contacting PG&E	1%	0%	<1%
Contractors won't repair equipment	0%	1%	<1%
Deciding to participate in the program	0%	1%	<1%
Did not know who to talk to about paperwork	0%	1%	<1%
Energy calculation reviews	0%	1%	<1%
Fighting with contractor	1%	0%	<1%

Figuring out which lighting model numbers were eligible for rebate	0%	1%	<1%
Figuring out who to go to for maintenance	0%	1%	<1%
Finding dimmable bulbs	1%	0%	<1%
Finding proper fixtures	1%	0%	<1%
Finding replacement light bulbs	1%	0%	<1%
Getting contractor to fix equipment	0%	1%	<1%
Receiving the rebates	1%	0%	<1%
Figuring out how to interpret savings	0%	1%	<1%
Keeping up with the timeline	1%	0%	<1%
Logistics of installing equipment	0%	1%	<1%
Relinquishing old equipment	1%	0%	<1%
Selecting the equipment	1%	0%	<1%
Too much run-around	1%	0%	<1%
Understanding the program	0%	1%	<1%
Other	6%	5%	6%
Don't know	59%	64%	61%

Table 79: Most Difficult Thing About Program
NRR Program

	Retail Percent (N=11)	Hospitality Percent (N=17)	Total Percent (N=27)
Paperwork that had to be filled out	40%	18%	26%
Figuring out if I was eligible	0%	6%	4%
Waiting a long time for the incentive check	0%	6%	4%
Trusting that the equipment will perform well	10%	0%	4%
Trusting that the equipment will generate the promised energy savings	0%	6%	4%
Getting approval from management at my company	10%	0%	4%
Just finding out what was available	0%	6%	4%
Overlap with PG&E and consultants	0%	6%	4%
Don't know	40%	53%	48%

Table 80 shows that over 70 percent of respondents from both programs have recommended or will recommend this program to others. Most dramatic, 10 out of the 11 retail respondents in the NRR Program said that they recommend this program.

Table 80: Recommended/Will Recommend Program to Others?

Deemed			
	Retail Percent	Hospitality Percent	Total Percent
Yes	71%	75%	73%
No	27%	23%	25%
Don't know	3%	2%	2%
NRR			
	Retail Percent (N=11)	**Hospitality Percent (N=17)**	**Total Percent (N=28)**
Yes	91%	71%	79%
No	9%	24%	18%
Don't know	0%	6%	4%

5.2 Food Service Technology Center Participant Phone Survey Results

A task of this process evaluation is to observe and evaluate PG&E educational and other outreach activities for the retail and hospitality industry sectors (see Study Objective #4 above). As a part of this effort, the evaluation team observed at educational seminar at the Food Service Technology Center (FSTC) in San Ramon, California. The FSTC is a research facility that tests the performance of energy efficient equipment for the food service setting and also hosts seminars on energy efficiency in the food service industry. The evaluation team observed the "Fundamentals of Energy Efficiency in Foodservice" seminar on September 25, 2008. The attendees included PG&E customers who work in the food service industry, PG&E staff members, energy service providers, and food service equipment manufacturers and suppliers.

ECONorthwest collected FSTC educational materials and discussed potential evaluation activities with the Center's director. The Center was interested in surveying PG&E participants who attended a seminar in 2008 in order to investigate the behavioral impacts of its educational initiatives. Therefore, ECONorthwest designed a brief follow-up survey instrument to field to attendees of the five PG&E seminars held in 2008 at the Center (a previous process evaluation by the PA Consulting Group surveyed 2006 and 2007 participants).

Freeman Sullivan fielded the survey in February 2009 and achieved a total of 63 completes, including retail and hospitality business customers, energy efficient equipment manufacturers and suppliers, energy service providers, and PG&E Account Representatives. The results of this participant survey are detailed below.

Participant Characteristics

Table 81 shows distribution of seminar participants across the five classes. If a respondent attended more than one of the five classes, they were randomly asked about just one of them. As shown in Figure 12, 42 percent of our survey respondents are Energy Service Providers, 19 percent are PG&E food service business customers, 17 percent work for PG&E, eight percent are equipment suppliers, and three percent are equipment manufacturers. Eleven percent identified themselves as an "other" type of seminar participant, including a contractor (2), architectural and design firm, environmental health organization, federal agency, and a government enforcement organization.

The 12 respondents who identified themselves as PG&E food service business customers were asked to specify their business type. Table 82 shows that two respondents worked for hotels/motels, two worked for fast food or limited service restaurant, two worked for a public institution with onsite food storage or preparation, two worked for a large grocery store, and one worked for a cafeteria-style dining establishment. Other responses included: Federal/US Courts, manufacturer of food service items, and non-profit business.

Table 81: FSTC Classes in 2008

Respondent Type	Total Sample	Survey Completes
Commercial Kitchen Ventilation: Advanced Level	38	17
Energy Audits for Commercial Food Service Operations	24	15
Fundamentals of Energy Efficiency in Foodservice	23	15
Specifying Energy Efficient Equipment	19	10
Specifying Foodservice Lighting for Energy Efficiency	16	6
Total	**120**	**63**

Figure 12: PG&E Seminar Participants 2008

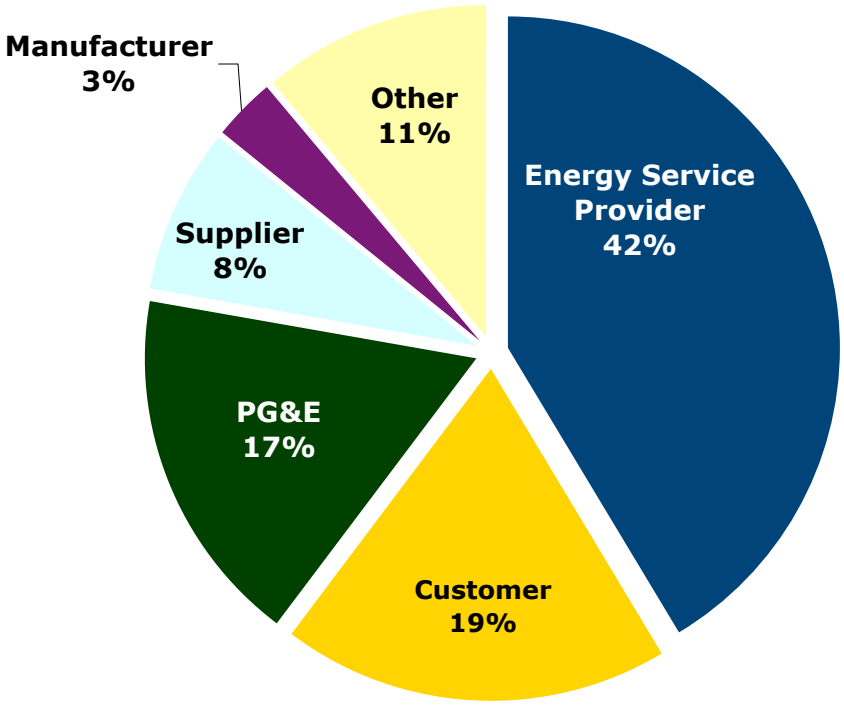


Table 82: Customer Type

	Percent (N=12)
Hotel/Motel	17%
Fast Food or Limited Service Restaurant	17%
Public institution with on-site food storage/preparation	17%
Large Grocery Store	17%
Cafeteria-Style Dining Establishment	8%
Other (Specify)	25%

Table 83 shows that 58 percent of these 12 business customers own their facility and 42 percent rent. Table 84 shows that most (86 percent) of this group pays their own electric and gas bills.

Table 83: Own or Lease Facility?

	Percent (N=12)
Own	58%
Lease	42%

Table 84: Pay Electric/Gas Bills?

	Percent (N=12)
Yes – electric and gas	75%
Yes – electric, do not receive gas service	8%
No – don't pay	8%
Don't know	8%

AWARENESS AND MOTIVATION

All respondents were asked how they learned about the class at the FSTC. Table 85 shows that the most popular answers were the PG&E website (19 percent) and from co-workers (19 percent). Additional frequent sources were e-mails from PG&E (14 percent) and FSTC promotional materials (11 percent). Other responses included: an online search, a conference in New York, the library, a FSTC instructor, and the statewide IOU calendar.

Table 85: How did you learn about the class at the FSTC?

	Percent (N=63)
PG&E website	19%
Co-worker at my organization	19%
PG&E email	14%
FTSC website/promotional materials/email	11%
Fisher-Nickel	8%
Other PG&E classes (not FSTC)	6%
PG&E account representative/staff	3%
Work for PG&E	3%
PG&E literature mailed to me	2%
Equipment manufacturer or supplier	2%
Previous class at the FSTC	2%
Other (Specify)	8%
Don't know	3%

As shown in Table 86, most frequently respondents said that they took the class in order to learn about ways to save energy. Twenty-seven percent of respondents said they wanted to better serve their customers, 13 percent wanted to learn about specific equipment, and 13 percent were seeking extra training for their jobs. Respondents who wanted to learn about specific equipment mentioned fryers, ovens, and grills; meters; restaurant equipment; sourcing on combination ovens; and ventilation on hoods, char broilers, and griddles.

Table 86: Why did you take this class?

	Percent (N=63)
To learn about ways to save energy	43%
To better serve my customers	27%
To learn about specific equipment	13%
Training for my job	13%
To learn how to be more "green"	10%
To learn about PG&E programs for customers	6%
General knowledge	6%
To learn more about the FSTC	5%
To learn about sustainability	3%
Other (Specify)	13%

Multiple responses accepted

Actions as a Result of Class: PG&E Business Customers

The evaluation survey also probed for the class's impact on participant equipment purchases and other energy efficient behavior changes. Notably, the small sample sizes limit the applicability of these results. PG&E business customers were asked if they purchased energy efficient equipment or appliances as a result of the class. Table 87 shows that of the 12 respondents surveyed half attributed an energy efficient equipment purchase to the class and Table 88 details the equipment types purchased.

Table 87: Purchase Energy Efficient Equipment as Result of Class?

	Percent (N=12)
Yes	50%
No	50%

Table 88: Type of Equipment Purchased

	Percent (N=6)
Commercial Convection Oven	17%
Commercial Rack Oven (gas only)	17%
Commercial Conveyor Oven (gas only)	17%
Commercial Fryer	17%
Solid Door Freezer (electric-only)	17%
Solid Door Refrigerator (electric-only)	50%
Lighting: CFLs	33%
Lighting: LED Exit Signs	33%
Lighting: Controls on outside and/or indoor lighting	17%
Lighting: T8 bulbs and electronic ballasts	17%
Flow restrictors in bathroom faucets and/or kitchen faucets	17%
Other	66%

Multiple responses accepted

Half of this group that purchased equipment said that they applied for a utility rebate for this purchase, but all three said that they already knew about the rebate before they took the class.

Table 89: Apply for an Equipment Rebate?

	Percent (N=6)
Yes	50%
No	50%

Table 90: Rebate Type

	Percent (N=6)
Commercial Fryer (N=3)	33%
Solid Door Refrigerator (electric-only) (N=3)	33%

Table 91: Knowledge of Rebate Prior to Class?

	Percent (N=3)
Yes	100%
No	0%

Two (out of six) respondents who purchased equipment noticed a non-energy benefit and both of these respondents reported improved comfort/temperature (see Table 92). One of these respondents purchased a solid door refrigerator and an energy efficient dishwasher. The other purchased nine items: a commercial rack oven, a commercial conveyor oven, a commercial steam cooker, a solid door freezer, a solid door refrigerator, CFLs, LED exit signs, controls on outside and/or indoor lighting, and T8 bulbs and electronic ballasts.

Table 92: Non-Energy Benefits?

	Percent (N=6)
Yes	33%
No	33%
Don't know	33%

Table 93: Type of Non-Energy Benefit

	Percent (N=2)
Improved comfort/temperatures	100%

In addition to energy efficient equipment, seminar content at the FSTC also includes behavioral measures that will reduce energy use. Table 94 shows that most (10 of the 12 respondents) customers said that they made an energy efficient behavior change at their facilities as a result of the class. Three respondents said that they made changes to their lighting, two repaired water leaks, and other changes were to turn off door heaters, turn off plug loads, reduce hot water temperature, and make ice only at night. Other responses included "dishwashing stands," "how to catch fumes better," and "waterless urinals."

Table 94: Energy Saving Behavior Changes?

	Percent (N=12)
Yes	83%
No	17%

Table 95: Behavior Change

	Percent (N=10)
Lighting changes	30%
Repair water leaks	20%
Turn off door heaters when possible	10%
Turn off plug loads when possible	10%
Reduce hot water heater temperature	10%
Make ice only at night	10%
Other (Specify)	30%
Don't know	10%

Multiple responses accepted

Customers who purchased equipment or made behavioral changes were asked if they noticed a change on their monthly energy bills. Five respondents said they noticed a decrease, one observed no change, and five did not know.

Table 96: Change in Energy Use

	Percent (N=11)
Increased	0%
Decreased	46%
No change	9%
Don't know	46%

Three of the customers reported participating in another PG&E energy efficiency or demand response program as a result of the class (see Table 97). When asked what program they participated in, the answers were: "can't remember the program name," "it was from solar class," and "water conservation showcase, all last year."

Table 97: Other Program Participation

	Percent (N=12)
Yes	25%
No	75%

Notably, ten of the 12 customers said they had a FSTC site audit performed as a result of the class. The FSTC audit program dispatches staff members to food service facilities to identify specific ways to improve the business's energy efficiency.

Table 98: FSTC Site Audit?

	Percent (N=12)
Yes	83%
No	17%

Nine of the customers used the FSTC website, most frequently for energy saving tips and equipment/life cycle cost calculators. Other responses included "online access to our accounts from PG&E," "outside air load calculations," and "types of equipment." All of the respondents found the website somewhat or very useful.

Table 99: Used FSTC Website

	Percent (N=12)
Yes	75%
No	25%

Table 100: Info from Website

	Percent (N=9)
Energy saving tips	33%
Equipment/life cycle cost calculators	33%
Appliance testing results/technology assessments	11%
Third-party articles/reports (ASHRAE, PIER)	11%
Other (Specify)	33%
Don't know	11%

Multiple responses accepted

Table 101: Usefulness of the Website

	Percent (N=9)
Very useful	67%
Somewhat useful	33%

PG&E Staff, Energy Service Providers, Manufacturers and Suppliers

Respondents who were PG&E staff members (primarily account representatives), energy service providers, and equipment manufacturers and suppliers were asked if they used the information learned at the FSTC class with their customers, and if so, how. Twenty-three percent of respondents reported that they had used the information with their customers.

Over half of the respondents shared information about energy efficiency equipment recommendations with their customers and 24 percent used the information to help develop their energy efficiency programs. Comments from respondents in the "other" category included: "found out boilers are a huge consumer in restaurants," "helps with regulation, also presentations," "in a general sense," "lifecycle cost," and "pass on the info."

Those who had not used the information with their customers failed to do so because: it was too soon (three respondents), they need more information (two respondents), it does not apply (two respondents), they are too busy (one respondent), or the customers have not asked for it (one respondent).

Table 102: Used Information Learned in Class with Customers

	Percent (N=44)
Yes	23%
No	77%

Table 103: How Information Has Been Used With Customers

	Percent (N=34)
Recommended efficient equipment to them	56%
Developed/developing an energy efficiency program for them	24%
Recommended behavior changes to them	9%
Recommended efficient kitchen design changes to them	9%
Used in presentations	6%
Recommended a site audit	3%
Gave them printed information from the FSTC	3%
Referred them to FSTC website calculation tools	3%
Assisted them in using FSTC website calculation tools	3%
Referred them to FSTC equipment testing results	3%
To conduct audits	3%
Referred customers to fish nick website	3%
Other (Specify)	18%

Multiple responses accepted

Table 104: Why Not?

	Percent (N=10)
It' too soon/just took the class	30%
I do not have all the information I need/Am waiting for more information	20%
Does not apply/do not interact with customers	20%
Too busy/Have not had an opportunity yet	10%
My customers have not asked for information or assistance	10%
Don't know	10%

The five suppliers surveyed were asked if they had changed the types or models of equipment they supply to customers to be more energy efficient as a result of the class. All said that they did. Respondents reported that they now supplied commercial convection, combination, and conveyer ovens, commercial fryers, ice machines (air-cooled), glass door refrigerators (reach-in), and solid door freezers and refrigerators. The two other responses were: "designed new hoods" and "Energy Star hoods, fans, and refrigeration."

Table 105: Suppliers: Changed Equipment You Supply to Customers?

	Percent (N=5)
Yes	100%
No	0%

Table 106: What New Energy Efficiency Equipment Are You Supplying?

	Percent (N=5)
Commercial Convection Oven	40%
Commercial Fryer	40%
Ice Machine, Air Cooled (electric-only)	40%
Commercial Combination Oven	20%
Commercial Rack Oven (gas only)	20%
Commercial Conveyor Oven (gas only)	20%
Glass door Refrigerator, Reach In (electric-only)	20%
Solid Door Freezer (electric-only)	20%
Solid Door Refrigerator (electric-only)	20%
Other	40%

Feedback and Satisfaction

Table 107 shows that respondents provided a wide variety of answers when asked what they most remembered from the class. The most frequent responses were the equipment demonstrations and/or walk-throughs (13 percent), and that they the class was great/helpful (13 percent), and that they had a great instructor (13 percent).

Similarly, respondents were asked what they found most helpful about the class. The top answers were how to measure equipment performance (13 percent) and how to specify ENERGY STAR equipment (10 percent).

Table 107: What Do You Remember Most from the Class?

	Percent (N=63)
Equipment demonstrations/walk-throughs	13%
Generally that it was a great presentation/class	13%
Great instructor	8%
How to calculate energy use	6%
How to monitor/reduce energy use	6%
How to design an energy efficient kitchen	5%
Hood equipment/demonstration	5%
To use demand ventilation	3%
To use energy efficient lighting like CFLs or T8s	3%
How to measure equipment performance	2%
Where to find efficient equipment	2%
To specify ENERGY STAR equipment	2%
Broilers	2%
Vent Ovens	2%
Industry Contacts	2%
Deep fat fryers/demonstration	2%
Learning how to meter kitchen equipment	2%
Don't know	16%
Other	14%

Table 108: Most Helpful Thing Learned from Class

	Percent (N=63)
How to measure equipment performance	13%
To specify ENERGY STAR equipment	10%
How to calculate energy use	8%
How to monitor/reduce energy use	8%
How to design an energy efficient kitchen	6%
Learning about FSTC resources	6%
Where to find efficient equipment	5%
To use energy efficient lighting like CFLs or T8s	5%
Information about hoods	5%
How to estimate equipment operating/lifecycle costs	3%
To specify efficient equipment	3%
Information about kitchen ventilation	3%
Everything	3%
Information about lighting	3%
That PG&E offers rebates for efficient equipment	2%
Information about efficient utensils	2%
Information about makeup air	2%
Networking opportunity	2%
Hands-on experience	2%
Information about broilers	2%
Information about four-way blow diffuser	2%
Other	14%
Don't know	14%

Respondents were also asked about their satisfaction with various aspects of the class, including the presenter's knowledge, clarity of the presentation, the usefulness of the information presented, and overall satisfaction. No respondents offered anything lower than a neutral rating, and the majority rated each category with the highest satisfaction level.

Table 109: Satisfaction Metrics

	Poor 1	2	Neutral 3	4	Excellent 5
Overall Satisfaction	0%	0%	2%	32%	67%
Presenter's Knowledge	0%	0%	0%	13%	87%
Clarity of presentation/class materials	0%	0%	0%	24%	76%
Usefulness of information presented	0%	0%	3%	29%	64%

6. SEGMENTATION ANALYSIS RESULTS

Below we present a series of tables and maps summarizing the results of the segmentation analysis by sector (retail and hospitality) for each segment. The maps are included in Appendix D.

6.1 RETAIL SECTOR

The tables below present a summary of each sector's population and program participation by segment.

Overall

Table 110: Number and Percent of Retail Sector Customers

Segment	Total # Customers	% of Total Customers (base = 106,855)
General Retail	64,820	61%
Grocery	17,797	17%
Restaurants	24,238	23%
Total	**106,855**	**100%**

Table 111: Number and Percent of General Retail Sector Customers

General Retail Subsegment	Total # Customers	% of General Retail Customers (base = 64,820)
Apparel	11,399	18%
Automotive	10,175	16%
Durables	15,534	24%
Gasoline	3,348	5%
General Merchandise	7,527	12%
Specialty Retail	16,837	26%
Total	**64,820**	**100%**

Table 112: Number and Percent of Participating Retail Customers 2006-2009

Segment	# Participating Customers*	% of Participants (base = 5,925)	Program Participants as a % of Total Customers (base = total customers from Table R1a)
General Retail	1,836	31%	3%
Grocery	2,516	42%	14%
Restaurants	1,573	27%	6%
Total	**5,925**	**100%**	**6%**

***2006-2009**

Table 113: Number and Percent of Participating Retail Customers 2006-2009

General Retail Subsegment	# Participating Customers*	% of General Retail Participants (base = 1,836)	Program Participants as a % of Total Customers (base = total customers from Table R1b)
Apparel	340	19%	3%
Automotive	190	10%	2%
Durables	328	18%	2%
Gasoline	264	14%	8%
General Merchandise	344	19%	5%
Specialty Retail	370	20%	2%
Total	**1,836**	**100%**	**3%**

***2006-2009**

Energy – kWh

Table 114: Retail Customer Electricity Usage (kWh)

Segment	Total Annual Electricity Usage (kWh)	% of Total Electricity Usage (base = 6,806,044,266)
General Retail	3,171,281,686	47%
Grocery	2,453,893,246	36%
Restaurants	1,180,869,334	17%
Total	**6,806,044,266**	**100%**

Table 115: Retail Customer Electricity Usage (kWh)

Segment	Sum of First-Year Program* Electricity Savings	% of Program Electricity Savings (base = 192,995,016)	Program Electricity Savings as a % of Electricity Usage (base = electricity usage from Table R3a)
General Retail	71,216,738	37%	2%
Grocery	101,265,819	52%	4%
Restaurants	20,512,459	11%	2%
Total	**192,995,016**	**100%**	**3%**

***2006-2009**

Table 116: Non-Participant Retail Customer Electricity Usage (kWh)

Segment	Total Annual Electricity Usage (kWh)	% of Total Electricity Usage (base = 4,738,605,538)
General Retail	2,548,755,233	54%
Grocery	1,234,495,918	26%
Restaurants	955,354,387	20%
Total	**4,738,605,538**	**100%**

Demand – kW

Table 117: Retail Customer Demand (kW)

Segment	Annual Average Demand (kW)	% of Annual Demand (base = 14,959,116)
General Retail	7,714,001	52%
Grocery	4,547,626	30%
Restaurants	2,697,488	18%
Total	**14,959,116**	**100%**

Table 118: Retail Customer Demand Savings (kW)

Segment	Sum of First-Year Program* Demand Savings	% of Program Demand Savings (base = 58,870)	Program Demand Savings as a % of Annual Demand (base = annual demand from Table R3b)
General Retail	26,878	46%	<1%
Grocery	26,687	45%	1%
Restaurants	5,305	9%	**<1%**
Total	**58,870**	**100%**	**<1%**

***2006-2009**

Table 119: Non-Participant Retail Customer Demand (kW)

Segment	Annual Average Demand (kW)	% of Annual Demand (base = 10,618,906)
General Retail	6,191,073	58%
Grocery	2,286,908	22%
Restaurants	2,140,924	20%
Total	**10,618,906**	**100%**

Gas – therms

Table 120: Retail Customer Gas Usage (Therms)

Segment	Total Annual Gas Usage (Therms)	% of Total Gas Usage (base = 105,198,680)
General Retail	24,515,598	23%
Grocery	29,477,743	28%
Restaurants	51,205,340	49%
Total	**105,198,680**	**100%**

Table 121: Retail Customer Gas Savings (Therms)

Segment	Sum of First-Year Program* Therm Savings	% of Program Therm Savings (base = 421,389)	Program Therm Savings as a % of Total Therm Usage (base = annual gas usage from Table R3c)
General Retail	22,870	5%	<1%
Grocery	222,477	53%	1%
Restaurants	176,042	42%	**<1%**
Total	**421,389**	**100%**	**<1%**

***2006-2009**

Table 122: Non-Participant Retail Customer Gas Usage (Therms)

Segment	Total Annual Gas Usage (Therms)	% of Total Gas Usage (base = 100,639,106)
General Retail	24,033,875	24%
Grocery	27,225,889	27%
Restaurants	49,379,341	49%
Total	**100,639,106**	**100%**

6.2 HOSPITALITY SECTOR

Overall

Table 123: Number and % of Hospitality Sector Customers

Segment	Total # Customers	% of Total Customers (base = 37,542)
Amusement & Recreation	29,078	77%
Hotels	8,464	23%
Total	**37,542**	**100%**

Table 124: Number and % of Participating Hospitality Customers 2006-2009

Segment	# Participating Customers*	% of Participants (base = 1,687)	Program Participants as a % of Total Customers (base = total customers from Table H1)
Amusement & Recreation	1,095	65%	4%
Hotels	592	35%	7%
Total	**1,687**	**100%**	**4%**

***2006-2009**

Energy – kWh

Table 125: Hospitality Customer Electricity Usage (kWh)

Segment	Total Annual Electricity Usage (kWh)	% of Total Electricity Usage (base = 1,678,153,204)
Amusement & Recreation	810,101,023	48%
Hotels	868,052,181	52%
Total	**1,678,153,204**	**100%**

Table 126: - Hospitality Customer Electricity Savings (kWh)

Segment	Sum of First-Year Program* Electricity Savings	% of Program Electricity Savings (base = 42,309,461)	Program Electricity Savings as a % of Total Energy Usage (base = electricity usage from Table H3a)
Amusement & Recreation	11,884,350	28%	1%
Hotels	30,425,111	72%	4%
Total	**42,309,461**	**100%**	**3%**

***2006-2009**

Table 127: Non-Participant Hospitality Customer Electricity Usage (kWh)

Segment	Total Annual Electricity Usage (kWh)	% of Total Electricity Usage (base = 1,274,143,390)
Amusement & Recreation	723,688,066	57%
Hotels	550,455,324	43%
Total	**1,274,143,390**	**100%**

Demand – kW

Table 128: Hospitality Customer Demand (kW)

Segment	Annual Average Demand (kW)	% of Annual Demand (base = 3,271,256)
Amusement & Recreation	1,475,603	45%
Hotels	1,795,653	55%
Total	**3,271,256**	**100%**

Table 129: Hospitality Customer Demand Savings (kW)

Segment	Sum of First-Year Program* Demand Savings	% of Program Demand Savings (base = 22,549)	Program Demand Savings as a % of Annual Demand (base = annual demand from Table H3b)
Amusement & Recreation	2,300	10%	<1%
Hotels	20,248	90%	1%
Total	**22,549**	**100%**	**1%**

***2006-2009**

Table 130: Non-Participant Hospitality Customer Demand (kW)

Segment	Annual Average Demand (kW)	% of Annual Electricity Demand (base = 2,430,050)
Amusement & Recreation	1,298,512	53%
Hotels	1,131,538	47%
Total	**2,430,050**	**100%**

Gas – therms

Table 131: Hospitality Customer Gas Usage (Therms)

Segment	Total Annual Gas Usage (Therms)	% of Total Gas Usage (base = 104,343,761)
Amusement & Recreation	67,502,338	65%
Hotels	36,841,422	35%
Total	**104,343,761**	**100%**

Table 132: Hospitality Customer Gas Savings (Therms)

Segment	Sum of First-Year Program* Therm Savings	% of Program Therm Savings (base = 217,456)	Program Therm Savings as a % of Total Therm Usage (base = annual gas usage from Table H3c)
Amusement & Recreation	35,418	16%	<1%
Hotels	182,038	84%	<1%
Total	**217,456**	**100%**	**<1%**

***2006-2009**

Table 133: Non-Participant Hospitality Customer Gas Usage (Therms)

Segment	Total Annual Gas Usage (Therms)	% of Total Gas Usage (base = 101,946,538)
Amusement & Recreation	66,456,891	65%
Hotels	35,489,648	35%
Total	**101,946,538**	**100%**

7. IN-DEPTH INTERVIEW RESULTS

This section describes the in-depth interviews of PG&E customers in the retail and hospitality sectors.

ECONorthwest worked to achieve a mix of large and small, participating and non-participating firms across industries, as described above. During the interviews, we were able to clarify industry and participation status with each respondent. The final distribution of firms by participating status and industry was quite different that the initial targets.

Table 3 shows the portion of completed surveys by firm size and industrial sector. Our highest success rate was with participating firms and small firms. This is unsurprising, considering the issues we encountered with contacting the correct staff person at large firms, and particularly at large, non-participating firms where we had no contact information other than the billing contact.

Table 134: Completed Interviews by Participation Status, Size, and Industry

	Non-Participants	Participants	Total	Percent of Total
By Size				
Large	2	17	19	37%
Small	6	27	33	63%
	15%	85%		
By Industry				
Restaurant	3	15	18	35%
Retail	1	11	12	23%
Grocery	0	6	6	12%
Amusement	2	1	3	6%
Hotel	2	11	13	25%
Total	**8**	**44**	**52**	
% of Total	15%	85%		

During the interviews, we found that many firms initially identified as non-participants had participated in some way. Over half of the non-participating respondents (56 percent) had participated in some energy efficiency program through PG&E. They had participated before 2003 or very recently. For the analysis of our findings, we shifted those firms to the 'participant' group. Based on our sample of 52 interviews, only 15 percent had never participated in a PG&E energy efficiency program.

7.1 NON-PARTICIPATING FIRMS

Given that such a small portion of interviewed firms had never participated in a PG&E program, in this section we discuss those firms separately. The firms represent a wide variety of industries; the only targeted sector we did not reach was the grocery sector. The firms are diverse in terms of size, sector, and reasons for not participating.

Awareness of Programs and Motivation
All the few non-participating firms had heard of PG&E's energy efficiency programs. Firms that reported they had not participated had a wide mix of reasons for not pursuing energy efficiency programs.

- One hotel reported it had no need for retrofits or equipment upgrades. Another hotel said it was too time-consuming to search out programs.
- Two restaurants were large franchises (105 and 70 individual locations). One of those reported that the individual facilities are so small that they did not think they could benefit from commercial programs. Additionally, the stores are located in malls, and some malls have restrictions on equipment changes. The other large franchise offered no explanation.
- One small restaurant was located at San Francisco Airport, and reported it was not eligible for most energy efficiency programs because the SFPUC delivers its energy.
- A fraternity house reported it pays the bills but does not own the property nor make decisions about capital investments.
- An RV Park reported that someone from PG&E came to the site to help with reducing energy use, but they never heard from PG&E again.
- A small landscaping firm said that they have not needed any new lighting in the past three years, and most of the firm's work is conducted outside the small office.

None of the non-participating firms had a designated energy manager. The majority of the firms reported that they take energy efficiency into consideration when purchasing new equipment. Two firms (25 percent) claimed that they use two-year payback period to make decisions; other firms had less precise standards.

One small firm stated that they replace equipment when it breaks—but at that point they are in crisis mode. Because the equipment must be replaced very quickly, the manager is not concerned about energy efficiency; he is instead concerned about resolving the crisis.

Barriers and Drivers to participation
The interviewers asked the respondents about specific types of programs PG&E offers businesses to determine how appealing they are.

- **Rebates.** All respondents who answered the question reported that rebates are appealing. One firm said they are "great, wonderful." Rebates are clearly the most preferred typed of energy efficiency program.

- **Audits.** Two-thirds of the respondents who answered the question found audits appealing. One firm stated that they could not reduce energy use any more.
- **Technical assistance.** Most of the respondents answered the question liked the idea of technical assistance, but enthusiasm was muted. An RV park doubted it could be that useful for that particular business.
- **Qualified vendors.** Some respondents reported that it would be helpful to have PG&E help them find qualified vendors, but enthusiasm for this program was low.
- **Financing.** Respondents were evenly split over the idea of financing. One firm noted that financing can be a good idea, but the respondent cautioned that the firm must be able to service the debt.
- **Assistance with Energy Star benchmarking.** Respondents were unaware of the legislation, and were not sure how they would benefit from this service.

General Business Concerns
When asked about their primary concern about their business, most respondents reported that overall costs of goods and services as a major concern. Only one non-participating firm mentioned the cost of energy as a concern. The overall poor economy was a concern for about one-third of the firms.

ECONorthwest probed interviewees on environmental legislation, to determine if firms were concerned about federal, state, or local changes. None of the non-participating firms mentioned any concern about environmental legislation.

Marketing and Communication
ECONorthwest designed the interview guide so it explicitly asked respondents about the best way to reach them. The eight non-participating firms had a diverse assortment of preferred communication methods. From this small group, it is clear that there is no single method that is best.

- **Direct mail.** Two firms liked receiving direct mail, but one firm reported it would be thrown out with the junk mail.
- **Email.** Three firms liked receiving emails. Because they are non-respondents, however, PG&E does not have their email addresses. If they are small firms, the person receiving bills often works very closely with the decision maker, so the contact information for billing would be appropriate.
- **Telephone.** One firm preferred to receive information through unsolicited telephone calls.
- **Corporate office.** One of the restaurant franchises reported that the best way to reach the firm was to call the corporate office and talk with the Director of Operations.

No non-participating firm mentioned trade shows or trade journals. None mentioned using the PG&E website.

Conclusions
Based on our sample of 52 interviews, only 15 percent had never participated in a PG&E energy efficiency program. The low number of non-participating firms indicates that PG&E has reached a large portion of the customer base that is easily reachable – that is, smaller customers and large customers where PG&E has good contact information (a very small fraction of large customers.)

Half of the non-participating firms in our sample were very small firms. As very small energy consumers the potential savings for such firms would be small.

There were two large hotels and two extensive restaurant franchises. All four firms appeared to not be focused on energy consumption. All four found rebates to be the most appealing energy efficiency program. The four firms reported that the best way to reach them is by mail, email, or telephone—all difficult tools if the contact person is not the billing person.

7.2 PARTICIPATING FIRMS

In this section we discuss the results of interviews with firms identified as participating in PG&E energy efficiency programs—85 percent of the completed interviews. The firms that were initially categorized as non-participating and were then identified as participants during the interview were asked the battery of questions written for non-participating firms. The interview guides for the two groups were very similar, but they were not identical.

We interviewed a mix of owners and general managers. The respondents all reported they had responsibility for making energy decisions. Typically, we were able to contact owners at small, independently owned companies, and managers at larger corporations.

Four firms were unable to verify the specific energy efficiency measure shown in the data provided to ECONorthwest by PG&E. It was clear from the interview, that the firms had participated in some energy efficiency program, but the respondents' memory about one particular program was not clear.

The participating firms all had a staff person who had explicit responsibility regarding energy efficiency equipment. The large firms had a facilities manager, CFO, manager, or owner responsible for making decisions about investments in equipment. One manager at a hotel owned by Marriott reported that the firm has an energy manager at the corporate level. Smaller firms typically had a manager or owner (or owner/manager) who was responsible for energy efficiency equipment. This is notably different from the interviewed non-participating firms. Only about one-quarter of responding participants reported to have an energy manager, but the firms clearly had a staff person who made energy efficiency decisions. The participants were able to clearly tell the interviewer their role regarding energy efficiency equipment. The non-participants were less clear about how decisions regarding energy efficiency equipment were made.

Motivation
The overwhelming reason for participating in the energy efficiency programs was to save money. Many respondents mentioned saving money and saving energy, but the majority of respondents reported that some financial aspect was the primary motivating factor.

- **Save money.** Almost half (46 percent) of the respondents mentioned that the energy efficiency measures were installed to lower operating costs
- **Be 'green', save energy.** Respondents used a variety of phrases to state that lowering their environmental impact was a motivating factor. In total, 26 percent said their firm wanted to be green, save energy, or it was the right thing to do.
- **Free.** Three respondents said the energy efficiency measures were free, and that was the primary reason they participated in the program.
- **Better Equipment.** Two respondents stated the energy efficiency equipment was the superior product, and it made sense on many levels to purchase it.
- **Best Deal.** Two respondents (both hotels) reported that the energy efficiency equipment, with the rebate, was the best deal. With the rebate, the energy efficiency equipment cost less than standard equipment.

Half of the respondents (49 percent) stated that their firm has plans to invest in future energy efficiency measures. A few firms reported that they would buy energy efficiency equipment in the future if they needed new equipment and if it made financial sense. Firms who offered an explanation for not having plans to buy energy efficiency equipment in the future primarily reported that they had no foreseeable need for new equipment.

We asked those respondents what energy efficiency projects or technologies they were considering. Many respondents reported that they had no specific plans, but that as equipment requires replacing in the future, they will seriously consider the energy efficiency model. The respondents mentioned a wide variety of equipment types, with lighting and motion sensors being the most common. Two respondents at large hotels clearly noted that they would pay attention to whatever is the newest energy efficiency technology appropriate for their industry.

ECONorthwest asked respondents what would motivate their firm to continue to purchase energy efficiency equipment, and the most common response (47 percent) was that if the equipment would save the firm money, they would purchase energy efficiency equipment. About one-quarter of the respondents specifically mentioned rebates as a useful tool. Two firms stated that a short payback period would be necessary. Two firms mentioned an interest in investing in solar power, but reported that it felt too risky at this time. Two firms noted that the time and effort it required to participate in PG&E programs was a barrier. One respondent stated that she had to spend too much time waiting on the phone with PG&E, and it was discouraging.

Barriers and Drivers to participation

The interviewers asked the respondents about specific types of programs PG&E offers businesses to determine how appealing they are.

- **Rebates.** Almost all respondents who answered the question reported that rebates are appealing (90 percent). Most of the remaining firms expressed doubt that the rebates were large enough to make the energy efficiency equipment cost effective. Two firms explained that the paperwork was too complicated. One firm had received a rebate in the

past, but had not seen savings in his bill, and was now too disappointed in the program to consider participating again, in any way.

- **Audits.** Two-thirds of the respondents who answered the question found audits appealing. Only 12 percent found the idea unappealing. The remainder stated that they had already had an energy audit, and felt that they did not need another one. The audits are perceived as a useful tool to identify where energy savings are possible and how to move forward to make the firm more efficient. The program is well used and well liked.
- **Technical assistance.** Just over half of the respondents who answered the question liked the idea of technical assistance. Some respondents said it would be appealing if it were free, or if it were convenient. A few of the firms that were not interested in technical assistance reported that they receive such assistance from the appropriate manufacturer, and it seemed unlikely PG&E would be able to help in any additional way. One respondent stated he was interested in such assistance and had looked for it. In his experience, PG&E could provide better customer service in this area.
- **Qualified vendors.** Just over half (56 percent) of the respondents reported that it would be helpful to have PG&E help them find qualified vendors. A list of qualified vendors would be more useful for firms if it only included vendors appropriate to their industry—many respondents noted that it would be useful if they could cross check PG&E's vendor list against their own. Two firms thought it would be a useful service, but expressed concern that it would lead to sales calls, which would only be a bother. About one-third of the respondents found the idea unappealing. Many of these firms reported that they require specialized service providers and that list is already quite narrow. They believed that PG&E would not be able to provide any additional information about vendors. One respondent had had a bad experience with a vendor recommended by PG&E, and he had no intention of using PG&E's vendors again.
- **Financing.** Respondents were evenly split over the idea of financing. Some of the respondents who were not interested in financing noted that their company does not carry debt of any kind. The firms that found financing appealing qualified their enthusiasm—it would depend on the interest rate and the terms of the loan. It is clear that financing is not inherently an appealing program; it depends on the loan conditions.
- **Assistance with Energy Star benchmarking.** Respondents were evenly split between liking the idea, believing it would not apply to their business, and those who did not know. The 'don't know' category included many respondents who said they did not know what this is, but they would like to learn more about it. The interview result showed that a large portion of the firms in PG&E's service area are unaware of the legislation, and it is an opportunity for PG&E to educate and inform their customers.

The non-participant interview guide asked if participating in an energy efficiency program was a favorable experience. We discuss the results of that question here, as past experience can be an important factor affecting future participation and in recommending the program to other PG&E customers.

Of the firms that answered the question, seven reported that participating in the program was a favorable experience and two had a bad experience. The favorable experiences were influenced by the realized energy and associated cost savings. One firm reported that the PG&E representative was very helpful made the process easy.

One of the dissatisfied firms reported that the measures proved to be not cost effective, making the experience negative. The other dissatisfied firm explained that the paperwork was annoying and the firm missed the 90-day deadline to submit it.

General Business Concerns
The current economic downturn has greatly affected the responding firms' ability to invest in energy efficiency equipment. The majority of the respondents, 59 percent, reported that the downturn had negatively affected their ability to invest in energy efficiency equipment. Some firms reported that they had cash-flow issues and any equipment investment was being delayed. The recession has caused some of the firms to take the payback period of any new energy efficiency investment into consideration and that payback period needed to be short. One firm reported that the downturn has made them think more about EE, as energy efficiency measures can lower operating costs in the long term. Only one firm, a large hotel, reported that they are now bouncing back from the recession. No other firms had a similar optimistic outlook.

The non-participant interview guide asked what the firms' primary concerns about future operations. Three firms (38 percent) identified the recession as their primary concern. A higher portion of responding firms identified energy costs as their primary concern. One firm specifically mentioned peak and off-peak pricing as his largest problem.

Marketing and Communication
When asked how they learned of the rebate program, the answers were diverse. In order of most frequently mentioned:

- **PG&E staff or Contractor.** About a third of respondents reported that a contractor or PG&E employee came to their site and worked with the firm to identify energy efficiency measures. Some respondents explicitly described the person as a third-party contractor, others did not clearly describe the contact person.
- **Account Executive.** Almost a quarter of respondents credited their account executive. Many of these firms reported that they continue to work with their account executive.
- **Word of Mouth.** Twelve percent of responding firms learned about the rebate program from other firms in their industry—two of seven responding hotels learned through word of mouth. One firm mentioned that the recommending firm received some financial incentive to recommend the program.
- **Direct Mail.** Three firms mentioned a direct mail piece; one firm (restaurant) mentioned a billing insert.
- **Corporate Decision Makers.** Two firms reported that they learned of the energy efficiency measures through the corporate office.

- **Telephone, Retailer, Internet.** One firm reported that they learned about the program either by receiving a telephone call (the firm did not remember who called). One firm learned of energy efficiency air conditioners at the store selling them. One firm found out about the programs by looking for information on PG&E's website.

Two groceries mentioned the Energy Smart Grocer Program. They reported that they have used the program and continue to rely on it for further improvements.

We also asked firms what they thought would be the best way to reach firms like theirs. Answers were similarly diverse, with no trend across firm size or industry:

- **Direct Mail.** One-third of responding firms stated a preference for direct mail. Two individuals noted that the mailer should look important. One noted that prominently displaying a rebate logo would catch the attention of the firm. Three firms—all small firms—explicitly mentioned a billing insert.
- **Email.** About one-third of responding firms reported that email is a good way to reach them. Four firms, however, reported that emails would be ignored. One respondent explained that email would be useless, because they get so many emails that it may easily be overlooked.
- **Personal Visit.** Twelve percent of respondents firms had a preference for a visit, from either a PG&E staff mentioned or a third-party contractor.
- **Account Executive.** Four respondents stated that an account executive is a good way to communicate with customers.
- **Telephone.** Four firms reported that they preferred phone calls from PG&E to inform them of programs.
- **Internet.** Four firms noted that the website can be a useful tool, but contact information needs to be made very clear and easily found.
- **Education.** Two firms noted that providing information about the benefits of energy efficiency measures is useful. One said the PG&E should help calculate the payback period for potential participants and one hotel noted that that industry needs to be convinced that energy efficiency air conditioners will keep their customers as comfortable as traditional AC equipment.
- **Trade Associations.** Two firms (both restaurants) stated that Trade Associations and their trade shows can be very useful.

One respondent emphasized that each business has a different management style. Some people like e-mail, some like to use fax; others rely on their account executive. His comment is clearly on target. The diversity of communication methods used to reach participants is evidence that PG&E must rely on a wide variety of tools to reach potential participants.

Conclusions

The great majority of our sample (85 percent) was firms that had participated in some energy efficiency program through PG&E. The majority of those firms reported that they had invested in energy efficiency equipment for financial reasons. Many firms also reported wanted to 'be green', but cost savings was identified as the most important motivation.

The current economic downturn has affected the firms' ability to invest in new equipment of any kind, limiting their ability to purchase energy efficiency equipment at this time. Some firms noted that the downturn had made the purchase of energy efficiency equipment more important, to ensure lower operating costs in the long term.

The most favored program offered by PG&E was rebates. They clearly lower the cost of investing in energy efficiency equipment, lowering a fundamental barrier. The respondents also favored energy audits—many had used them and found them to be useful tools to identify where savings are possible. The respondents had a lukewarm reaction to financing offered by PG&E. Many firms avoid debt as a general rule, and those who might use such a program cautioned that they would use such a program only if the loan terms were favorable.

Few firms were aware of Energy Star benchmarking. The lack of awareness among businesses indicates that PG&E could provide useful information to its customers to increase awareness.

The interviews did not identify any 'best' communication method. The participating firms expressed diverse preferences for reaching decision makers about energy efficiency programs. For firms with an account executive, using the account executive is clearly an effective and preferable communication method. For firms without a relationship with an account executive, the most common preferences were for direct mail and email. The interviews clearly show that PG&E must work with a variety of communication methods in order to effectively reach its customers about energy efficiency programs.

8. CONJOINT RESULTS

This section describes the results of the conjoint survey of PG&E customers. The section first describes the characteristics of the survey respondents and then discusses the results of the conjoint analysis.

8.1 SURVEY RESPONDENT CHARACTERISTICS

ECONorthwest worked to achieve a mix of industry types as described in Chapter 4 of this report. The survey asked respondents to identify their business category based on 13 categories.

- Hotel
- Motel
- Full-service or sit-down restaurant
- Cafeteria-style dining establishment
- Bar
- Gas station
- Supermarket/large grocery store
- Small grocery store/convenience store
- Laundromat
- Personal services (barber, hair salon, fitness club)
- Big-box store/large retail store/large chain retail store
- Small specialty retail store
- Department store

The final distribution of firms by participating status and industry was quite different that the initial targets. Only 34 percent of the respondents selected one of the 14 categories; the majority selected the "other" option and described their business type. We categorized the respondents, shown in Table 135. The "other" category shown in Table 135 includes a wide variety of business types, including school districts, manufacturing facilities, distribution facilities, general contractors, and a water utility.

Table 135. Reported Business Category

Category	Number	Percent
Agriculture	4	2%
Financial services	6	3%
Grocery-Supermarket	16	8%
Grocery-Convenience Store	6	3%
Hotel/Motel	30	14%
Office	18	9%
Personal services	3	1%
Property Management	26	13%
Restaurant	8	4%
Retail-Big Box Store/Large Retail Store	9	4%
Retail-Small Specialty/Other	17	8%
Other	64	31%
Total	**207**	**100%**

The survey also asked about firm ownership and number of facilities, shown in Table 136. Just over half of the respondents reported that they are independently owned. The 'other' category included many property management companies and other business that are outside the retail and hospitality sectors.

Table 136. Business Ownership

Category	Number	Percent
Independent with one location	56	27%
Independent with multiple locations	61	29%
Franchise with multiple locations	17	8%
Corporate chain with multiple locations	48	23%
Other	25	12%
Total	**207**	**100%**

The survey asked the respondent to describe their role at the firm. Table 137 shows the results. Overall, the results indicate that the survey reached the appropriate person at the individual firms.

Table 137. Respondent's Role at Firm

Job Title or Role	Number	Percent
Facilities Manager	76	37%
Energy Manager	7	3%
Other facilities management/maintenance position	8	4%
Chief Financial Officer	9	4%
Other financial/administrative position	11	5%
Proprietor/owner	16	8%
President/CEO	18	9%
Manager (other than facilities manager)	34	16%
Other	28	14%
Total	**207**	**100%**

Figure 13 shows the distribution of the number of people employed at the business in California. The data show that the survey reached a wide variety of firm size, but large firms with more than 200 employees were more common than smaller firms.

Figure 13. Number of Employees in California

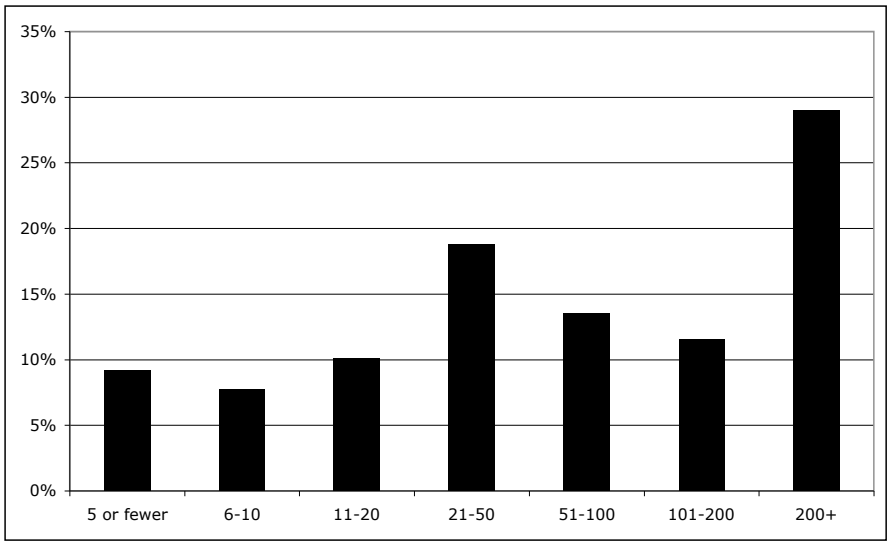


Figure 14 shows the distribution of the number of locations in California, as reported by the respondents. Two-thirds of the respondents reported that they had fewer than five physical locations, and one-third have a single location.

Figure 14. Number of Physical Locations in California

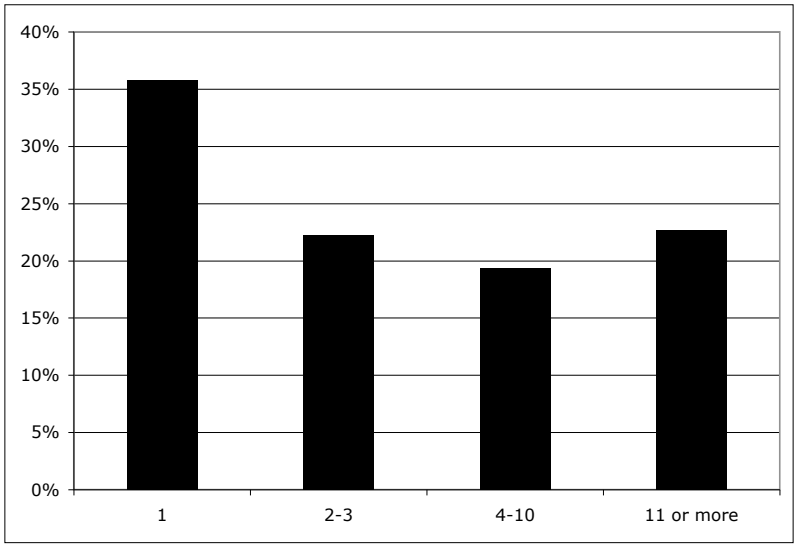
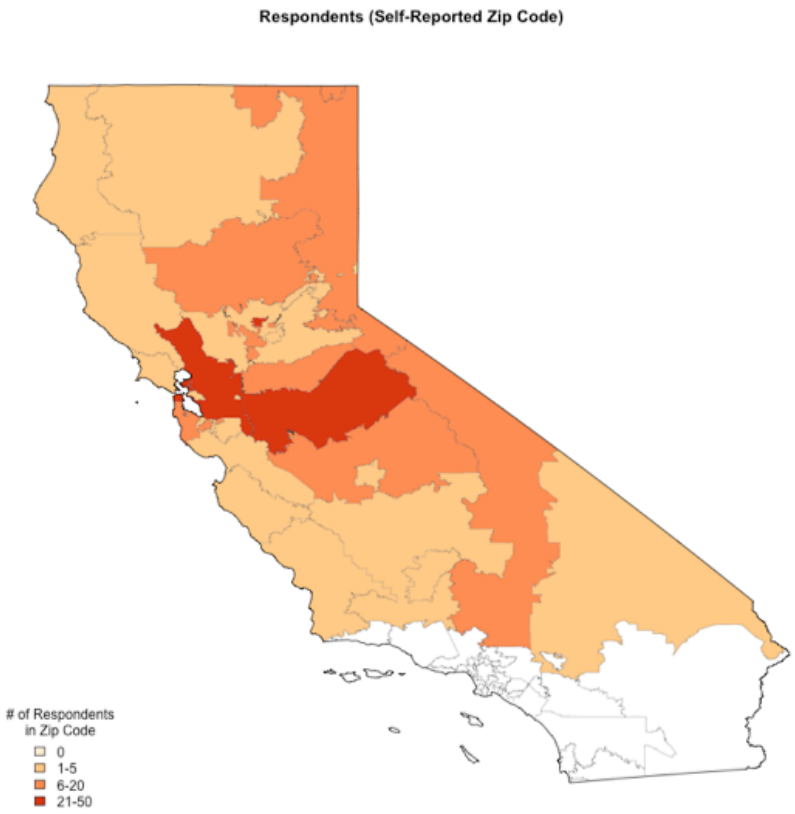


Figure 15 shows the geographic distribution of the respondents included in this study. While there is some concentration around the Bay Area and east toward Sacramento, the map shows that respondents come from a diverse geographic range within California.

Figure 15: Respondent Distribution



The survey asked if the respondents were responsible for their utility bills, and if they have gas and electricity service. The great majority of respondents (89 percent) receive both gas and electricity and they pay their own utility bills, as shown in Table 138. Almost all (97 percent) of respondents pay the utility directly. These results are to be expected, as the sample was generated by PG&E with customers that have current accounts.

Table 138. Responsibility for Utility Bills

Responsible for Utility Bills?	Number	Percent
Pay electric bill	15	7%
Pay gas and electric bill	184	89%
Don't pay bill	4	2%
Don't know	4	2%
Total	**207**	**100%**

The survey instrument asked questions regarding the respondents' awareness of energy efficiency programs at PG&E. Most respondents (86 percent) reported that they knew that PG&E has programs for commercial customers that are designed to encourage businesses to invest in energy-savings equipment (see Table 139).

Table 139. Aware of PG&E Programs for Businesses

Do you know PG&E has commercial programs for saving energy?	Number	Percent
Yes	178	86%
No	29	14%
Total	**207**	**100%**

The survey then asked if the respondents' firm took energy efficiency into consideration when buying new equipment. Almost all firms (91 percent) reported that they do consider energy efficiency when making a purchase that will affect energy consumption, as shown in Table 140.

Table 140. Consider Energy Efficiency when Purchasing New Equipment

Do you consider energy efficiency when purchasing new equipment?	Number	Percent
Yes	189	91%
No	13	6%
N/A	5	2%
Total	**207**	**100%**

About three-quarters of the respondents reported that they had participated in some kind of energy efficiency program through PG&E (see Table 141). We also cross-tabulated those results by the business ownership type. The results show that corporate chains are the most likely to have participated in a PG&E program (81 percent participated) and independently owned firms with a single location are the least likely to have participated (63 percent participated).

Table 141. Participated in a PG&E Program for Energy Efficiency

Have you ever participated in any PG&E-sponsored program to improve your business's energy efficiency?	Number		Percent	
	Yes	No	Yes	No
Corporate chain with multiple locations	39	9	81%	19%
Franchise with multiple locations	13	4	76%	24%
Independent with multiple locations	45	16	74%	26%
Independent with one location	35	21	63%	38%
Other	21	4	84%	16%
	153	54	74%	26%
% of Total	**74%**	**26%**		

The survey questions just discussed were intended to provide some background context on the respondents to the conjoint analysis, the primary objective of this data collection effort.

8.2 CONJOINT ANALYSIS RESULTS

The first conjoint exercise involved the energy efficiency program options, and the results of the conjoint regression model are shown in Table 142. Note that for groups of variables, one variable needed to be excluded to estimate the model. For the Sources of Information variables, for example, the excluded category was Website, and all the coefficient estimates should be interpreted relative to the excluded category. For instance, the negative sign on the coefficient for Trade Association variable does not mean that learning about the program from a trade group has an absolute negative effect on utility, but rather that is has less of an effect than Website (the excluded category). Similarly, for the Program Services variables, the excluded category is Technical Assistance, and for Program Delivery the excluded option is Local Government.

As shown in Table 142, most of the variables from the regression are statistically significant at the five percent level or better. For Sources of Information, the larger coefficient on the PG&E variable indicates that this source is preferred relative to the others. Similarly, the higher Rebate coefficient indicates that this is more preferred for a program relative to the other options included in the conjoint, followed by Energy Audit. The negative coefficient on the Approved Vendor List variable indicates that providing a list of qualified vendors to do the installation is less desirable relative to an Energy Audit (the omitted variable). Finally, for Program Delivery having PG&E deliver the program is clearly preferred over having a private vendor or having the program implemented instead by a Local Government agency (the omitted category).

The far right column of Table 142 shows the relative importance statistics calculated for each of the attributes, with higher numbers indicating a greater influence on the stated preferences for efficiency programs. From these results, having a program sponsored by PG&E was influential (Relative Importance = 25 percent) and offering a rebate was also important (Relative Importance = 29 percent). Learning about the program from a PG&E Representative was

somewhat less important, as was providing an Energy Audit. Relying on Email or Trade Associations had only a small affect on the rankings (Relative Importance = 4 percent) and having a Private Vendor implement the program (instead of PG&E) also had little influence.

Table 142. Conjoint Results – Energy Efficiency Programs

Attribute	Estimate	Standard Error	Significance	Relative Importance
Source of Information				
Email	0.07403	0.04919	13%	4%
PG&E Rep	0.24235	0.04922	< 1%	12%
Trade Association	-0.08564	0.04923	8%	4%
Program Services Offered				
Audit Offered	0.21964	0.0492	< 1%	11%
Approved Vendor List	-0.17075	0.04925	< 1%	9%
Rebate Offered	0.5802	0.04948	< 1%	29%
Program Delivery				
Private Vendor	0.10963	0.04919	3%	6%
PG&E	0.5006	0.04292	< 1%	25%

Table 143 shows the relative importance for different subgroups of respondents by business types, along with the combined results from Table 142 for comparison. As this table demonstrates, there is little difference in the relative importance statistics across business types for these program characteristics.

Table 143. Relative Importance Statistics – Energy Efficiency Programs

Attribute	Relative Importance ALL	Relative Importance RETAIL	Relative Importance HOSPITALITY	Relative Importance OFFICES
Email Info Source	4%	2%	4%	6%
PG&E Rep Info Source	12%	14%	12%	12%
Trade Assoc. Info Source	4%	7%	3%	1%
Audit Offered	11%	13%	10%	11%
Approved Vendor List	9%	6%	9%	11%
Rebate Offered	29%	35%	28%	27%
Vendor Program	6%	2%	7%	7%
PG&E Program	25%	20%	27%	25%

The second conjoint task respondents completed involved ranking various lighting retrofit options and the results of that regression model are shown in Table 144. Note that due to the different data structure for the lighting exercise, there was no need to omit any variables. As expected, the Price, Savings, and Rebate variables dominated the model, with large coefficient estimates and high relative importance statistics. Of these, Savings had the highest relative importance statistics at 40 percent, indicating that customers are not just focusing on first costs and availability of a rebate (although these are also considered important). The remaining variables Qualified Vendor and Energy Audit had low levels of influence, with a very slight preference shown for providing a list of Qualified Vendors over and Energy Audit.

Table 144. Conjoint Results – Lighting

Attribute	Estimate	Standard Error	Significance	Relative Importance
Cost	-0.0001686	8.58391E-06	< 1%	26%
Rebate	0.0004607	0.0000211	< 1%	28%
Savings	0.00133	0.0000429	< 1%	40%
Qualified Vendor	0.11734	0.0353	< 1%	4%
Audit	0.08635	0.03541	1%	3%

Table 145 shows the relative importance statistics across the business types within the sample. As before, there is little difference across groups although the Retail group appears to have a slight preference for Rebates and is less influenced by the availability of a Vendor List or Energy Audit relative to the other business types.

Table 145. Relative Importance Statistics - Lighting

Attribute	Relative Importance ALL	Relative Importance RETAIL	Relative Importance HOSPITALITY	Relative Importance OFFICES
Cost	26%	23%	26%	27%
Rebate	28%	33%	26%	25%
Savings	40%	42%	40%	40%
Qualified Vendor	4%	1%	4%	5%
Audit	3%	2%	3%	3%

The final conjoint ranking exercise was for an air conditioning retrofit, and these results are shown in Table 146. This model used four of the same attributes as the lighting model (Cost, Rebate, Savings, Qualified Vendor) but had the Technical Assistance option instead of the Energy Audit to define the AC retrofit choices.

The estimation results are similar to the lighting model, with Price, Rebate, and Savings driving the rankings and Savings having the largest influence. Both the Qualified Vendor List and Technical Assistance options had low Relative Importance scores.

Table 146. Conjoint Results - AC

Attribute	Estimate	Standard Error	Significance	Relative Importance
Cost	-0.0000378	2.13183E-06	< 1%	24%
Rebate	0.0001504	8.46739E-06	< 1%	24%
Savings	0.0002708	8.59006E-06	< 1%	44%
Qualified Vendor	0.11695	0.03559	< 1%	4%
Technical Assistance	0.10809	0.03562	< 1%	4%

Table 147 shows the relative importance statistics broken out by business type. As with the lighting exercise, there is little difference across industry groups, with the possible exception of retail that shows a slightly greater preference for receiving technical assistance as part of an air conditioning equipment purchase.

Table 147. Relative Importance Statistics - AC

Attribute	Relative Importance ALL	Relative Importance RETAIL	Relative Importance HOSPITALITY	Relative Importance OFFICES
Cost	24%	23%	25%	25%
Rebate	24%	26%	24%	25%
Savings	44%	40%	45%	46%
Qualified Vendor	4%	4%	4%	3%
Technical Assistance	4%	7%	2%	2%

9. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This section presents a summary of the research findings, conclusions and recommendations.

9.1 PARTICIPANT SURVEY FINDINGS

In the Core Program participant survey, the largest category of respondents worked in small specialty retail stores and small grocery/convenience stores. The majority of respondents reported that reducing their energy bill was one of the most important factors in their decision to participate. The greatest barrier to participation was economic uncertainty; other lesser concerns included the hassle of finding a quality contractor, filling out paperwork, and performing future upkeep. Satisfaction levels were very high among respondents with a small portion of respondents reporting dissatisfaction in the arrival time of the rebate check, operation and performance of equipment (specifically with break downs and light quality), and with their contractors. Customers were generally satisfied with bill savings.

The most common non-energy benefit was lower maintenance needs. Other non-energy benefits included employee and customer comfort levels, air quality changes, noise levels, and productivity. The survey also found that about a quarter of respondents proceeded to purchase additional energy efficient equipment and over one-third of those reported the PG&E program was being very influential.

The survey asked if the respondents had ever had any confusion trying to understand which PG&E energy efficiency programs, financial incentives, and other energy efficiency services are available and applicable for their businesses since January 2006. The program menu had confused a substantial share of respondents for both the Deemed and NRR Programs. The most frequently cited reasons for confusion were lack of a central information center, overwhelming options, or difficulty finding information on the PG&E website.

The most common source of information regarding the FSTC classes was the PG&E website with additional respondents learning of the classes from emails and FSTC promotional materials. Almost half of the survey respondents reported they participated in the seminar because they were motivated by a desire to learn about ways to save energy; about one-quarter because they wanted to better serve their customers. Respondents were clearly satisfied with the seminars—no respondents gave a satisfaction rating lower than neutral.

9.2 SEGMENTATION ANALYSIS FINDINGS

Just over half of PG&E's retail customers fall into the "general retail" category, with 17 percent grocery and 23 percent restaurants. About six percent of retail customers participated in a PG&E program during the 2006-2008 program period, with grocery stores the most likely to have participated. Grocery stores are more energy intensive than general retail and restaurants, accounting for 36 percent of the electricity usage. Grocery stores account for just over half the electricity savings achieved by retail customers participating in PG&E programs over 2006-2008.

PG&E's hospitality customers are split into hotels (23 percent) and amusement and recreation (77 percent). About four percent of hospitality customers participated in a PG&E program during the 2006-2008 program period, with hotels the most likely to have participated. Hotels are more energy intensive than amusement and recreation customers, accounting for 52 percent of the electricity usage. Hotels also account for 72 percent of the electricity savings achieved by hospitality customers participating in PG&E programs over 2006-2008

9.3 In Depth Interview Findings

Based on our sample of 52 interviews, only 15 percent had never participated in a PG&E energy efficiency program. The low number of non-participating firms indicates that PG&E has reached a large portion of the customer base that is easily reachable – that is, smaller customers and large customers where PG&E has good contact information (a very small fraction of large customers.)

Half of the non-participating firms in our sample were very small firms. As very small energy consumers the potential savings for such firms would be small. There were two large hotels and two extensive restaurant franchises. All four firms appeared to not be focused on energy consumption. All four found rebates to be the most appealing energy efficiency program. The four firms reported that the best way to reach them is by mail, email, or telephone—all difficult tools if the contact person is not the billing person.

The great majority of our sample (85 percent) was firms that had participated in some energy efficiency program through PG&E. The majority of those firms reported that they had invested in energy efficiency equipment for financial reasons. Many firms also reported wanted to 'be green', but cost savings was identified as the most important motivation.

The economic downturn has affected the firms' ability to invest in new equipment of any kind, limiting their ability to purchase energy efficiency equipment at this time. Some firms noted that the downturn had made the purchase of energy efficiency equipment more important, to ensure lower operating costs in the long term.

The most favored program offered by PG&E was rebates. Rebates clearly lower the cost of investing in energy efficiency equipment, lowering a fundamental barrier. The respondents also favored energy audits—many had used them and found them to be useful tools to identify where savings are possible. The respondents had a lukewarm reaction to financing offered by PG&E. Many firms reported that they avoid debt as a general rule, and those who might use such a program cautioned that they would use such a program only if the loan terms were favorable.

Few firms were aware of Energy Star benchmarking. The lack of awareness among businesses indicates that PG&E could provide useful information to its customers to increase awareness.

The interviews did not identify any 'best' communication method. The participating and non-participating firms expressed diverse preferences for reaching decision makers about energy efficiency programs. For firms with an account executive, using the account executive is clearly an effective and preferable communication method. For firms without a relationship with an account executive, the most common preferences were for direct mail and email. The interviews clearly show that PG&E must work with a variety of communication methods in order to effectively reach its customers about energy efficiency programs.

9.4 Conjoint Analysis Findings

The conjoint results yielded several general findings:

- **Equipment cost and energy savings are still dominant factors.** Not surprisingly, annual energy savings and cost (both equipment first cost and rebate) are most important factors driving customer preferences. While other program features such as audits, technical assistance, and approved vendor lists were considered at the same time, these program features will not be able to replace other cost-related factors. Although program discussions often focus on equipment cost and rebates, annual energy savings was considered more important, indicating that customers are beginning to look beyond initial installation costs and more toward ongoing cost reductions through bill savings.
- **Other non-monetary program features are less influential.** From the energy efficiency program conjoint, customers showed a slight preference toward having a program provide energy audits, approved vendor lists, and technical assistance. However, as discussed above, when faced with a specific equipment choice these features became less influential relative to equipment cost, rebate and savings.
- **Customers are experienced with energy efficiency.** The lower importance placed on non-monetary program features such as audits, technical assistance, and vendor lists may be a reflection of this group's prior experience with efficiency programs. The vast majority of the sample indicated that they considered energy efficiency when making these types of equipment purchases and had previously participated in a PG&E efficiency program. This prior experience may lessen the need for audits and technical assistance, but these may still be important offerings for less experienced customers.
- **PG&E's role is important.** In the energy efficiency program conjoint, PG&E was the preferred program provider over local governments or private vendors. Customers also preferred having a PG&E representative as the source for program information. Future programs (even those not implemented by PG&E) should seek to leverage PG&E's positive image to the extent possible.

9.5 Conclusions

The research and analysis conducted for this process evaluation yielded key conclusions about PG&E's Retail and Hospitality Program. Our research indicates that lowering the cost of equipment and delivering energy-cost savings are the primary factors that drive firms to participate in the Program. Other, non-financial tools do not influence firms as much as directly lowered costs.

Energy audits are a useful tool, especially for firms that have never participated in an energy efficiency program. But an audit is useful only as a tool to help firms identify the most cost-effective improvements to allow them to rank the priority of planned improvements.

Firms did not show much interest in financing provided through PG&E. This may be a reflection of current economic conditions, some firms claimed to be debt-adverse. It is also likely that financing costs through traditional financial institutions is very low, and firms perceive that PG&E has little to no advantage over financial institutions.

The research indicates that there is no single 'best' method to communicate with firms in the retail and hospitality sectors. For firms with an Account Executive, the Account Executive is an effective means of communication and that person should continue to provide energy efficiency information to those customers. But the many smaller firms without Account Executives are a diverse group. They reported that their most commonly preferred means of communication was direct mail or email.

Customers in the retail and hospitality sectors expressed a preference to learn about energy efficiency programs from PG&E, over sources such as local governments or private vendors. They appreciate and use lists of approved vendors from PG&E, but there appears to be little advantage to rely on them or local governments to communicate information about energy efficiency programs.

Firms that have participated in energy efficiency programs tend to be satisfied. The new equipment reduces energy consumption, thereby lowering operating costs. Many firms have found that the new equipment has the added benefits of reduced maintenance costs and improved comfort for employees and customers.

Current economic conditions have made it difficult for firms to consider investing in new equipment. Reduced consumer spending has negatively impacted both the retail and hospitality sectors. However, many firms indicated that the economic downturn has made energy efficiency more appealing—any investment in equipment will need to be cost-effective and purchasing efficient equipment will lower long-term costs.

9.6 RECOMMENDATIONS

The most effective way to lower costs for firms in the retail and hospitality sectors is to reduce the cost of energy efficient equipment. Firms prefer that costs be lowered in a straightforward manner, that is, through rebates. Rebates are easy to understand and more easily accounted for. Other tools to reduce costs, such as financing, lack the simple appeal of directly lowering costs.

Communicating with firms is a challenge. There is no single most-effective method to reach out to firms about energy efficiency.

- For those firms with an Account Executive, that contact should continue to be the primary conduit of information for those customers. The customers know their Account Executive, and expect that person to provide any information about their energy consumption.
- The firms that do not have an Account Executive tend to be small and difficult to reach. PG&E will need to use a variety of communication methods. Those customers claim to prefer receiving information through direct mail and email.

PG&E is perceived as knowledgeable about energy efficiency, more so than local governments or private vendors. If firms want to finance the purchase of energy efficient improvement, they are likely to turn to a financial institution. PG&E should focus its dollars and staff time on

directing firms to the most effective energy efficiency measures, by directly reducing costs and providing approved vendor lists.

The primary reason firms want to reduce their energy consumption is to reduce costs. The fact that doing so may make the firm more 'green' is often, but not always, perceived as an additional benefit. PG&E's communication with this sector should focus on quantitative benefits of improving equipment and how it can help a firm's bottom line and improve performance. PG&E's best tool to move firms towards energy efficiency is to directly lower the cost of the equipment.