Process Evaluation of Southern California Edison's 2006-2008 Multifamily Energy Efficiency Rebate (MFEER) Program

Final Report (Report ID: SCE0279)

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1. Executive Summary

This section summarizes the findings of the process evaluation of the Southern California Edison (SCE) 2006-2008 Multifamily Energy Efficiency Rebate (MFEER) Program. The findings in this report come from a number of surveys as well as other information sources. These included:

- A November 2008 survey of 200 SCE multifamily property managers/owners who had participated in the 2006-2008 MFEER Program;
- A December 2008 survey of 30 multifamily contractors who participated in the 2006-2008 MFEER Program;
- A February 2009 survey of 69 heating, ventilation, and air conditioning (HVAC) contractors;
- Interviews with MFEER Program staff in April and November 2008; and
- Reviews of MFEER Program documents and tracking databases.

KEMA Inc. is responsible for the vast majority of information and analysis in these reports. However, Katherine Randazzo of Fielding Graduate University provided the analyses for subsections 5.6.1, 5.6.4, and 5.7.6.

The MFEER Program promotes energy savings in apartment dwelling units and in the common areas of apartment and condominium complexes and mobile home parks. Property owners (and property managers, as authorized agents for property owners) of existing residential multifamily complexes may qualify for rebates for installing a variety of energy efficiency measures. Starting in 2006 the Program allowed multifamily properties with fewer than five units to participate for the first time.

Although the Program does some limited marketing, most of the MFEER-rebated energy-efficient projects are identified and installed by a cadre of installation contractors – mostly lighting contractors – who have a primary focus on the multifamily sector. Measures that were rebated by the Program during the 2006-2008 program cycle included:

- CF reflectors,
- HVAC,

- De-lamping,
- Electric water heaters,
- Exit signs,
- Exterior fixtures,
- Insulation,
- Interior fixtures,
- Lamps,
- Photocells,
- Pool pump and motors,
- Refrigerators,
- Room air conditioners, and
- Windows.

The lighting measures accounted for the vast majority of the measures installed through the Program.

1.1 Summary of Findings from the Survey of SCE Participating Multifamily Property Managers/Owners

This section summarizes the more detailed findings found elsewhere in this report.

1.1.1 Introduction

Most of the information in this report came from a survey of 200 SCE multifamily property managers/owners who had participated in the 2006-2008 MFEER Program. This survey was completed in November 2008. The survey collected information on a variety of different topics of interest to MFEER Program staff including:

- Participant characteristics,

- Program/rebate awareness and participation,
- Market barriers,
- Project implementation characteristics,
- Satisfaction with MFEER Program processes and participant recommendations for improvements,
- Plans for future energy efficiency projects, and
- The effects of participation on energy efficiency awareness, knowledge, and attitudes.

Throughout the report we compare the responses of the 2006-2008 participating property managers/owners with 2005 MFEER participants that we surveyed in 2006. SCE is very interested in using this form of benchmarking over time to measure changes in Program participation and to track progress in improving participant satisfaction. In addition to analyzing information from these two surveys, we also reviewed MFEER Program documents and interviewed Program staff on two separate occasions – in April 2008 and November 2008.

1.1.2 Participant Characteristics

The most important finding concerning the characteristics of the 2006-2008 MFEER Program participants was that their participating properties were much more likely to be smaller (100 units or less) than they have been in the past. For example, 80 percent of the participating properties in the 2006-2008 MFEER Program were smaller properties, compared to 70 percent in 2005 and 46 percent in 2004.

We suggested two likely causes for this recent Program shift to smaller properties. Although contractors prefer installing MFEER-rebated equipment in larger properties due to more favorable economies of scale and scope, it is likely that Program saturation in the middle-sized properties is forcing some of the participating contractors to turn to the less financially-attractive smaller properties to get their rebate dollars. Another possible explanation is the fact that in 2006 the Program allowed multifamily properties with fewer than five units to participate for the first time.

This shift towards smaller properties likely explains other participant trends such as property management/ownership and the types of energy systems used. For example, from the 2005 participants to the 2006-2008 participants there was nearly a five-fold increase in the

percentage of property managers/owners reporting that they, or their firms, both owned and managed the participating properties. The 2006-2008 participants were much less likely than the 2005 participants to report that their properties had central heating, cooling, or water systems. Both of these trends can be linked with the increasing participation of managers/owners with smaller multifamily properties.

1.1.3 Program/Rebate Awareness and Participation

Key findings from this section of the report include:

- *Awareness of the MFEER rebates:* About two-thirds of the 2006-2008 participants said they were aware that SCE had paid a rebate to buy down the cost of these installations. This was similar to the percentage of 2005 participants claiming awareness.

- *Awareness of the availability of other MFEER rebates besides the ones they received:* The SCE staff was interested in knowing whether participating property managers/owners who only had one type of energy-efficient equipment installed through the MFEER Program knew that the Program also offered rebates for other types of energy-efficient equipment. Since the Program is mainly delivered through installation contractors, and primarily through lighting contractors, there was concern that these contractors would only promote MFEER rebates for the energy-efficient equipment that they sold. The survey responses indicated that there are reasons for concern. Only 52 percent of those who only had one type of MFEER-rebated equipment installed were aware that other types of rebates were available. Refrigerator and room air conditioners rebates were the most-cited of these other rebate types.

- *How participants heard about the rebates/program:* As was the case for the 2005 participants, the 2006-2008 participants cited installation contractor offering services as, by far, the most common way that they heard about the MFEER Program. However, the survey of the 2006-2008 participants also found that reports of first information from the Program marketing channels – whether the apartment/trade association presentations/newsletters or reports of SCE contacting them -- have dropped significantly from what was reported by the 2005 participants. Our interviews with Program staff in 2008 revealed that the MFEER Program is doing a much smaller percentage of participant satisfaction callbacks than they did for the 2004-2005 Program. In theory these satisfaction callbacks should not be a great source of new participants since the calls are being made to properties that have already participated. However, the high turnover rate in the multifamily management sector means

that these satisfaction calls likely often result in new property managers becoming aware of the MFEER Program for the first time.

- *Project decision-making:* We asked the 2006-2008 participants who came up with the idea for the energy efficiency improvements that were rebated by the MFEER Program. The 2006-2008 participants were much more likely than the 2005 participants to say that their contractors were the main sources of the ideas for their projects. The 2006-2008 participants reported using a much less diverse source of information sources for their equipment retrofit/replacement decisions than the 2005 participants did. Some of this – e.g. less reliance on internal maintenance staff for information – was likely due to the 2006-2008 Program's shift to smaller properties.

- *Reasons for joining the MFEER Program:* We queried the property managers/owners as to their primary reasons for participating in the Program. The percentage of respondents who cited saving energy as their primary reasons nearly doubled between 2005 and 2006-2008. This was likely due to the large increase in energy prices that occurred during the 2007-2008 period.

1.1.4 Market Barriers

Key findings from this section of the report include:

- *Technology awareness/familiarity barriers:* When asked whether they had been previously aware of the MFEER-rebated technology that was installed in their property, 2008 participants claimed about the same level of awareness of the installed measures (57%) as the 2005 participants had (59%). Nearly half (45%) of the 2006-2008 participants said that these MFEER-rebated measures had been previously installed at the same property or another one of their properties.

- *Split-incentive barriers:* Current program evaluation theory posits that the "split incentive barrier" discourages property managers/owners from improving the energy efficiency of their tenant units. The premise of this barrier is that although property managers/owners are responsible for facility improvements, they usually do not pay energy bills for the tenant spaces and therefore have no direct financial incentive to install more expensive energy-efficient measures in these spaces. However, we found slim evidence for the importance of the split incentive barrier in explaining why participating property managers/owners did not implement energy efficiency improvements on their own.

We asked the 2006-2008 participants who said that their tenants pay their own energy bills how important this was as a reason why they did not make the energy efficiency improvements earlier. The average importance rating (using a 5-point importance scale where five equaled "very important") given by the 2006-2008 participants was 3.1 compared to 3.2 for the 2005 participants. Only 28 percent of the 2006-2008 respondents said it was an important factor (4 or 5 on the 5-point importance scale).

We asked the 2006-2008 participants whose tenants paid their own energy bills how much they agreed with the statement: "Since our tenants pay their own energy bills, there is no reason for our company to install energy-efficient equipment in the tenant units". They were told to use a five-point scale where five equaled "strongly agree" and one equaled "strongly disagree." The large majority of respondents disagreed with this statement and over half strongly disagreed with this statement.

We asked the 2006-2008 property managers: "Since your tenants pay their own utility bills, why did you decide to install energy-efficient equipment in the tenant units?" The most-cited reason – cited by half the respondents – was that they wanted to reduce the energy costs of their tenants. Some of these respondents noted that by reducing their tenant's energy costs, this would allow these tenants more money to meet their rent payments. Other reasons included improving the satisfaction of their current tenants, wanting to take advantage of the rebates while they were available, and their units needing new equipment or fixtures.

- *Other barriers:* We also asked all the 2006-2008 participants a more direct barriers-related question. We asked them: "Why hadn't your company installed the (Specified Measure) on its own before participating in the Southern California Edison multifamily rebate program?" They cited many different reasons with no particular reason being cited by a large percentage of respondents. The most-cited reasons included the inability to identify energy-efficient measures (24% of respondents) and financial limitations (12%).

1.1.5 Project implementation

Key findings from this section of the report include:

- *The types of equipment installed:* The 2006-2008 installations through the MFEER Program were dominated by lighting measures.

- *Where in the properties the equipment was installed:* We asked the 2006-2008 participating property managers/owners whether their rebated equipment was installed in the common areas, the tenant units, or both. Almost three quarters of them said they had the rebated

equipment installed in both the common areas and tenant units. This was a sharp increase from 2005 when less half of them said that installations were both in the common areas and tenant units. Once again the Program shift to smaller properties may help explain this trend. Contractors may be more interested in doing both tenant units and common areas in smaller properties to make the jobs more worth their while in terms of offsetting their fixed costs. When the evaluators presented preliminary results from this report to SCE staff in late March 2009, the MFEER Program manager also said that he has been actively encouraging contractors to install measures in both common areas and tenant units.

- *Who installed the equipment:* We asked the 2006-2008 property managers who installed the energy-efficiency improvements. Like the 2005 participants, they said that contractors solely installed the vast majority of the measures. However, the 2006-2008 property managers were much less likely to say their internal staff installed the improvements on their own than their 2005 counterparts. This is likely due to the Program's shift towards smaller properties where internal maintenance resources are more limited.

- *The location of installed measures within the SCE service territory:* Katherine Randazzo of Fielding Graduate University – another member of the MFEER process evaluation team -- conducted an analysis of where MFEER-rebated measures where installed in the SCE service territory. The analysis examined the distribution of MFEER Program activity using both temperature zones and multifamily housing density as parameters of interest. Both raw numbers and ratios of installations to multifamily unit density revealed that the heaviest Program activity does tend to take place in the higher-density areas. However, for room air conditioners, the Program seems not to have fully taken advantage of the possibility of targeting high-density, hot areas. In particular, the concentration of these as well as energy-efficient windows tended to be installed disproportionately in cool areas.

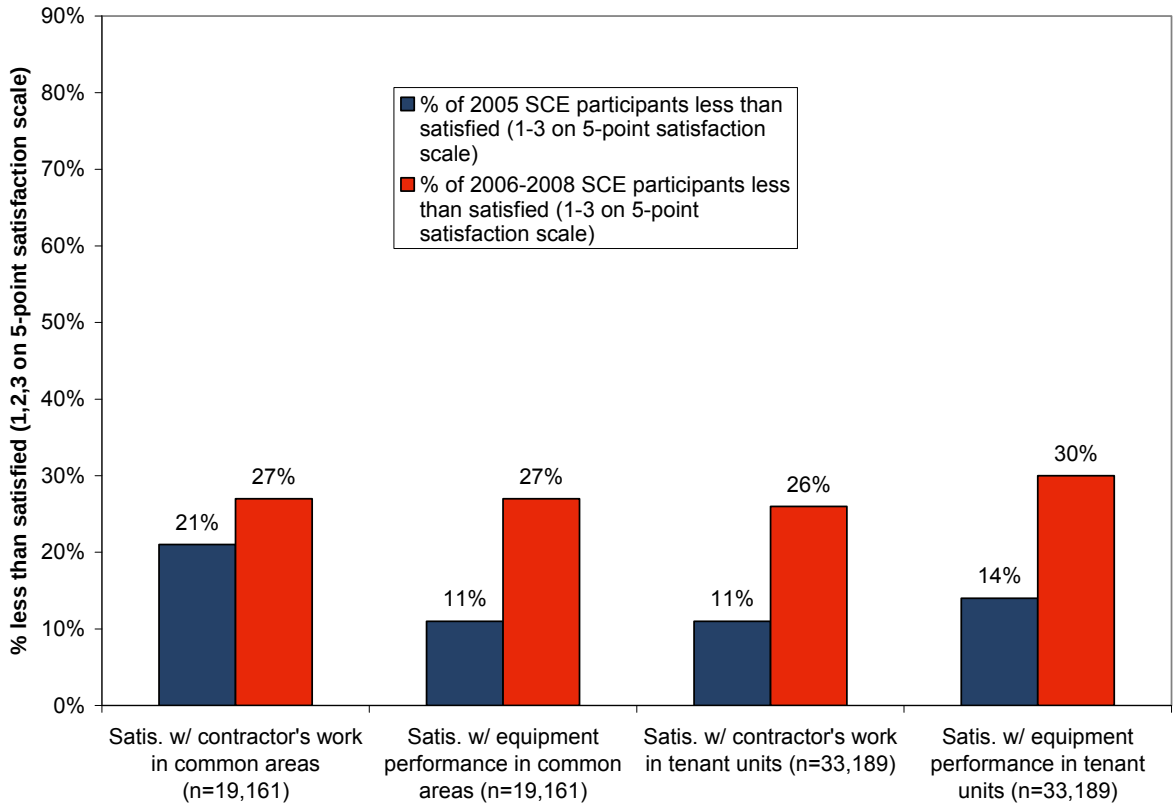
1.1.6 Program Satisfaction

Key findings from this section of the report include:

- *Satisfaction with the contractors and equipment:* The 2006-2008 participants consistently gave lower average satisfaction ratings for the contractors and equipment than the 2005 participants did. For example, the percentages of respondents who were less than satisfied with their contractors or equipment more than doubled between 2005 and 2006-2008 for most satisfaction categories, as Figure 1-1 shows. When asked why they were less than satisfied, the 2006-2008 participants had a wide variety of reasons with complaints about equipment breaking down or being of poor quality being the most common. While over half

of the 2005 participants reported that their contractors provided performance guarantees or information on manufacturer warranties, only a little more than a third of the 2006-2008 participants did. While only five percent of the 2005 participants said that their contractors were not responsive to their questions and complaints, 19 percent of the 2006-2008 participants said that their contractors were non-responsive.

Figure 1-1
% of Participating Property Managers/Owners
Who Were Less Than Satisfied with the Contractors, Equipment
2005 vs. 2006-2008 SCE Participants



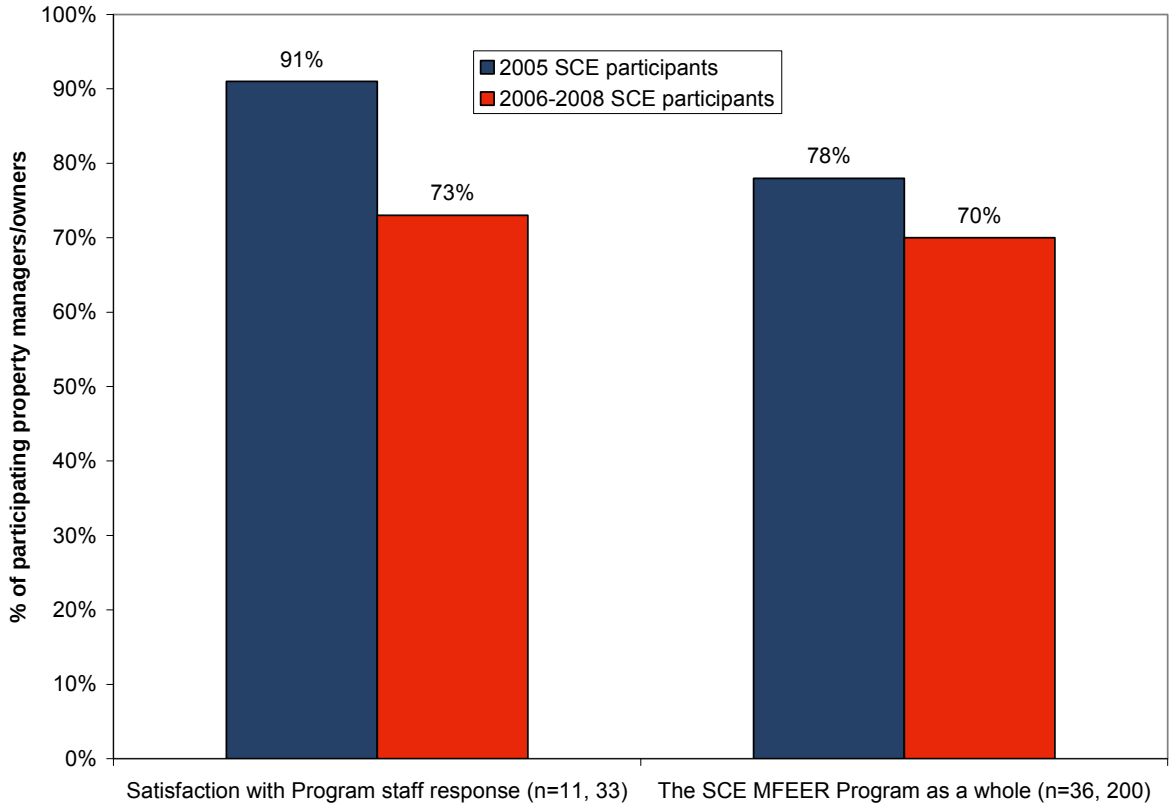
- *Recent efforts to impose tougher contractor qualification requirements:* When the evaluators presented preliminary results from this report to SCE staff in late March 2009, the MFEER Program manager said that for 2009 he has strengthened his Program requirements for contractors' qualification. He was hopeful that these tougher qualification requirements would reduce some of the Program's problems with poor quality installation, poor quality equipment, and substandard customer service.

- *Satisfaction with the rebates and rebate processes:* As was the case with the 2005 participants, very few (11%) of the 2006-2008 property managers/owners said that they received a rebate check from the MFEER Program. Seventy-nine percent of these participants (n=20) said that the rebate checks met their expectations and 66 percent said that their rebate check arrived in a reasonable amount of time. Sixty-seven percent of them said that rebate application forms were reasonable in length and detail.

- *Satisfaction with Program staff:* Nearly three quarters of the 2006-2008 participants who interacted with MFEER Program staff were satisfied with these interactions. Yet the percentage who were less than satisfied nearly tripled from the 2005 participant levels. Figure 1-2 shows the drop in terms of the percent who were satisfied (4 or 5 on the five-point satisfaction scale). In interpreting these findings we should be cautious on two counts. First we do not know for sure whether these participants actually interacted with the MFEER Program staff as opposed to complaining to a general SCE call center, for example. Second this increase in dissatisfaction may have less to do with how the MFEER Program staff conducted themselves, and more to do with the growing dissatisfaction over the quality of the contractor installations and rebated equipment mentioned above. Another possible cause is that while the 2004-2005 SCE MFEER Program attempted satisfaction callbacks with 100 percent of its participants, the 2006-2008 SCE MFEER Program only did such callbacks when an SCE inspection had found a problem. Since the inspections themselves only covered 5-7 percent of Program projects, this mean only a tiny percentage of the 2006-2008 participants received a callback from the MFEER Program asking about their satisfaction.

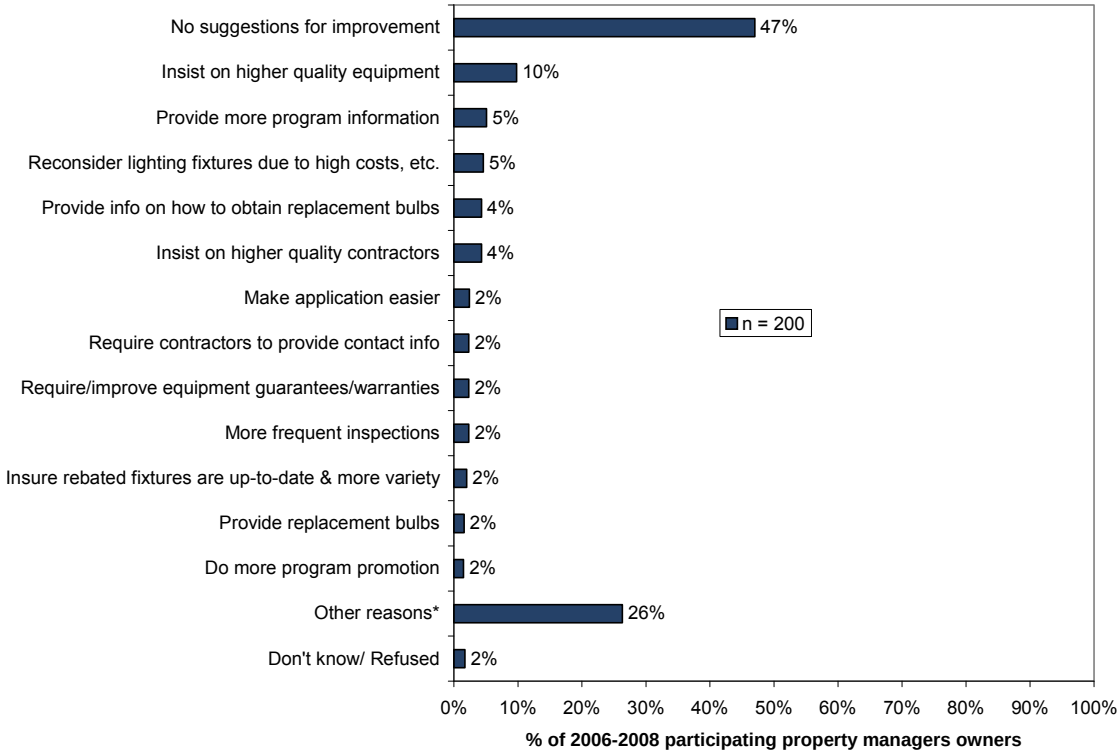
- *Satisfaction with the Program as a whole:* We asked the 2006-2008 property managers/owners how satisfied they were with the MFEER Program as a whole. Seventy percent of the 2006-2008 participants were satisfied with the Program as a whole. However, the percentage of respondents who were “extremely satisfied” with the Program fell from nearly two thirds for the 2005 participants to only 40 percent for the 2006-2008 participants. Figure 1-2 shows the drop in terms of the percent who were satisfied (4 or 5 on the five-point satisfaction scale). When asked why they were less than satisfied, complaints about poor quality equipment were by far the most common with over 40 percent of the complainants citing this as a reason. On the positive side, 85 percent of the 2006-2008 property managers/owners said that they would recommend the MFEER Program to another property manager.

Figure 1-2
Satisfaction with MFEER Program Staff and Program as a Whole
2005 vs. 2006-2008 Participants



- *Recommendations for Program improvement:* Although almost half (47%) of the 2006-2008 participating property managers/owners had no recommendations for improving the MFEER Program, those who did had many different ones. Figure 1-3 shows these recommendations. Most of the recommendations concerned improving the quality of the contractors and equipment and making it easier for property managers/owners to replace failed equipment (mostly burned-out CFLs).

Figure 1-3
2006-2008 Participating SCE Property Managers
Recommendations for Improving the MFEER Program



- *Inspection results:* The MFEER Program inspects a certain percentage of customer installations before paying the rebates to those customers. Overall, the pass rate was almost 94 percent with the last year achieving a 98 percent rate. The failure rate was a little over five percent in 2006 and decreased to less than two percent in 2008.

1.1.7 Future energy efficiency project implementation

Key findings from this section of the report include:

- *Plans for future projects:* We asked the participating SCE property managers/owners whether they were considering other energy efficiency projects over the next three years. The 2006-2008 participants were more likely than the 2005 participants to both say that they were considering future energy efficiency projects and were not considering such projects. The increase in both these categories was possible because of a sharp drop in the percentage of MFEER participants who did not know what their companies' future plans were – from 39 percent for the 2005 participants to 15 percent for the 2006-2008

participants. Increasing participation by smaller properties in the 2006-2008 MFEER Program is likely one reason for this trend. Owners/managers of smaller properties are more likely to know the project implementation plans of their companies than those representing larger properties or companies. However, increased knowledge of future project implementation of the 2006-2008 participants was not just due to the MFEER Program's shift to smaller properties. The 2006-2008 managers/owners of larger properties were much more knowledgeable of their project implementation plans than their 2005 counterparts were. The sharp rise in energy prices in 2007-2008 may have forced more property managers/owners of all property sizes to develop plans for energy-efficient projects.

- *Types of EE technologies being considered:* In terms of the types of energy-efficient equipment that they were considering for implementation, the 2006-2008 participants were less interested than the 2005 participants in CFLs, water heaters, windows, furnaces and programmable thermostats and more interested in refrigerators, dishwashers, boilers, and other measures such as low-flow toilets, stoves, and solar equipment.

- *The effects of MFEER Program participation on participant energy efficiency awareness and attitudes:* SCE's Program Implementation Plans (PIPs) for its 2009-2011 residential programs indicate that SCE will measure over time the effects of these programs on the energy efficiency awareness, knowledge, and attitudes of program participants. To help some baseline measurements for this effort, we read to the 2006-2008 MFEER Program participants a number of statements concerning energy efficiency awareness, knowledge, and attitudes. Their responses are summarized in the detailed findings below.

1.2 Summary of Findings from the Report on Participating Multifamily Installation Contractors

1.2.1 Introduction

This section summarizes the findings from a survey conducted with contractors who participated in Southern California Edison's (SCE's) Multifamily Energy Efficiency Rebate (MFEER) Program from 2006 to 2008. Most of these contractors were lighting contractors. The survey covered several topics, including: firmographics, market characterization, contractor awareness and

participation in the Program, Program marketing efforts, and contractor satisfaction with the Program. The findings are based on telephone surveys of 30 contractors out of a total population of 78 contractors.1 Most of the surveys were completed in December 2008.

In this section, and in the detailed findings found elsewhere in this report, we will frequently compare these 2008 survey results with another survey of multifamily contractors that KEMA conducted in May 2005.The 2005 survey was part of an evaluation of the 2004-2005 California Statewide Multifamily Rebate Program.2 Compared to the 2008 survey, the 2005 survey included more multifamily contractors that operate in the San Diego Gas & Electric (SDG&E), Pacific Gas & Electric (PG&E), and Southern California Gas (SCG) service territories.

The findings in this section are grouped into the following subsections:

- Contractor characterization and target markets,
- Market characterization, and
- Contractor reactions to SCE's MFEER Program; and
- Suggestions for improvement.

1.2.2 Multifamily Contractor Characterization and Target Markets

The majority of contractors participating in the MFEER Program are small companies with 10 or fewer employees. The number of energy-efficiency installations that these contractors did in multifamily buildings each year was highly varied. About half of the contractors derived the majority of their business from the multifamily residential sector. A majority of the contractors reported difficulty getting business from large property management firms. However, most of the installations took place in properties with more than 100 units. Compared to 2005, the participating contractors in 2008 were slightly larger and performed slightly more installations in properties with 100 or more units (Table 1-1).

[1] SCE provided KEMA with a list of these participating contractors.

[2] These survey results first appeared in a report containing preliminary findings based on an interim round of process and impact research that was conducted for the MFEER evaluation (*Interim Report For The 2004-2005 Statewide Multi-Family Rebate Program Evaluation*, Prepared by KEMA, Inc., Oakland, California, September 15, 2005).

Almost all of the contractors said they installed lighting of some kind, and most said they installed exclusively lighting. These numbers are substantially higher than in 2005. In contrast, the number of contractors who installed programmable thermostats greatly decreased in 2008, likely because the California utilities stopped offering programmable thermostat rebates starting in 2006. It is also possible that some contractors who installed both types of measures in 2005 (33%) reverted to lighting-only contractors after the thermostat rebates ceased. The number of contractors who installed boiler controls also decreased in 2008, and this is likely due to sampling differences. Respondents in 2008 were contractors who participated in SCE's MFEER Program and SCE is an electricity-only utility. In 2005 the respondents also participated in gas utilities' programs.

A substantial portion of the contractors said they were dependent on the MFEER Program for business, particularly the smaller contractors and those who work primarily in the SCE service area. The majority of the contractors reported actively promoting the Program. The number of installations that used rebates is up slightly from 2005 levels, but despite this increase, fewer contractors actively promoted the Program in 2008.

Less than a quarter of the contractors said they avoid certain types of multifamily properties. Avoidance was lower in 2008 than in 2005. As in 2005, most of the contractors claimed that they left behind extra lamps to replace early burnouts.

Contractors seem to have migrated to the Internet for information about Program changes. Most of the contractors in 2008 said they relied on SCE's website to learn about Program changes. This number is up substantially from what contractors reported in 2005. At the same time, the number of contractors who got information about Program changes via email or phone calls decreased in 2008 relative to 2005 levels.

Table 1-1
Contractor Comparisons 2005 vs. 2008

Measure	2005 (n = 28)	2008 (n = 30)
Contractor Characteristics		
Contractors with 10 or Fewer Employees	63%	60%
Median # of Employees	6	8
Median # of Projects/Year	36	50
Target Markets		
Installations in Properties with <= 100 Units	56%	66%
101 – 250 Units	32%	26%
251+ Units	12%	8%
Installations in Common and Tenant Areas	48%	40%
Measures Installed		
Lighting only	25%	70%
Lighting	82%	92%
Programmable Thermostats	68%	10%
Boiler Controls	21%	3%
Program Activities		
Installations that Use Rebates	72%	81%
Actively Promote Rebate Program	85%	69%
Avoid Certain Types of MF Properties	36%	20%
Leave Behind Extra Lamps	81%	83%
Monitor Changes to Program Via		
Utility Website	39%	57%
Utility Emails	36%	10%
Utility Phone Calls	36%	13%
Market Potential		
CFLs	6.2	6.3
T5s/T8s	7.9	5.7

1.2.3 Market Characterization

The participating contractors reported that a market for CFLs still existed in the multifamily sector. Their rating of market potential for CFLs was over the midpoint of the scale and almost identical to what was reported in 2005. However, contractors' estimates of the market potential for T5s and T8s were lower than in 2005. In addition, substantially fewer contractors reported installing T5s or T8s in 2008 than in 2005. This may be an indication that the multifamily T5/T8 market is beginning to shows signs of saturation.

Half of the contractors suggested initial cost as the major reason why property owners do not install energy efficient (EE) measures on their own. Contractors also cited hassle and insufficient manpower as other important barriers.

1.2.4 Multifamily Contractor Reactions to the Rebate Program

Over three-fourths of the participating contractors expressed satisfaction with the SCE MFEER Program as a whole. Satisfaction with the Program as a whole was about the same in 2005 and 2008 (Table 1-2).[3] The most-cited attribute that contractors liked about the Program is that it helps save energy and benefits tenants and utilities. This is a change from 2005, when the attribute that contractors liked most about the Program was that it generated business for them.

About three-fourths of the contractors were satisfied with the rebate application process, which is down somewhat from 2005 levels. Over three-fourths of the contractors reported filling out application forms for their clients, and almost all that did reported satisfaction with the forms. Relative to 2005, more contractors in 2008 filled out the forms and were satisfied with those forms. Fewer than half of the contractors reported having their application forms rejected, which is also an improvement relative to 2005.

[3] It is important to remember that the 2005 survey covered MFEER-participating multifamily contractors from all three California investor-owned utility (PG&E, SCE, and SDG&E) service territories while the 2008 survey covered MFEER-participating multifamily contractors that operated primarily in the SCE service territory.

Table 1-2
Participating Multifamily Contractor Satisfaction Levels
2005 vs. 2008

Program Component	% Statewide MFEER Participating Contractors Satisfied in 2005 (n = 28)	% of SCE MFEER Participating Contractors Satisfied in 2008 (n = 30)
Program as a Whole	85%	83%
Rebate Application Forms	74%	92%
Utility Website	69%	80%
Rebate Reservation Process		80%
Staff Responsiveness	67%	77%
Application Process	78%	73%
Rebate Levels	75%	73%
Marketing Efforts	52%	62%
Communication about Program Changes		47%

Almost three-fourths of participating contractors were satisfied with rebate levels, which is about the same amount as in 2005. Despite the high levels of satisfaction with rebate levels, almost three-fourths of the contractors said that some equipment needed higher rebates. This is up from 2005 when about half of the contractors said that some equipment needed higher rebates. In addition, almost all of the contractors said that making the rebates available year-round would increase participation in the Program. Over half of them mentioned that concerns about the funds running out made them reluctant to recommend some energy efficiency measures to their clients.

Contractor satisfaction with SCE communication efforts was mixed. Over three fourths of the contractors were satisfied with SCE's website and this is where the majority looked for information about Program changes. A little over three fourths of the contractors also expressed satisfaction with the responsiveness of SCE staff. These levels of satisfaction are improvements over those reported by contractors in 2005. A little over half of the contractors expressed satisfaction with MFEER marketing efforts. This level of satisfaction is a slight improvement over 2005 levels, but the average level of improvement did not change much between 2005 and

2008. Less than half of the participating contractors expressed satisfaction with SCE's communication of Program changes.

Over three fourths of the 2008 participating contractors were satisfied with the rebate reservation process. In the 2005 survey, the contractors were asked for their opinions of the rebate reservation process but were not asked to rate it using a five-point satisfaction scale.

1.2.5 Multifamily Contractor Suggestions for MFEER Program Improvement

KEMA asked the participating contractors who installed only lighting measures why they did not install non-lighting measures. The plurality (48%) of these contractors answered that they were lighting only contractors. Other reasons given were that the rebates for non-lighting measures were too small (16%), that they could not make money off of those measures (16%), and that they did not have the skills to install those measures (12%).

KEMA asked the participating contractors what the Program could do to encourage contractors to install more non-lighting measures. Many of the contractors (27%) did not have suggestions. The most common suggestion (57% of respondents) was to increase the rebate levels for non-lighting measures. The contractors also suggested increasing contractor awareness of the rebates for non-lighting measures (20%). Other recommendations included making the non-lighting measures free because that's what moves the lighting measures, making more items eligible, trying to get more contractors involved, and trying to get the bigger contractors to more aggressively market non-lighting measures.

KEMA asked the participating contractors for general suggestions on ways to improve the Program. Only seven (27%) of the contractors provided suggestions. This is a sharp decline from the 2005 survey when 81 percent of the contractors provided suggestions. This decrease may be due to higher levels of satisfaction with specific Program aspects in 2008 relative to 2005 (Table 1-2). For example, a few of the suggestions in 2005 involved Program marketing and satisfaction with Program marketing and the Program website increased in 2008. Some of the other suggestions in 2005 involved the rebate reservation process and satisfaction with the rebate reservation process also increased in 2008. The suggestions of the 2008 contractors for improvements in the MFEER Program included:

- The Program should focus less on paperwork and more on increasing EE measures in multifamily properties,
- Payments should be made quicker,

- Rebate levels should be increased,
- The Program should provide better communication and service from the program managers,
- The Program should decrease the level of detail in the spreadsheets and stop requiring contractors' purchase orders, and
- The Program needs more staff.

1.3 Summary of Findings from the Survey of HVAC Contractors

1.3.1 Introduction

This report summarizes the findings from a telephone survey of 69 heating, ventilation, and air-conditioning (HVAC) contractors located in SCE's service territory. The survey was conducted in February 2009 and was intended to measure their awareness of and participation in SCE's Home Energy Efficiency Rebate (HEER) and Multifamily Energy Efficiency Rebate (MFEER) programs; assess their satisfaction with these programs; and gauge the impact of program rebates on their sales of rebated technologies.[4]

It is important to point out that the 2006-2008 SCE HEER and MFEER programs offered only a limited number of HVAC measures. For example, the 2006-2008 MFEER Program only offered rebates for four energy-efficient HVAC measures – room air conditioners, package terminal air conditioners, package terminal heat pumps, and electric storage water heaters. In addition, during the 2006-2008 program period, room air conditioners were the only equipment type for which rebates were claimed. Finally, starting in 2006, SCE shifted much of its HVAC programmatic focus upstream to its Comprehensive HVAC Program. Therefore many of the survey responses of the HVAC contractors concerning SCE activities– whether positive or negative – cannot be definitively attributed to the activities of the HEER or MFEER Programs.

[4] Because these HVAC contractors could sell/install measures that might be rebated either through the HEER Program or the MFEER Program, we asked them generically about "Edison HVAC rebate program."

Because SCE was particularly interested in advanced ducted evaporative coolers, which are rebated through the HEER Program, we insured that the majority of the HVAC contractors interviewed sold this technology. If a respondent did not sell ducted evaporative coolers, we asked them why they did not. The most common responses were that their customers were not interested in this technology and that the service territory was too humid for the effective use of evaporative coolers.

1.3.2 HVAC Contractor Program Awareness and Participation

Roughly three-quarters (73%) of the HVAC contractors we surveyed were aware of SCE's rebates on all of the rebated measures that they sold. Thirteen percent were not aware of SCE's rebates on any of the rebated measures they sold. Awareness of rebates for specific measures ranged from 100 percent for electric storage water heaters to 86 percent for preventative maintenance "tune-ups" for central air-conditioners (CAC).[5]

Most of those who were aware of the rebates said they first became aware of them by receiving information from SCE (45%) or being told by their SCE representative (10%). Other common sources of awareness included HVAC manufacturers or suppliers (18%), trade associations or unions (17%), and customers (13%).

For purposes of this survey we defined program participation as having installed HVAC equipment for which SCE rebates were paid in either single-family or multifamily homes in the past three years. Two-thirds of contractors (67%) were program participants by this definition. The most common reasons cited for non-participation were lack of knowledge of the program and the rebate process being too difficult.

Participating HVAC contractors were asked to rate how actively they promoted SCE's rebates on a five point scale where five meant "very actively" and one meant "not very actively." Participating contractors split into two camps on this question, with most either rating their promotion efforts a five (very active) or a two. Larger firms (those with at least five employees) tended to rate themselves as being more active in promoting rebates. One reason for this may be that smaller firms lack the administrative staff to handle the rebate process.

We asked those who rated their SCE rebate promotion activity as three or lower on this five-point scale why they did not promote them more actively. The most common responses were

[5] In each case the base for calculating awareness was those contractors who sold that particular measure.

that the rebates were not large enough to be worth promoting and that the standards for qualifying for the rebates were too strict.

1.3.3 HVAC Contractor Feedback on the Program

1.3.3.1 Overall Satisfaction and Suggestions for Improvement

We asked program participants to rate their satisfaction with the program overall as well as with several aspects of the program. Overall satisfaction, measured on a scale of 1 (dissatisfied) to 5 (very satisfied) was not very high. Only 19 percent rated themselves a 5 (very satisfied); the mean rating was 3.3. Larger firms and those that sold packaged terminal air-conditioners (PTACs) were more satisfied than other contractors.

Common reasons cited for dissatisfaction included having insufficient information about the program, rebates being too low, the program being too complicated, and SCE not doing enough to educate customers. Less common assertions about the source of dissatisfaction included the program running out of money mid-year, rebates "only going to larger companies, not small companies or customers," and claims of a lack of rebates for home owners and equipment replacement. A related question ("Are there any aspects of the program that discourage you from presenting the rebates as options to your customers?") yielded similar responses.

We asked the contractors if they had any suggestions for improving SCE's HVAC rebate programs. Many made vague requests to better inform contractors and customers about the programs. More specific suggestions included calling contractors at the beginning of the year with an update on the program, using bill inserts and email to reach contractors, giving contractors the option to sign-up for email alerts whenever the program changes, and using more direct mail pieces to reach customers.

Aside from better information to contractors and customers, the most common suggestions were bigger rebates, increasing the number of covered technologies, and changing who gets the rebate. For the most part, increasing the number of covered technologies translated into providing rebates for cheaper, lower efficiency technologies (although one respondent did specify rooftop air-conditioners as the technology he would like to see included). As for changing who gets the rebate, one respondent wanted the contractor rather than the customer to get it, while two others wanted the rebates to go to customers rather than "large companies."

1.3.3.2 Marketing and Promotion

Twenty-eight percent of the participating contractors we interviewed said they had used SCE marketing materials to promote the rebates. Most of these reported using pamphlets and some said they also used in-store signage. When asked to rate how helpful SCE's marketing materials and support staff has been in helping them sell their products and services, sixty percent gave a rating of either 4 or 5 on a scale where 5 equaled "very helpful". The more active contractors were in promoting the rebates, the more helpful they found SCE's staff and materials. Asking those who rated SCE's materials and staff unhelpful why they were unhelpful failed to elicit any meaningful responses.

Contractors' satisfaction with how SCE promotes their rebates was not very high. The mean rating on a five-point scale (where 5 equaled "Very Satisfied") was 3.1. Larger contractors were once again more satisfied than smaller contractors. Stated reasons for dissatisfaction mostly repeated issues already raised by respondents – lack of information for contractors, insufficient education of customers, and issues like running out of money mid-year that are not directly tied to program marketing.

1.3.3.3 Administration and Support

We asked participating contractors how easy or hard it was to keep up with changes in the program. Just under a quarter (22%) gave a rating of 5 (very easy) on a five-point scale, but more (30%) gave ratings of 2 or 1 (very hard). Once again, the leading reason why it was hard to keep up was a lack of information from SCE. More specific responses included the list of eligible air-conditioners being too long and complex, the claim that there were "too many middlemen" in between contractors and customers, and the assertion that SCE had "taken away" simple mail-in rebates for residential customers.

When asked what would be a good way for SCE to keep them abreast of changes in the program, a majority mentioned both email (64%) and mail (61%). A little more than a quarter (28%) said telephone calls. Larger contractors were more likely to mention phone calls as a preferred option than smaller contractors.

Those contractors who did multifamily HVAC work were asked about the website that SCE makes available for multifamily rebates. A third had never used it. Two-thirds (67%) of those who had used it rated their satisfaction with the website as a 3 or 4 on a five-point scale. Those who were more active in promoting SCE's rebates were also more satisfied with the website. Those who were dissatisfied cited it not always being up-to-date and difficulty in locating the information they wanted on the site.

Seventy-five percent of participating contractors reported having asked SCE staff a question about the program. Satisfaction with SCE staff's response was fairly high (mean of 3.9 on a five-point scale). Satisfaction was higher among those who promoted the rebates more actively, those who sold evaporative coolers, and those who provided preventative maintenance for central air-conditioners. Those who were dissatisfied said it took too long to get their questions answered or that they were never answered.

1.3.3.4 Application Process

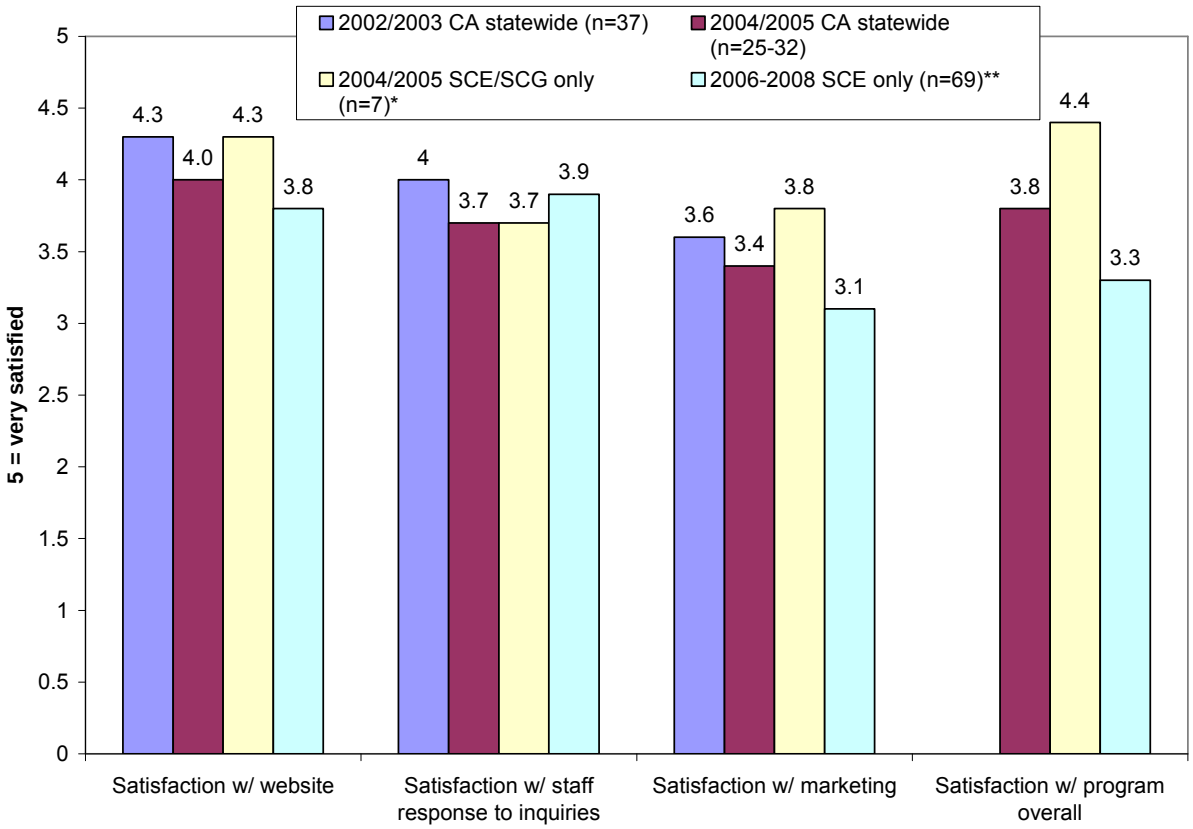
Two-thirds (63%) of participating HVAC contractors reported filling out rebate applications on behalf of their customers.[6] Satisfaction with the application process was low. Only 17 percent rated themselves as very satisfied (rating of 5 on a five-point scale) and the average satisfaction rating was 3.4. Dissatisfied contractors gave various reasons for their dissatisfaction, including simply having to fill the forms out, not understanding some of the questions on the forms, and paying their customers the rebate then failing to be reimbursed by SCE because the program ran out of money.

1.3.3.5 Changes in Satisfaction over Time

Figure 1-3 and Figure 1-4 compare satisfaction ratings from the current survey with equivalent satisfaction ratings from prior studies. Comparing HVAC contractor satisfaction levels from the current survey with prior studies reveals an apparent decline in satisfaction with how the program is marketed, the program website, and the program overall. Although the magnitude of the decline is difficult to judge given differences in sample size and populations between the studies, the general trend of declining satisfaction appears robust. Satisfaction with how well utility staff field questions from contractors is an exception, showing stable or even slightly increasing satisfaction over time.

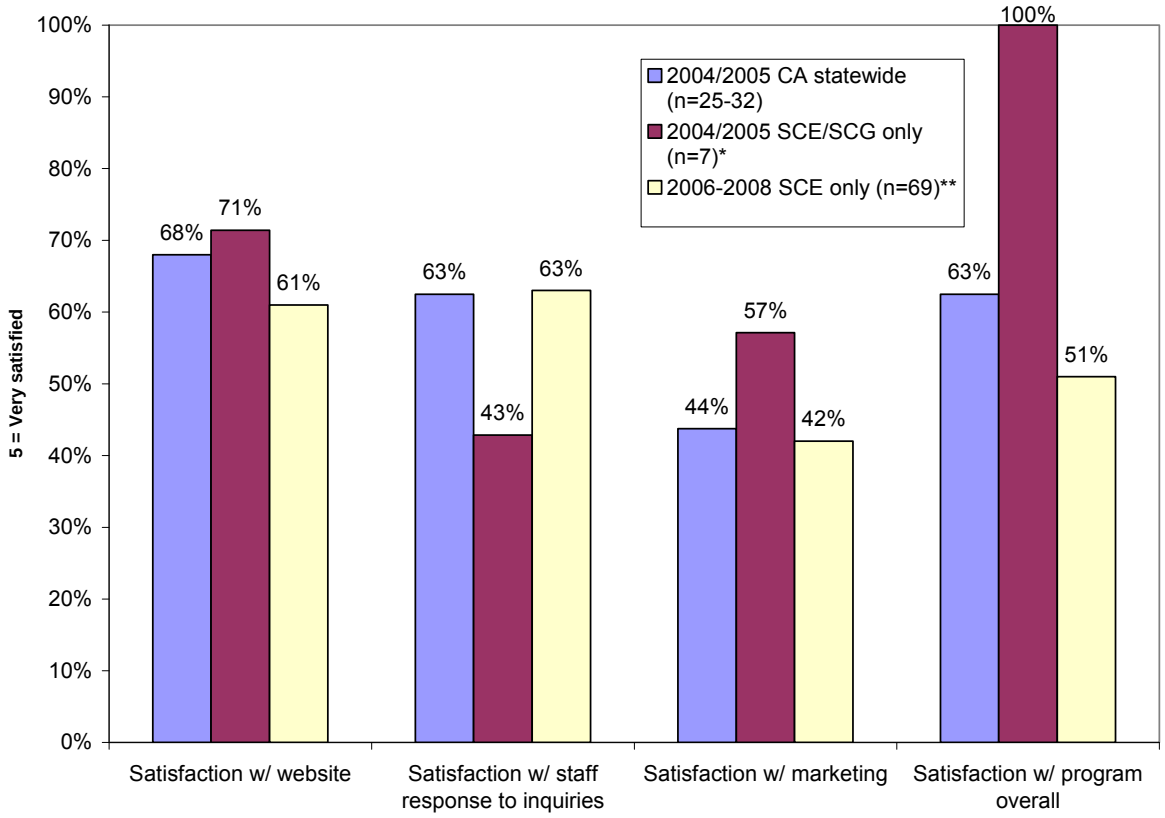
[6] Due to a faulty survey skip instruction, this and a couple other questions about the application process were only asked of respondents who were dissatisfied with the rebate programs overall. As a result, the findings on rebate applications are not representative of participating contractors as a whole and are likely to overstate the amount of dissatisfaction with the application process.

Figure 1-4
Average Utility Rebate Program Satisfaction Ratings Over Time from HVAC Contractors 2002-2008



Note: *These Southern California HVAC contractors were asked about satisfaction with the statewide rebate program in general and were not asked to distinguish between the SCE and SCG programs. **Although these Southern California HVAC contractors likely participated in both the SCE and SCG rebate programs, they were only asked about their satisfaction with the SCE rebate program.

Figure 1-5
% of HVAC Contractors Satisfied with
Utility Rebate Programs 2004-2008



Note: The 2002-2003 rebate program ratings do not appear in this figure because they were only available in terms of average satisfaction ratings and not in the "percent satisfied format. *These Southern California HVAC contractors were asked about satisfaction with the statewide rebate program in general and were not asked to distinguish between the SCE and SCG programs. **Although these Southern California HVAC contractors likely participated in both the SCE and SCG rebate programs, they were only asked about their satisfaction with the SCE rebate program.

1.3.3.6 Incentive Levels

Table 1-3 summarizes contractors' views on the adequacy of current incentive levels. Whether contractors believed that the current incentive levels were adequate to motivate customers to install high efficiency measures depended on the measure and rebate. The incentives that contractors were most satisfied with were those for evaporative coolers and central air-conditioning tune-ups. Two-thirds (66%) felt that the incentives for two-stage evaporative coolers were adequate, and three-quarters (75%) felt the incentives for single-stage evaporative

coolers were adequate. The percent believing current incentives were adequate for CAC tune-ups ranged from 60 percent for advanced tune-ups to 70 percent for basic tune-ups.

Contractors were evenly split on whether current incentives were adequate for Energy Star rated room air-conditioners (50% said yes) and whole house fans (52% said yes). Only a minority of contractors believed that current incentives were adequate for packaged terminal air conditioners (33%), electric storage water heaters (27%) or financing for central air conditioner replacements (27%).

We asked those who thought current incentives were inadequate to tell us what incentive level would be adequate to change customer behavior. For the HVAC equipment for which respondents were the least comfortable with current incentives (water heaters and packaged terminal air conditioners) they suggested incentive levels that were three to four times higher than the current incentives. For most other measures the respondents who did not believe current incentives were adequate suggested roughly doubling them.

Table 1-3
Contractor Views on Incentive Levels
2008 SCE HVAC Contractors

Measure	Current Incentive	Sample Size*	Percent that Believe Incentive is Adequate	Average Suggested Incentive Level**
Energy Star rated RAC	$50 rebate	34	50%	$156
Whole house fan	$50 rebate	21	52%	$142
Electric storage water heater	$30 rebate	11	27%	$120
Single-stage ducted evaporative cooler (DEC)	$300 rebate	44	75%	$607
Single-stage DEC with pressure relief dampers	$400 rebate	44	75%	$800
Two-stage DEC	$500 rebate	44	66%	$700
Two-state DEC with pressure relief dampers	$600 rebate	44	66%	$800
High efficiency central air conditioner replacing older unit	12% financing	63	27%	7.2%
“Basic tune-up” for central air conditioners	$50 rebate	63	70%	$99
“Advanced tune-up” for central air conditioners	$150 rebate	63	60%	$288
High efficiency PTAC	$100 rebate	36	33%	$325

Note: *Number of contractors who sold this measure **Mean response from contractors who did not think the current incentive level was adequate

1.3.4 Impact on Sales of Rebated Measures

We asked those who sold each SCE-rebated measure, and who were aware of SCE's rebates before taking the survey, how their sales would have been affected if the SCE rebates were not available. Most believed that their sales would not have been lower in the absence of the rebates. The sole exception were those who provide basic CAC tune-ups, 59 percent of whom thought they would have sold fewer such tune-ups without SCE's $50 rebate.

No contractors believed their sales of electric water heaters or whole house fans would have been lower without rebates. For the other measures the percent believing their sales would have been lower without rebates ranged from 24 percent for Energy Star rated room air-conditioners to 39 percent for financing CAC replacements. Those respondents who did believe their sales would have been lower without rebates, however, believed they would have been substantially lower. Estimates of how much lower sales would have been without rebates ranged from 13 percent for a two-stage ducted evaporative cooler with pressure relief dampers to 46 percent for an advanced CAC tune-up.[7]

1.3.5 Conclusions from HVAC Contractor Survey

Contractor satisfaction with SCE's HVAC rebates is fairly low and on the decline from prior years' studies. Program awareness among contractors is high, but participation rates, program knowledge, and program satisfaction all show room for improvement, especially among smaller contractors. These issues are linked, as increasing participation will likely require SCE to better educate non-participating contractors and address some of the complaints made by participants.

On the contractor education front, contractors need a better understanding of when program requirements are changing. There appears to be substantial confusion among HVAC contractors as to what rebates are available and who is eligible to receive them. More than one respondent complained about "inconsistent" information from SCE. A likely explanation is that contractors are recalling older information that is no longer valid. Future outreach efforts should focus on "setting the record straight" on rebate eligibility.

[7] These estimates of free ridership are only designed to inform SCE program planning activities. The official estimates of free ridership for the HEER program are being developed as part of the California Public Utilities Commission's Residential Retrofit Impact Evaluation.

The other contractor complaint that could be addressed is insufficient marketing to customers. It is possible that this is merely a perception issue (i.e., perhaps contractors simply need to be made more aware of the marketing SCE is already doing). If SCE chooses to step up their actual marketing efforts to residential customers in an effort to reach residential non-participants, these efforts should obviously be highlighted for contractors as well.

The good news is that only a minority of contractors believes that current incentive levels are too low to be effective, at least for most measures. It might make sense to re-evaluate the incentives for electric storage water heaters, PTACs, and CAC financing in light of contractor feedback. Any decision to increase the size of these rebates, however, should be based on more than just contractor surveys (e.g., compelling evidence from customer surveys or the impact evaluation that the current incentives are ineffective). Even then Total Resource Cost (TRC) constraints might prevent any increases.

1.4 Evaluator Recommendations for MFEER Program Improvements

This section describes the evaluator recommendations for improvements in SCE's MFEER Program. The section also summarizes the evidence from the evaluation findings that these recommendations were based on.

1.4.1 Marketing and Education Recommendations

- *Recommendation #1: Do more frequent broad direct mail promotions of the MFEER rebates, especially for non-lighting measures. Also conduct targeted mailings to hot-weather zones within the SCE service territory.* In addition to doing more frequent mailings overall, the MFEER Program should consider targeting mailings featuring "hot weather" measures such as room air conditioners, pool pumps, and windows to hot zones within the SCE service territory such as Pasadena, Riverside, Fresno, China Lake, and El Centro.

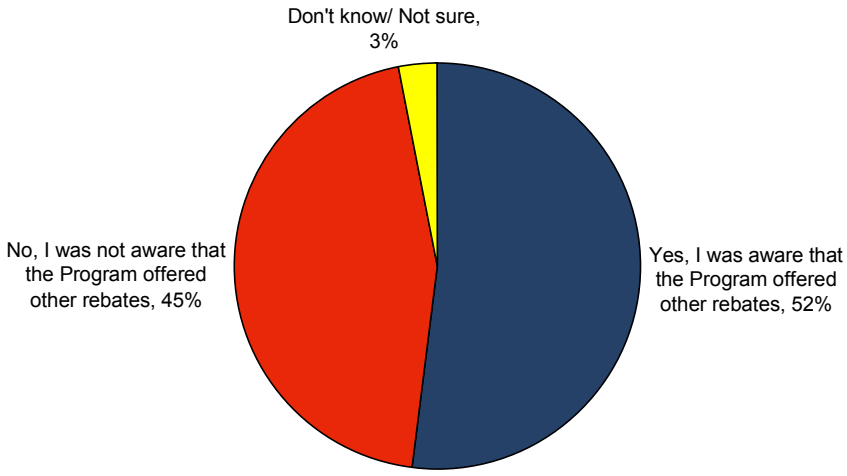
- *Evidence to support Recommendation #1:*

    - *There were no direct mailings to multifamily property managers/owners in 2008 and the last non-lighting mailing was in 2006.* According to SCE's marketing department, two direct mailings were sent to multifamily property managers/owners in 2006, one was sent to them in 2007, and none were sent out in 2008. Two of these three mailings focused on lighting and the last non-lighting mailing was sent out in June 2006.

- *MFEER Program participation trends show a shift to managers/owners of smaller properties who are more reliant on direct mail for Program information.* In the 2006-2008 MFEER Program 80 percent of the participating properties had less than 100 units. In comparison smaller properties only accounted for 46 percent of participants in 2004. Managers and owners of smaller properties are much more likely to prefer direct mail as a source of MFEER Program information than their counterparts in larger properties. The 2008 survey found that 41 percent of the managers/owners of smaller properties cited direct mail as their preferred source of Program information compared to only 20 percent for managers/owners of medium-sized properties and 11 percent for managers/owners of large properties. This survey also found out that managers/owners of smaller properties were much less likely (5% of respondents) to find about the MFEER Program through the SCE website than managers/owners of medium-sided properties (18%).

- *A high percentage of MFEER Program participants are unaware that the program offers rebates for other measures besides the one they received.* Figure 1-6 shows that nearly half of 2006-2008 participants who only installed one measure type were unaware that other MFEER rebates were available.

Figure 1-6
Whether 2006-2008 SCE Participants
Who Only Installed One Type of Rebated EE Equipment
Were Aware of the Availability of Other MFEER Rebates



- *If SCE does not do more to market to managers/owners of smaller properties, they will be more reliant on lighting contractors for their MFEER Program information:* Managers and owners of smaller multifamily properties tend to have less internal maintenance staff resources than managers and owners of larger properties. When asked what sources of information they use when purchasing or replacing energy-using equipment, only 11 percent of managers and owners of smaller multifamily properties said that they use internal maintenance staff. This compares to 22 percent for managers/owners of medium-sized properties and 33 percent for managers/owners of large properties. Having fewer internal resources makes managers/owners of smaller properties more dependent on contractors for project ideas. Since the large majority of contractors participating in the MFEER Program are lighting contractors, this can lead to continuing problems with lack of measure diversity within the Program.

- *Participating contractors think that MFEER Program marketing efforts could be improved.* Of all the MFEER Program activities, Program marketing efforts received the second-lowest satisfaction rating (62% of respondents were satisfied) from participating contractors.

- *An analysis in this report of MFEER Program measure distribution by climate zone found that the Program was not exploiting the energy savings advantages that would accrue from rebating more multifamily HVAC measures in SCE hot zones.* "For room air conditioners, the Program seems not to have fully taken advantage of the possibility of targeting high-density, hot areas," the analysis concluded. "In particular, the concentration of these as well as energy-efficient windows tend to be installed disproportionately in cool areas."

- *Recommendation #2: Develop the capability to provide Program information via fax and email.* As discussed below, the MFEER Program has recently resumed satisfaction callbacks to a percentage of its participating multifamily property managers/owners. The MFEER Program staff should use these customer interactions to collect fax and email information that can provide a supplementary means (besides direct mail) to notify these participants of the rebates as well as any changes in program requirements.

- *Evidence to support Recommendation #2:*

  - *Managers/owners of small multifamily properties favor these information channels.* The 2008 survey found that managers/owners of small multifamily properties identified fax (21% of respondents) and email (21%) as their second-most preferred methods (after direct mail) for receiving Program information. Since the MFEER Program participant population is increasingly being made up of these smaller multifamily properties, the Program should explore all promising avenues for trying to reach this class of property managers/owners.

  - *Other SCE programs dealing with small business customers have had success using fax as a communications method.* SCE's EnergySmart Thermostat Program – a Direct Load Control Program that recruits small commercial customers – has had success using fax as a marketing and communication medium for these customers. The program conducted focus groups with small business customers and found out that while the participants said that they might respond to a letter from SCE, they were even more likely to take notice of a fax. The EnergySmart Program then hired small business consultants to do a fax

campaign to these smaller business customers. “The fax campaign was a key ingredient to getting the customers’ attention,” said program manager Mark Martinez.

- *Recommendation #3: Do more direct mail marketing to past Program participants.* One recommendation of the 2007 evaluation of the 2004-2005 MFEER Program was: “The program should mine its tracking data in order to identify energy efficiency opportunities among prior participants (both retrofit and replace on burnout).” Multifamily property managers/owners who have participated in the Program in the past are likely to be more open to invest in additional energy efficiency projects. In a November 2008 interview the MFEER Program staff said that they had not done any data mining to identify past participants for marketing opportunities.

- *Recommendation #4: Secure the support of a SCE commercial account representative to help the MFEER Program recruit large property managers and communicate Program information to them.* With recent staff reductions, the MFEER Program could use all the help it can get to help recruit these large property managers. This assistance is also needed because multifamily contractors – the Program’s primary means of participant recruitment – are finding it harder than ever to enlist these large property managers.

- *Evidence to support Recommendation #4:*

    - *Participating contractors are finding it more difficult to recruit large property managers.* Fifty-three percent of multifamily contractors surveyed in 2008 said that they found it difficult to get business from larger property management firms. This compares to only 32 percent who reported this in a 2005 survey.

    - *Many participating large property managers are unaware of non-lighting MFEER rebates.* A 2008 survey found that sixty-five percent of managers/owners of large (> 250 units) properties who only had lighting measures installed were unaware that MFEER offered other rebates.

- *Recommendation #5: Develop metrics to measure progress in energy-efficiency AKA for property managers.* In its 2009-2010 Program Implementation Plans SCE has promised to measure over time changes in the energy efficiency awareness, knowledge and attitudes (AKA) of its customers. Such AKA benchmarking is a good way to provide focus and accountability to SCE’s marketing department. The SCE marketing staff should also work with the Flex-you-Power Program to explore the feasibility of implementing educational campaigns that are targeted at the multifamily sector.

For its 2008 survey of MFEER-participating property managers/owners, KEMA did develop a battery of questions focusing on how participation in the Program might have affected their energy efficiency AKA. However, if SCE chooses to conduct a general population survey of its multifamily property managers – which we highly recommend – then it will be necessary to devise new AKA questions of a more generic nature that can be used as a baseline for measuring future Program educational accomplishments.

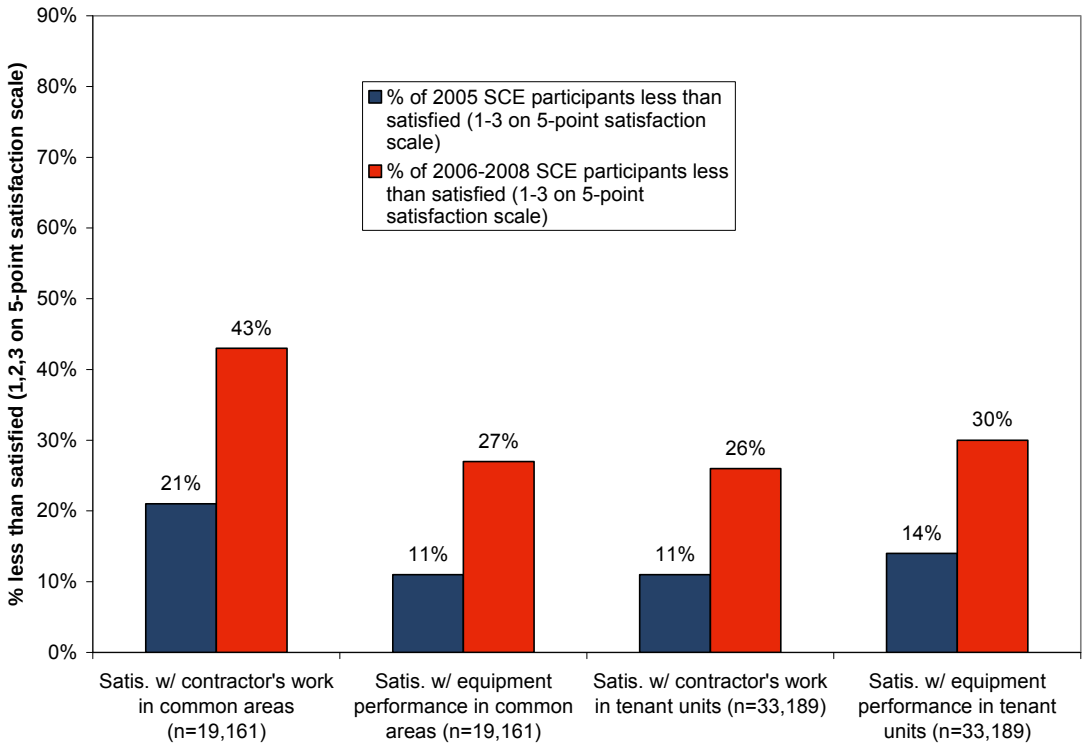
- *Evidence to support Recommendation #5:*
    - *The 2008 survey of MFEER-participating property managers/owners found that 40 percent of them were previously unaware of the energy efficiency technologies that were installed through the Program.*

1.4.2 Program Process/Design Recommendations

- *Recommendation #6: Close the loop between SCE inspection and property owners by having the inspectors report back on property manager and/or tenant satisfaction with the MFEER-rebated measures.* Reviews of the inspection tracking data and the inspection protocols show that inspectors are currently not being asked to collect any information on the satisfaction of the property managers and/or tenants with the MFEER-rebated equipment. This represents a missed opportunity since the survey data shows a high level of dissatisfaction with the quality of the installed equipment and of the installations themselves.

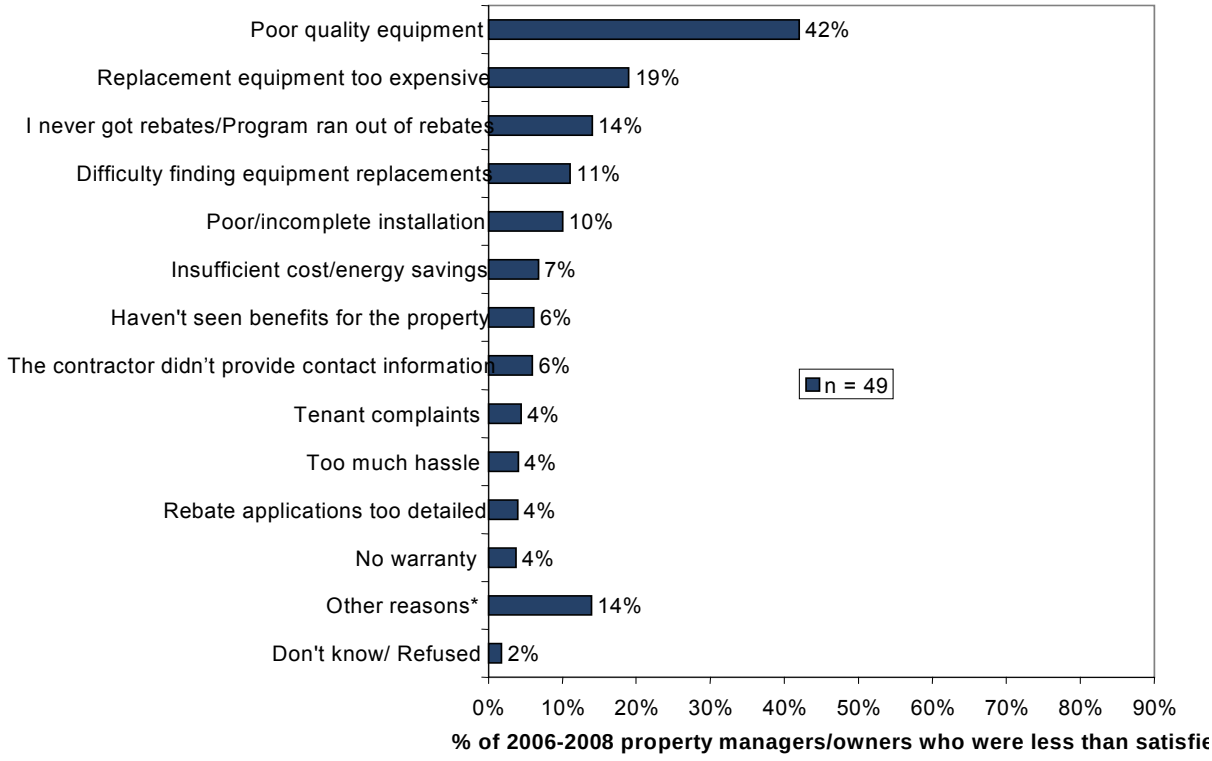
- Evidence to support Recommendation #6:
    - *Levels of dissatisfaction with MFEER Program installations have more than doubled since 2005.* Figure 1-7 show this trend.

Figure 1-7
Levels of MFEER Participant Dissatisfaction with Contractors and Equipment
2005 vs. 2006-2008 Participants



Poor quality equipment was the most-cited reason for dissatisfaction with the MFEER Program. Figure 1-8 shows what 2006-2008 MFEER Program participants cited as their reasons for dissatisfaction with the overall MFEER Program.

Figure 1-8
Reasons for 2006-2008 Participant Dissatisfaction with the Overall MFEER Program



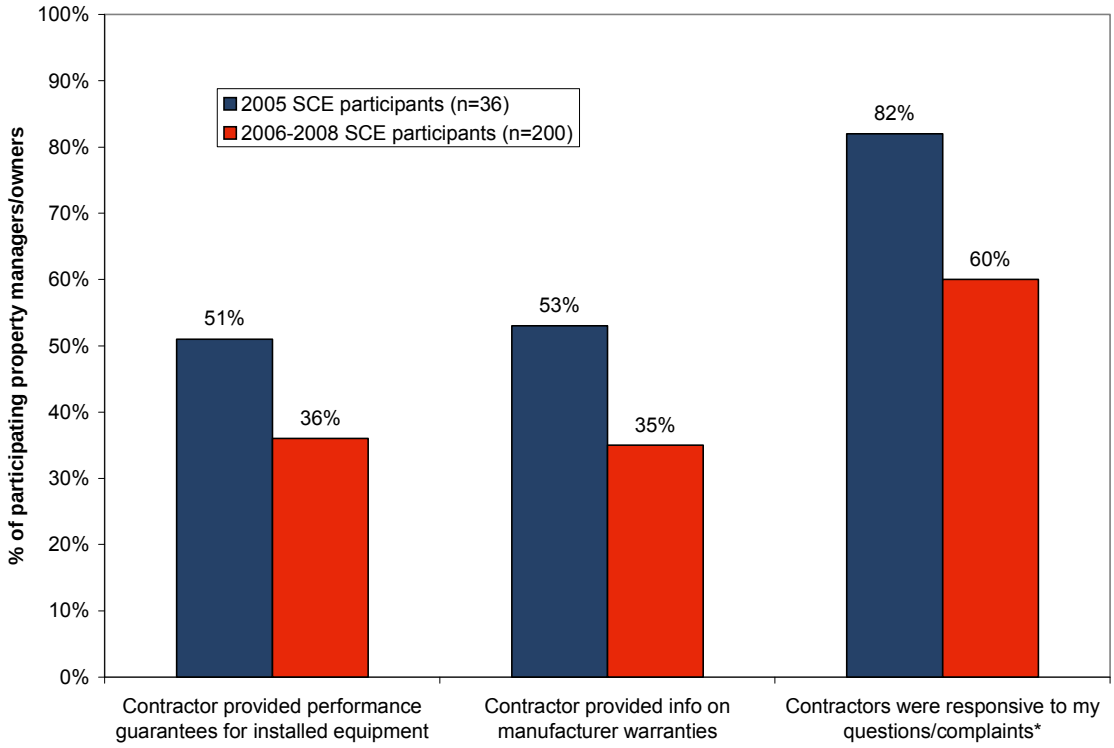
- *Recommendation #7: Resume more frequent participant satisfaction callbacks.* The SCE MFEER Program used to call back nearly all its participants to assess satisfaction with the MFEER-rebate equipment and installations. However, interviews with program managers and staff in 2008 indicated that this practice had largely been discontinued. For example, a November 2008 interview with MFEER Program staff found that participant satisfaction callbacks were only being made when inspectors had identified trouble with an equipment installation. The high level of participant dissatisfaction discovered by the process evaluation survey suggest that these participant satisfaction callbacks should be resumed – although it would not be necessary to call back nearly all the participants, as had the practice during the 2004-2005 program. A random sample of these participants should be sufficient to identify whether these installation problems are continuing and to identify installation contractors that may not be following the Programs' quality control protocols. As mentioned above, these callbacks could also be used as an opportunity to collect fax and email information from Program participants.

- *Evidence to support Recommendation #7:* See the evidence presented in support of Recommendation #6.

- *Recommendation #8: Establish clear quality control protocols for contractors and make sure that all participating contractors are aware of them.* The 2006-2008 MFEER Program participants were much less likely than 2005 Program participants to say that their contractors were responsive to their complaints, provided performance guarantees for installed equipment, or provided information on manufacturer warranties. While multifamily contractors we surveyed told a much different story, we recommend that SCE give the multifamily property managers/owners the benefit of the doubt on this issue. The MFEER Program conducts meetings with contractors about every six months and this would be the appropriate forum to clearly explain their quality control obligations. To provide additional verification that quality control procedures have been followed, the Program could require the contractors obtain a signature from the multifamily property manager/owner that all required quality control and contact information have been received.

- *Evidence to support Recommendation #8:* Figure 1-9 shows that 2006-2008 MFEER Program participants were much less likely than 2005 Program participants to say that their contractors were responsive to their complaints, provided performance guarantees for installed equipment, or provided information on manufacturer warranties.

Figure 1-9
Multifamily Contractor Quality Control Activities
2005 vs. 2006-2008 MFEER Participants



- *Recommendation #9: Make it easier for property managers/owners to find replacement bulbs.* One of the most common complaints of 2006-2008 MFEER Program participants was that they had trouble finding replacements bulbs when one of their bulbs burned out. Many retailers do not carry the pin-based fluorescent bulbs that are usually installed in multifamily buildings. One possible solution to this problem would be to require the installation contractors to leave a minimum number of replacement bulbs along with information on where to obtain additional bulbs. Another possible solution would be for SCE to provide multifamily property managers/owners with a list of wholesalers or retailers who provide such bulbs – e.g., on the Program website. However, in April 2009 discussions of this issue, SCE staff said that there could be some legal obstacles to the utility providing such a list due to concerns that any listings might be interpreted as de facto endorsements of the listed wholesaler/retailers. One possibility would for the SCE website to offer a link to another website – such as Energy Star – where a list of such wholesalers/retailers could be made available.

- *Recommendation #10: Actively recruit new contractors to participate in the program including tapping into contractors working with other SCE energy efficiency programs.* Monitor MFEER program savings achievements to assess whether purging of unlicensed contractors is affecting progress towards savings goals. In 2008 when KEMA surveyed the contractors participating in the MFEER Program there were 78 contractors listed as participants. In April 2009 discussions with evaluators, however, the MFEER Program manager revealed that new stricter licensing requirements that were introduced in early 2009 had reduced the list of participating contractors to about 30. Although the number of participating contractors has subsequently increased to about 40, this still only represents about half of the number of contractors who were participating in 2008.

  While the evaluators applaud the tougher proof of license requirements that the Program imposed in 2009, this purge will likely make it more difficult for the Program to meet its energy savings goals. So the MFEER Program staff should work with other SCE programs such as the Express Efficiency and Comprehensive HVAC programs to see whether contractors already working with these programs might want to also perform work in the multifamily sector. The MFEER Program should also Monitor MFEER program savings achievements to assess whether purging of unlicensed contractors is affecting progress towards savings goals.

- *Evidence to support Recommendation #10:*

    - *The percentage of lighting-only contractors participating in the MFEER Program has increased significantly.* The 2008 survey of participating multifamily contractors found that 70 percent only installed lighting measures. In a 2005 survey only 25 percent of participating contractors said that they only installed lighting measures.

    - As noted, due to the stricter proof of license requirements, the current number of participating contractors is about half of what it was in 2008.

- *Recommendation #11: To increase measure diversity, introduce salesperson/contractor incentives (SPIFs, upstream incentives) into the MFEER Program for non-lighting measures such as HVAC.* As discussed in more detail in our recommendations for the HEER Program, we believe that salesperson/contractor incentives can be effective ways to increase the frequency that vendors recommend or specify energy-efficient equipment. SCE would be prudent to try this out on a pilot basis with a single class of contractors. If the pilot proved

successful, it could expand the availability of the upstream incentives to other participating contractors.

- *Recommendation #12: The MFEER Program should work with Home Energy Efficiency Survey (HEES) Program to help develop a MF-HEES audit instrument for the multifamily sector.* This MF-HEES instrument should cover a broad range of measures including lighting, appliances, HVAC and building envelope, pools, etc.

- *Evidence to support Recommendation #12:* The inability to identify energy efficiency opportunities was an oft-cited reason why property managers/owners had not implemented the HEER-rebate on their own.

    - The 2008 survey asked the participating property managers/owners: "Why hadn't your company installed the (Specified Measure) on its own before participating in the Southern California Edison multifamily rebate program?" The most-cited reason s was the inability to identify energy-efficient measures (24% of respondents).

    - The 2008 survey asked the "single-measure-type" participants who had heard of other MFEER rebates why they had not had any of these other MFEER-rebated measures installed. The most-cited reason was the inability to identify which existing equipment needed replacement.

- *Recommendation #13: Use program satisfaction and other program indicators identified in this report as benchmarks to track future program performance.* SCE staff said that they are in the process of identifying which of these indicators would be most suitable for monitoring program progress.

2. Program Theory for MFEER Program

This section summarizes the program theory for the 2006-2008 MFEER Program. This program theory was developed by SCE staff, with consulting support, in late 2007.[8] KEMA was not directly involved in the development of this program theory, although KEMA's evaluation of the 2004-2005 statewide MFEER Program was used as a reference document.

2.1 Introduction

Multifamily property owners and managers are a historically unresponsive market to energy efficiency efforts. As one of California's largest industries, this unique customer segment warrants additional attention and effort to motivate property owners and managers to actively participate in energy efficiency programs.

After some recent years of concerted energy efficiency efforts to target this sector, there are still areas with large concentrations of multifamily households that have not yet received energy efficiency installations, as noted in the 2003 EM&V report for this sector. Market studies have noted that there are over one million multifamily units in Southern California Edison's service territory contained in approximately 145,000 multifamily buildings. Having received only modest participation in utility programs to date the multifamily segment holds tremendous savings potential.

In SCE's service area, the multifamily market sector has a consumption base well over 2 billion annual kilowatt hours generated by roughly 682,000 multifamily (tenant) service accounts (five or more units). Although participation levels have depleted program funding over several years, market penetration remains only about twelve percent.

Key barriers are split incentives where the renters pay the electric bill and the property owners/managers operate the building while receiving no benefits from any EE upgrades.[9] Lack of knowledge and out-of-pocket expense of any kind also pose as significant barriers to this

[8] Caroline Chen, Consultant & M&E Project Manager and Katherine Randazzo, KVD Research Consulting.

[9] It should be noted that the evaluation of the 2006-2008 MFEER Program, which constitutes the bulk of this report, found evidence that the split incentive barrier is not as significant obstacle to energy efficiency project implementation as had been previously thought.

market. The following document describes the program, identifies market barriers, indicates goals, lists strategies, and shows how success will be measured, and problems detected.

2.2 Motivation

There are always good reasons for developing logic models for program plans. A systematic expression of program theory allows evaluations to be more targeted, and this can lead to helpful feedback as the program develops. It is particularly helpful to be able to use the short and medium-term goals that have been identified as a basis for assessing progress and making mid-course corrections.

Similarly, the clear statement of theory underlying the program, and the identification of program goals, makes it feasible to develop meaningful research questions. Researchers can always think of research questions, but this approach assures that the research questions that are asked pertain to program personnel thinking.

In the case of the MFEER, “Program managers have demonstrated an understanding of their target market and its barriers and have designed a program that includes strategies to address the most important barriers. However, there may be some benefits to be gained from developing an explicit program theory including a formal logic model” (KEMA, 2007). This recommendation is based on the understanding that the multifamily market is more complex than those addressed by many programs, due to its straddling of commercial and residential sectors, with resulting complex barriers (described below). Thus, even though progress has been made, and the program has been modified to increase effectiveness, challenges remain and can be more precisely targeted through the use of formal logic models.

2.3 Program Description

This program targets property owners and managers of multifamily complexes of two or more dwelling units, including mobile home parks and condominium complexes with common areas. Figure 2-1 shows the MFEER Program’s project program budget, energy savings, and cost effectiveness.

Figure 2-1
MFEER Program
Projected Program Budget, Impacts, and Cost Effectiveness

1. Projected Program Budget	**$**	**53,023,116**
2. Projected Program Impacts		
MWh		125,741
MW (Summer Peak)		14.54
3. Program Cost Effectiveness		
TRC		2.27
PAC		1.39

The program generates program announcements alerting property owners/managers and market actors of program offerings, requirements and funding availability. Other program elements include:

- MFEER program offerings are promoted to property owners and managers through a variety of direct and indirect means (including the contractors),
- The program application and staff provide product information to the customers,
- Customer purchases and installs qualifying products,
- The rebate application documents and generate the rebate,
- Verification efforts validate savings and customer satisfaction, and
- Starting in 2006, the MFEER program will also integrate marketing and implementation efforts to link with ENERGY STAR refrigerators ($50/$35) and room air conditioners ($25/$25) rebates as well as SCE's Appliance Recycling Program.

The following measures are included in this program for both dwelling units and common areas:

- Screw-in CFLs (Energy Star Qualified),
- Screw-in CFL Reflector bulbs (Energy Star Qualified),
- High Performance Dual-Pane Windows,

- Ceiling Fans (Energy Star Qualified),
- Interior CFL Fixtures (Energy Star Qualified),
- T5 or T8 Lamps w/electronic ballasts,
- Attic and/or wall insulation,
- Electric water heaters (Energy Star Qualified),
- Exterior CFL Fixtures (Energy Star Qualified),
- Occupancy sensors,
- Photocells,
- Package terminal air conditioners & heat pumps,
- Room air conditioners,
- Pool pump and motor-1speed,
- Pool pump and motor-2 speed, and
- Refrigerators (Energy Star Qualified).

2.4 Market Barriers and Challenges

While some market barriers are the same as other residential programs others are unique to the MFEER. For this program, which must deal with both owners/managers of multi-family buildings, and with tenants, the split-incentive barrier is high. Any measure or appliance that is installed in the tenant dwelling area will provide benefits to the tenant, while costs may go to the owner/manager. These facts imply an uphill effort to get owner/manager participation.

Further difficulties in planning are generated by the fact that property owners/managers, in large part, are not a cohesive group which leads to disparities and gaps in industry knowledge and poses a barrier to knowledge sharing. Out-of-pocket costs pose a significant participation barrier for the customer. With the exception of a few larger property management firms, pay-back terms, no matter how favorable, are perceived as an unacceptable risk to the average customer.

In addition, certain characteristics of this market have contributed to low realization rates for rebated measures. From the 04-05 program evaluation report, we have observed low net realization rate for kW (56%) and kWh (60%) results. For the 06-08 program design, problematic measures as reported by the KEMA/Itron 04-05 study for the Single Family program, we would expect continued mixed results for CFL Lighting portion of the program. Although the 04-05 KEMA study for the Multifamily program, found little free-ridership, verification of the installed measures has been cited as a problem. Under current program implementation plans, this problem is likely to persist since actual physical verification of the installed measures would require someone from the property to possess institutional memory of the installation. Given the revolving doors of property managers, we are not likely to overcome this problem with property managers.

In summary, split incentives, lack of knowledge, and out-of-pocket expenses of any kind pose significant barriers to participation. In addition, high turnover in property management have caused difficulties in verification efforts, so verified savings have suffered. Other barriers are more general, in that they apply equally to other residential programs such as first cost, performance uncertainty, and asymmetric information.

2.4.1 Program Goals

A series of goals has been developed based on the programs past successes, failures and changing challenges as described above. They are:

- Improve sustainability of energy savings,
- Improve property owners/managers and tenants energy efficiency awareness and knowledge and increase their direct participation,
- Increase participation of very large complexes, and
- Improve realization rate.

2.4.2 Program Strategies and Activities

For 2006-2008, the incentive funding has been nearly tripled to help relieve the pent-up market demand. Continued collaboration with independent contractors will play a key role to the success of this program. Edison will also leverage the program's relationships with the independent contractors to cross sell other EE programs. Finally, most program participation to date has been from owners of mid-sized properties where complexes average about 90

dwellings units. One of the goals of this program year will be to increase participation by very large complexes.

Below are the strategies that have been developed to achieve the goals listed in the previous section, organized by goal:

- Increase sustainability of savings
- Put stronger emphasis on hardwired fluorescent fixture installations and early retirement of T-12s
- Long term, plan for the burnout of CFLs that were installed in the early years of the program, and develop strategies to address that situation and to determine if further incentive is needed to be sure the sockets are filled with CFLs.
- Increase property owners'/managers' and tenants' direct participation
- Team up with Appliance Recycling Program to generate interest and gain higher participation level
- Continue advertising campaign in the five major trade journal publications (circulation 25,000)
- Program announcement letters to multifamily service accounts (32,000)
- Monthly communication flyers to four apartment associations (estimate circulation 10,000)
- Exhibit at 4-5 industry trade shows (attendance 30,000)
- Meeting and participating in trade events with the members of the apartment associations
- Industry partner presentations
- Mine data tracking systems for past program participants to update them on new measures and rebates to increase direct participation.
- Consider involving contractors in the program more directly to improve chances of increasing verification of installations.
- Increase participation of very large complexes
- Mega-property management firms require a hands-on approach by MFEER management. Companies managing greater than 250 unit apartment complexes make purchases from distributors and manufacturers 90% of time (rather than purchase from the contractors). To reach this customer segment, the MFEER team will pursue personal contacts.
- Improve realization rates

- Promote early retirement of room air conditioners and property-owner owned refrigerators
- Consider developing closer relationships with contractors as a means to keep track of what installations have been completed and where.

2.4.3 External Influences

As is true of many EE programs, the overall economy and the price of energy can be very influential.

2.4.4 Relationship to Other Programs and Activities

Teaming up with the Appliance Recycling program may help to engage property managers/owners more directly with SCE's energy efficiency programs. In addition, closer links to the SFEEIP have been established as many rebated items are common between them.

2.4.5 The Program Process and Program Theory Diagrams

Figure 2-2 below shows the process diagram for the 2006-2008 MFEER Program. Figure 2-3 shows the program logic diagram for the MFEER Program.

Figure 2-2
The Process Diagram
for the 2006-2008 MFEER Program

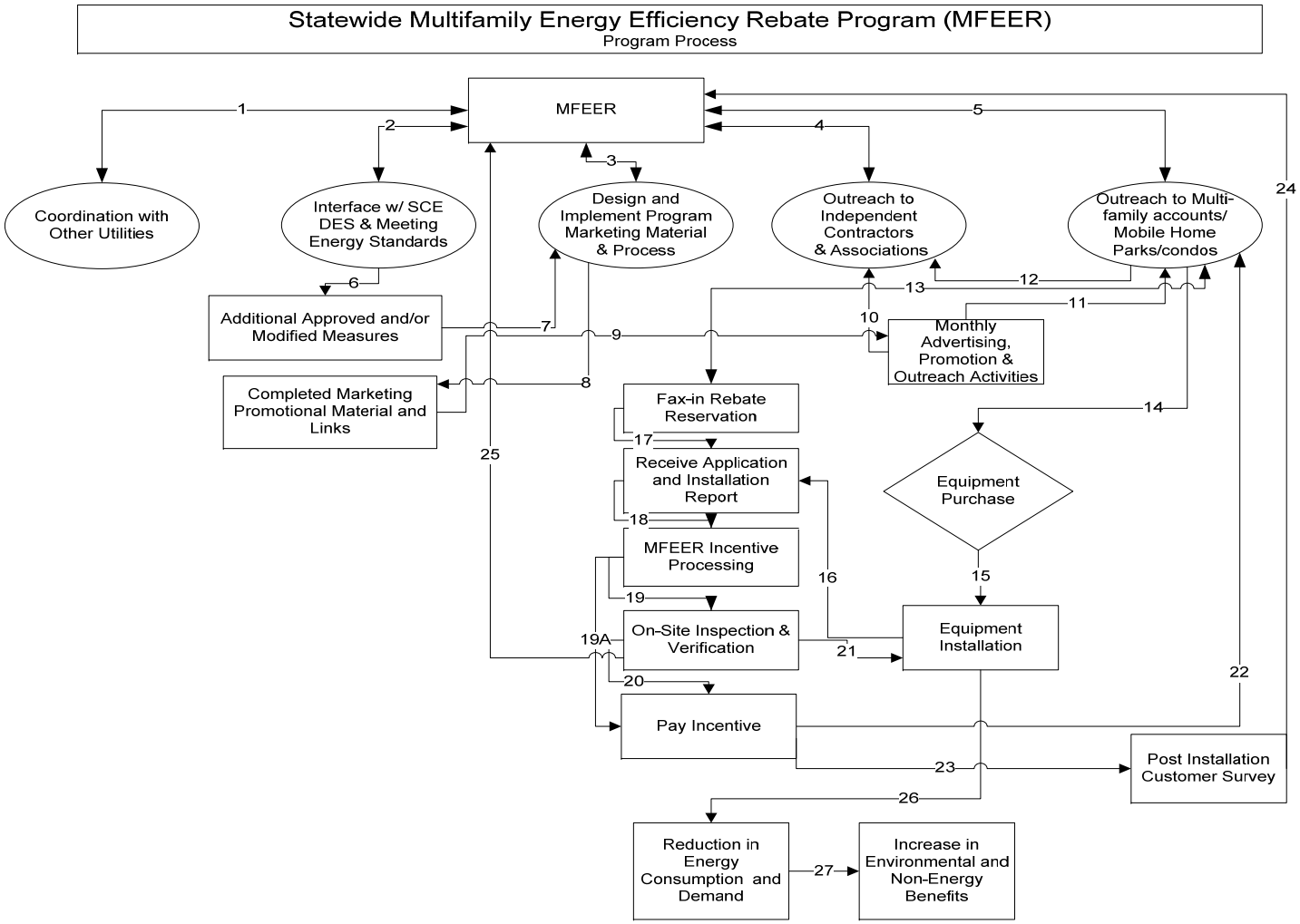
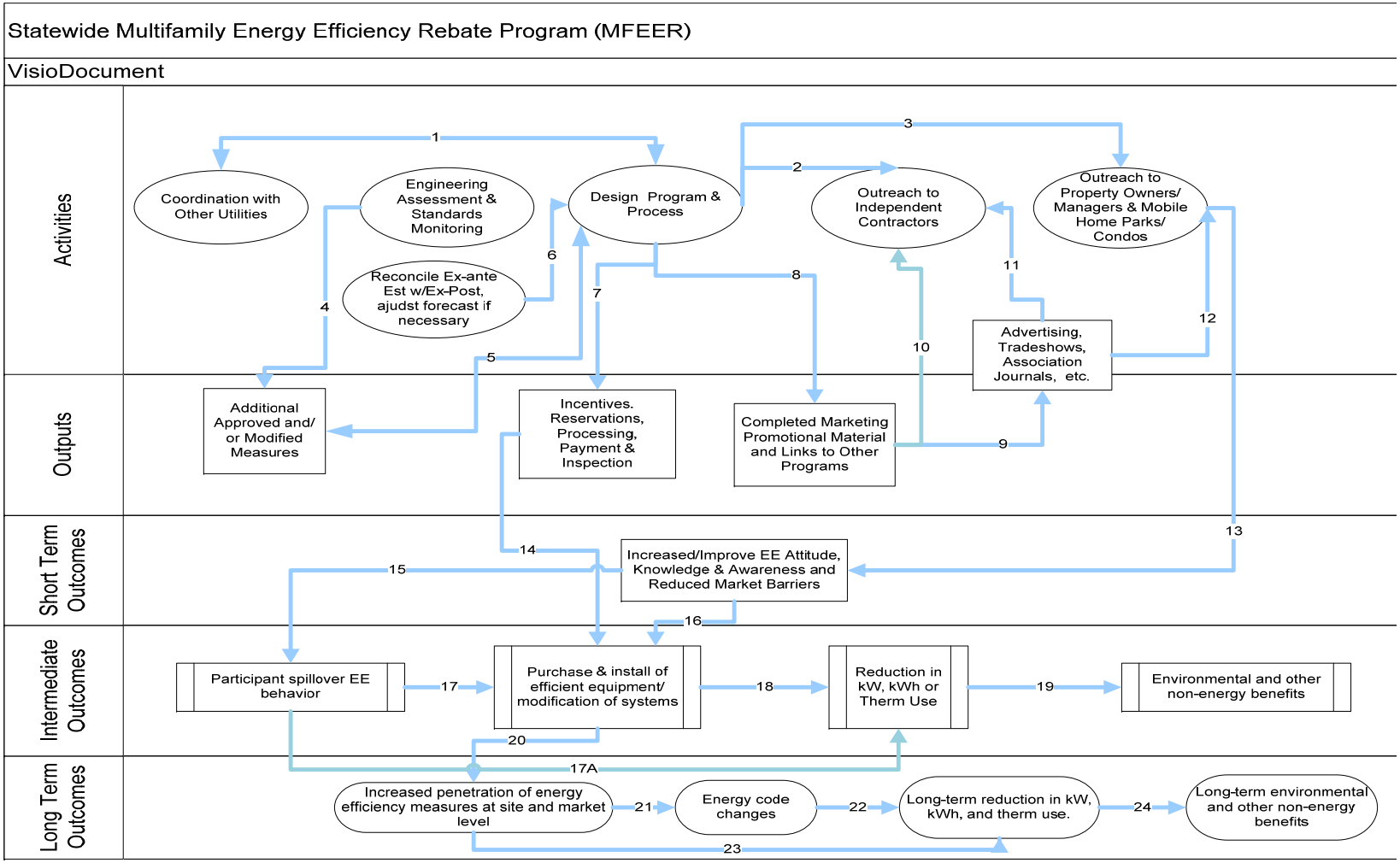


Figure 2-3
MFEER Program Logic Diagram



3. 2006-2008 Program Activity

This section summarizes the reported (pre-evaluation) activities of the SCE 2006-2008 MFEER Program. Table 3-1 shows that nearly all the measures that were installed were lighting measures.

Table 3-1
2006-2008 MFEER Program
Installation by Measure Type

Measure Category	Measure Count	Percent
Insulation	1	0.0%
Lighting	1,474,528	99.7%
Window	4,022	0.3%
Room A/Cs	138	0.0%
Pool Pumps	4	0.0%
Refrigerators	464	0.0%
Total	**1,479,157**	**100.00%**

The program kW and kWh information at measure level is not available to the evaluation team at the time.

4. Prior Evaluation Recommendations and Disposition

This section compares recommendations from the evaluation of the 2004-2005 statewide MFEER Program with the 2006-2008 activities of the SCE MFEER Program.

Table 4-1
Comparing Recommendations from
the Evaluation of the 2004-2005 Statewide MFEER Program
and the 2006-2008 Activities of the SCE MFEER Program

Recommendations from the 2007 Evaluation of the 2004-2005 Statewide MFEER Program	2006-2008 Activities of the SCE MFEER Program
The program's reliance on a dedicated pool of contractors is a cost-effective method of achieving energy savings. However, the measure mix will be dominated by lower cost retrofit measures such as lighting and boiler controls. This phenomenon is not unique to this program. The program managers have ramped up their marketing efforts to reach a wider pool of contractors that deal with replace on burnout measures. These efforts will take time to lead to impacts, but should be continued and possibly expanded in order to create gas impacts. Program goals should be set accordingly – since it will be difficult to rely on large quantities of replace on burnout measure installations.	• According to SCE's marketing department, two direct mailings were sent to multifamily property managers/owners in 2006, one was sent to them in 2007, and none were sent out in 2008. Two of these three mailings focused on lighting and the last non-lighting mailing was sent out in June 2006. • During the 2006-2008 time period the MFEER Program continued to be dominated by lighting measures (accounting for over 99% of Program-rebated measures).
The program should mine its tracking data in order to identify energy efficiency opportunities among prior participants (both retrofit and replace on burnout). The program might also consider introducing incentives that are designed to reward measure comprehensiveness to expand the diversity of measures installed in participating properties. This would help the IOUs meet their unit savings goals. However, this could reduce the program's cost-effectiveness since most properties install the most cost-effective measures first.	• The 2006-2008 MFEER Program did not offer any additional incentives for projects with greater measure comprehensiveness • According to SCE's marketing department, two direct mailings were sent to multifamily property managers/owners in 2006, one was sent to them in 2007, and none were sent out in 2008. Two of these three mailings focused on lighting and the last non-lighting mailing was sent out in June 2006.

Recommendations from the 2007 Evaluation of the 2004-2005 Statewide MFEER Program	2006-2008 Activities of the SCE MFEER Program
The program's preference towards self-initiating property managers/owners is logical and marketing efforts to directly engage properties should be continued and perhaps increased. Evaluation results showed that the fraction of smaller properties and self-initiators increased from 2004 to 2005 suggesting that ramped up efforts in 2005 were realized.	According to SCE's marketing department, two direct mailings were sent to multifamily property managers/owners in 2006, one was sent to them in 2007, and none were sent out in 2008. Two of these three mailings focused on lighting and the last non-lighting mailing was sent out in June 2006.
Large properties are underrepresented in the mix of participants, but that may not be a problem. Given the unique characteristics of larger properties, they may already be installing energy efficient equipment without incentives.	In 2008 interviews, the SCE MFEER Program staff said that they thought that the Program was doing a good job of reaching out to management firms with larger properties. However, the survey of multifamily property managers/owners indicated that these large properties were still underrepresented when compared to population baselines.
Program managers have demonstrated an understanding of their target market and its barriers and have designed a program that includes strategies to address the most important barriers. However, there may be some benefits to be gained from developing an explicit program theory including a formal logic model. As the program faces new challenges ahead – namely market saturation for lighting measures and meeting gas goals, it may benefit from a more formal approach to program design. For example, program managers might consider developing metrics associated with new program strategies to help gauge success and to inform future fine-tuning of new strategies.	A detailed program theory and a formal logic model were developed for the 2006-2008 MFEER Program. They appear in the second section of this report
The program's increasing emphasis on energy efficient fixtures (as opposed to bulbs) may make sense from both an impact and a process perspective. Per unit impacts are higher and property managers favor fixtures over bulbs since they lead to an improvement of the tenant unit. The program might consider adjusting incentive levels for light bulbs versus fixtures in order to	In 2008 interviews, the SCE MFEER Program staff said that the lighting fixtures' share of rebated Program measures had increased from 2004-2005. However, they said that the Program had not increased rebate levels for the fixtures. Instead they said that the Program was contemplating reducing fixture rebate levels due to information about the reduced costs of the

Recommendations from the 2007 Evaluation of the 2004-2005 Statewide MFEER Program	2006-2008 Activities of the SCE MFEER Program
increase cost-effectiveness. For example, convincing property managers/owners to install CFLs in tenant units may only require incentives that cover the labor cost. Fixture incentives may need to be increased to reflect the greater degree of skill and time required for their installation (versus bulbs).	fixtures.
The program's emphasis on quality assurance seems to have resulted in higher satisfaction in 2005 versus 2004. These efforts should be continued and reevaluated in conjunction with future evaluation results. If participating property managers/owners continue to have quality issues with CFLs, the program might consider requiring contractors to procure CFLs that have been successfully PEARL tested.	• As discussed in great detail in this report, quality concerns have resurfaced during the 2006-2008 period. While SCE had been making satisfaction calls to all Program participants during the 2004-2005 Program, they had discontinued this practice in 2006-2008. During the 2006-2008 period they had only been making participant callbacks if the SCE inspectors found a problem. Inspections were made for 5-7% of projects during this period. • In 2009 SCE adopted a number of new policies to try to mitigate these quality problems. New stricter licensing requirements were introduced in early 2009 that reduced the list of participating contractors from almost 80 to 30. Program staff also said that they had reinstituted more regular satisfaction callbacks for Program participants. Finally there had been discussion with the SCE inspection program to see whether inspectors could do more to try to talk to property managers to find out if they were satisfied with the installations.

5. Detailed Findings from the Survey of Participating Multifamily Property Managers/Owners

This report contains the detailed findings of a survey of 200 SCE property managers/owners who participated in the 2006-2008 MFEER Program. The MFEER Program promotes energy savings in apartment dwelling units and in the common areas of apartment and condominium complexes and mobile home parks. Property owners (and property managers, as authorized agents for property owners) of existing residential multifamily complexes may qualify for rebates for installing a variety of energy efficiency measures. Starting in 2006 the Program allowed multifamily properties with fewer than five units to participate for the first time.

Although the Program does some limited marketing, most of the MFEER-rebated energy-efficient projects are identified and installed by a cadre of installation contractors – mostly lighting contractors – who have a primary focus on the multifamily sector. Measures that were rebated by the Program during the 2006-2008 program cycle included:

- CF reflectors,
- HVAC,
- De-lamping,
- Electric water heaters,
- Exit signs,
- Exterior fixtures,
- Insulation,
- Interior fixtures,
- Lamps,
- Photocells,
- Pool pump and motors,
- Refrigerators,
- Room air conditioners, and
- Windows.

The lighting measures accounted for the vast majority of the measures installed through the Program.

5.1 Purpose and Scope

This survey of participating multifamily property managers and owners had a number of objectives including:

- *Participant characteristics:* We were interested in learning more about the 2006-2008 MFEER Program participants and how they compared to the 2005 participants. We asked the property managers/owners about their job titles and level of experience, the size of their companies, the ownership/management structures of their companies, the sizes of the participating properties, the types of energy systems in these properties, and so-called "split incentive" factors such as whether tenants pay their own energy bills.

- *Program/rebate awareness and participation:* In addition to confirming their awareness of their property's participation in the MFEER Program, we were also interested in finding out how the property managers/owners heard about the Program, their preferred ways of receiving Program information, and whether they were aware of other MFEER rebates besides the ones they received.

- *Market barriers:* We wanted to better understand the market barriers that prevent multifamily property managers/owners from implementing these energy-efficient measures on their own. This report discusses energy-efficient technology awareness/familiarity barriers, the significance of "split incentive" barriers, as well as other market barriers.

- *Project implementation:* We were interested in knowing about the types of MFEER-rebated equipment that were installed, where they were installed (e.g., common areas vs. tenant units), and who installed the equipment. We also wanted to find out how project implementation for the 2006-2008 participants compared to project implementation for the 2005 participants.

- *Program satisfaction:* We collected information on the participating property manager's/owner's satisfaction with: the rebated equipment and the contractors who installed it; the rebates and rebate processes, the Program staff, and the Program as a whole. We compared the responses of the 2006-2008 participants to those of the 2005 participants. We also compiled the recommendations of the participating property managers/owners for Program improvements.

- *Future project implementation:* To inform the efforts of the MFEER Program going forward, we wanted to learn whether the participating property managers/owners plan to implement any other projects through the MFEER Program in the near future, which technologies they are contemplating installing, what barriers might prevent or delay the implementation of these projects; and -- if they are not planning future energy-efficient projects -- why they have no such plans.

- *Effects of participation on energy efficiency awareness, knowledge, and attitudes:* SCE's Program Implementation Plans (PIPs) for its 2009-2011 residential programs indicate that SCE will measure over time the effects of these programs on the energy efficiency awareness, knowledge, and attitudes of Program participants. To help some baseline measurements for this effort, we read to the 2006-2008 MFEER Program Participants a number of statements concerning energy efficiency awareness, knowledge, and attitudes.

5.2 Methodology

Table 5-1 shows the sampling plan that we used for this survey of 200 participating SCE multifamily property managers/owners. We developed the sample frame from a tracking database of 2006-2008 MFEER participants that SCE provided in September 2008. SCE staff requested that we over-sample certain participant segments of interest such as property managers/owners who installed non-lighting measures and those who installed a diversity of lighting measures. We also considered the level of Program activity in our stratification scheme. Before reporting the final results, we used sample weights to adjust for the effects of this oversampling.

Table 5-1
Sample Design for Survey
of 2006-2008 Participating SCE Property Managers/Owners

Strata	Measure diversity? (Did non-lighting measures?)	Program activity (Where do they rank as to the # of MFEER-rebated measures that each property manager/owner had installed?)	Lighting diversity? (5 or more different lighting measures implemented?)	# in sample frame	%	Target # of completed surveys	# of completed surveys
Stratum 1	Yes	Various levels	Mixture	73	1%	25	26
Stratum 2	No	Top quartile	Yes	25	0%	10	5
Stratum 3	No	Top quartile	No	74	1%	25	19
Stratum 4	No	Middle two quartiles	Yes	156	3%	25	27
Stratum 5	No	Middle two quartiles	No	995	19%	25	31
Stratum 6	No	Bottom quartile	Yes	85	2%	15	15
Stratum 7	No	Bottom quartile	No	3,778	73%	75	77
			Total	**5,186**		**200**	**200**

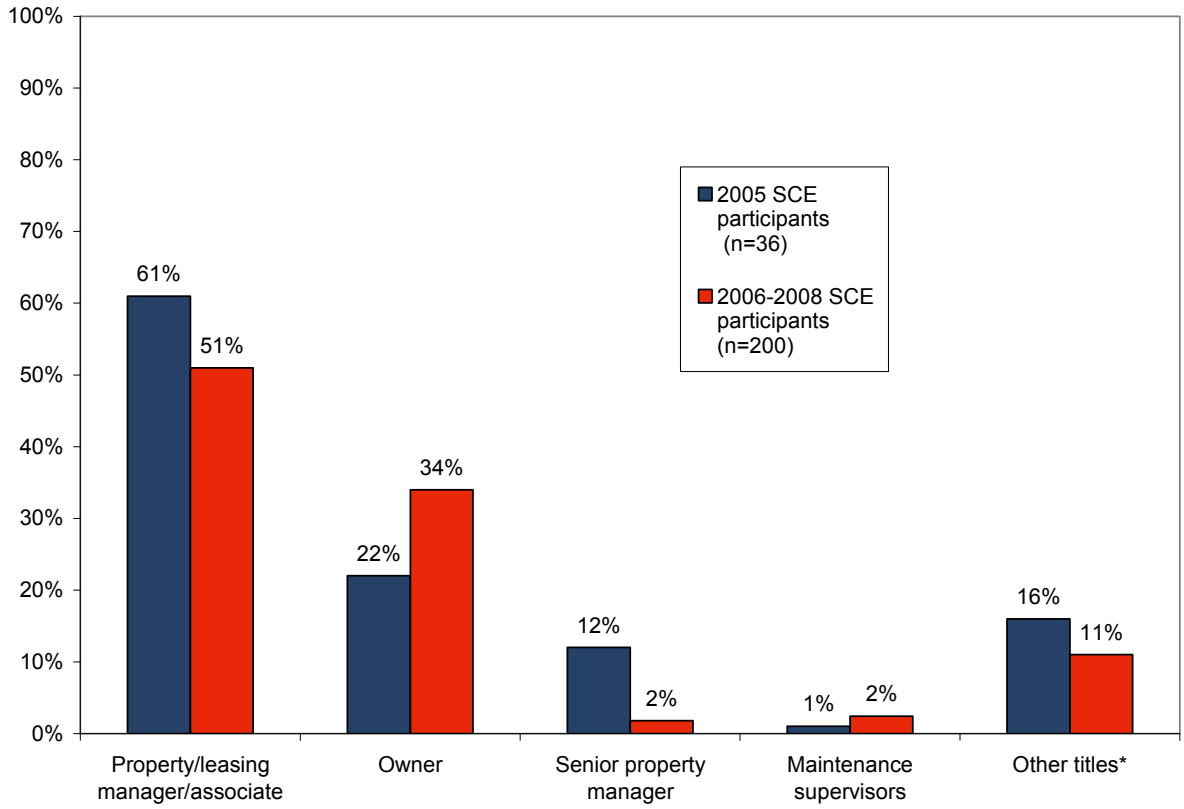
5.3 Participant Characteristics

This section summarizes some key attributes of the survey respondents and their participating properties. These include the job positions and experience levels of the survey respondents, the number of tenant units in the participating properties, whether or not these properties have centralized energy or water systems, whether they have master meters for these systems, whether their tenants pay their own energy bills, and their ownership status.

5.3.1 Job Position and Experience of Respondents

To better understand the perspectives and experience of the people who responded to the survey, we asked them for their job titles and how long they had been in the business of owning, managing, or maintaining multifamily properties. Figure 5-1 shows that the 2006-2008 participants had a higher percentage of owners than the 2005 participants. This is likely due to the Program shift towards smaller properties that we discuss in a later subsection.

Figure 5-1
Job Titles of
Survey Respondents
2005 vs. 2006-2008 SCE Participants

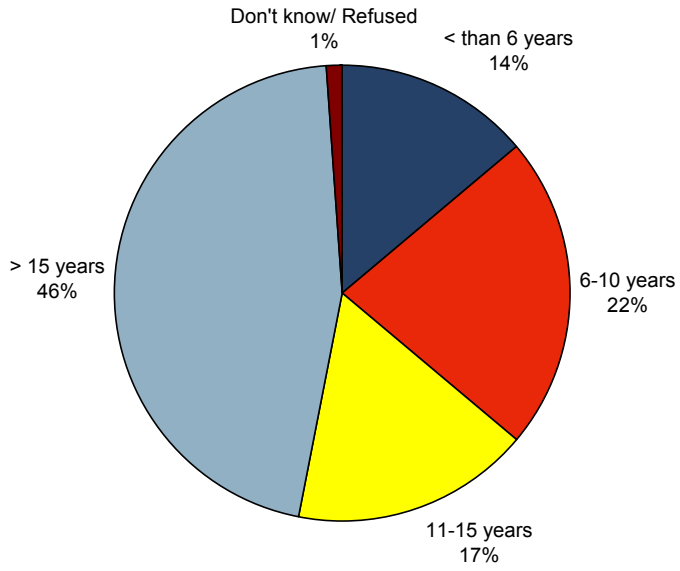


Note: *Other titles include administrator, on-site/resident manager, and treasurer.

Figure 5-2 shows that the 2006-2008 participants were a fairly experienced group with the average length of multifamily management/ownership experience being 17 years. In comparison, the 2005 participants had an average length of experience of 13 years.

Figure 5-2
Years of Multifamily Management/Ownership Experience
of 2006-2008 SCE MFEER Program Participants

n=200, mean=18 years, median=15 years



5.3.2 Size and Ownership/Management Characteristics of Participating Companies

Our 2008 and 2005 surveys of contractors participating in the MFEER Program found that these contractors were having difficulty gaining access to multifamily properties owned/managed by the larger companies. As discussed in more detail later in this report, participating contractors cited bureaucracy and communication problems as reasons for having difficulty getting business from these large companies.

To get some sense of company size and ownership/management structure, we asked the 2006-2008 SCE MFEER Program participants how many properties their companies:

- Own and managed,
- Owned but did not manage, and/or
- Managed but did not own.

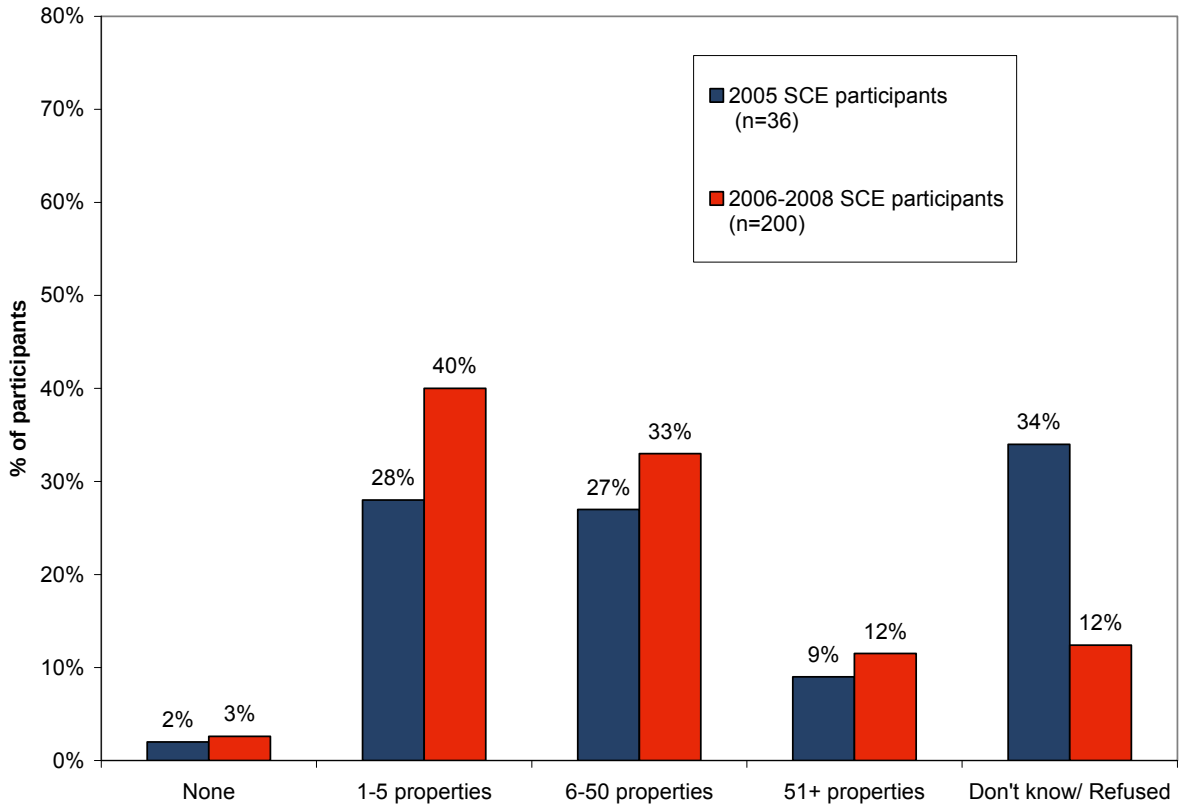
Table 5-2 shows that the most common ownership/management arrangement was both owning and managing multifamily properties. The large majority of the participating companies owned and managed at least one property and the average number was 37. The second most common ownership/management arrangement was managing but not owning properties and the least common was owning but not managing.

Table 5-2
2006-2008 MFEER Program Participants
by # of Properties and Ownership/Management Structure

Property Ownership/Management Category	None	1-5 properties	6-50 properties	51+ properties	Don't know/ Refused	Total	Mean	Median
How many California multifamily properties the company owns & manages (n=200)	3%	40%	33%	12%	12%	**100%**	37.1	7.5
How many California multifamily properties the company owns but does not manage (n=200)	54%	16%	6%	3%	22%	**100%**	7.5	0
How many California multifamily properties the company manages but does not own (n=200)	41%	21%	13%	4%	21%	**100%**	13.2	0

Looking at the most common ownership/management arrangement (both owning and managing a property) – we compared the distribution of company sizes (based on the number of multifamily properties) of the 2005 MFEER participants vs. the 2006-2008 MFEER participants. Figure 5-3 shows that there was an increase in all the company size categories and a proportionate decrease in the percentage of participants who did not know how many properties their companies owned and managed. One possible explanation for this is that the 2006-2008 MFEER Program does have a higher proportion of smaller companies and owners/managers with smaller companies are more likely to know how many properties their company owns and manages than owners/managers with bigger firms.

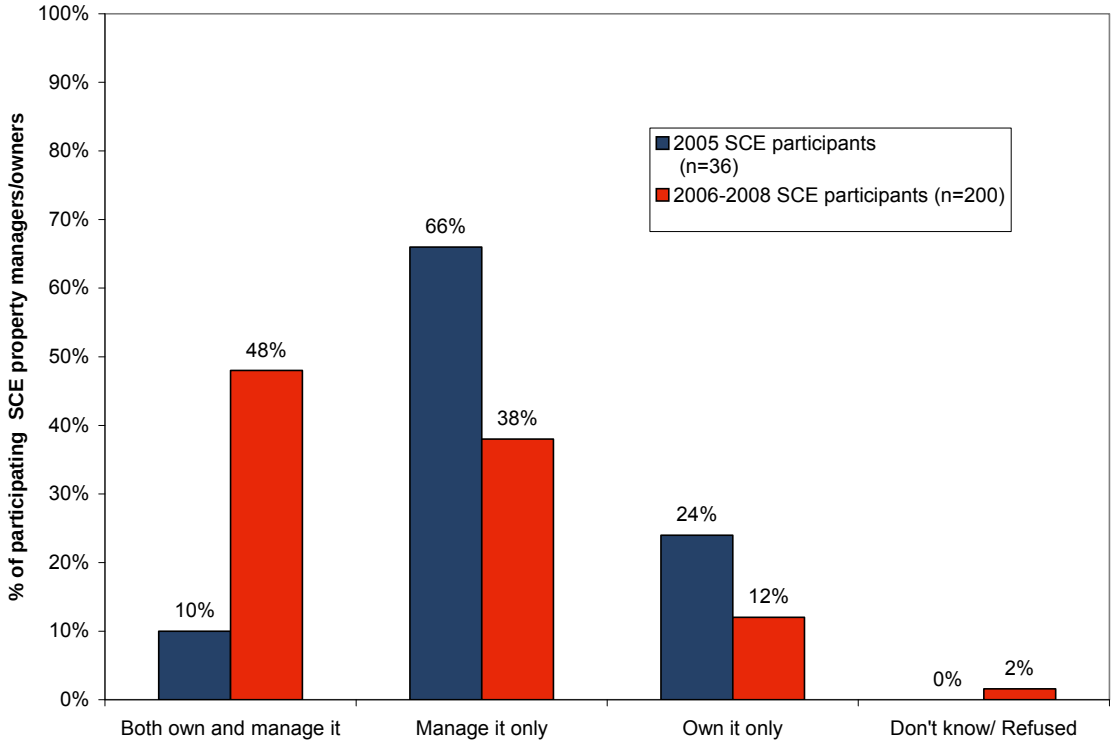
Figure 5-3
Distribution of # of Multifamily Properties
That Companies Both Own and Manage
2005 vs. 2006-2008 Participants



5.3.3 Ownership/Management Characteristics of Participating Properties

We asked the property managers/owners whether they or their firms owned their participating properties, managed them, or both owned and managed them. Figure 5-4 shows that there was nearly a five-fold increase in the percentage of property managers/owners reporting that they, or their firms, both owned and managed the participating properties. The most likely explanation for this trend is the recent MFEER Program shift towards smaller properties that we discuss in the next subsection. Half of the smaller properties (100 units or less) that participated in the Program during the 2006-2008 period were both owned and managed compared to only a third of the medium-sized (101-250 units).

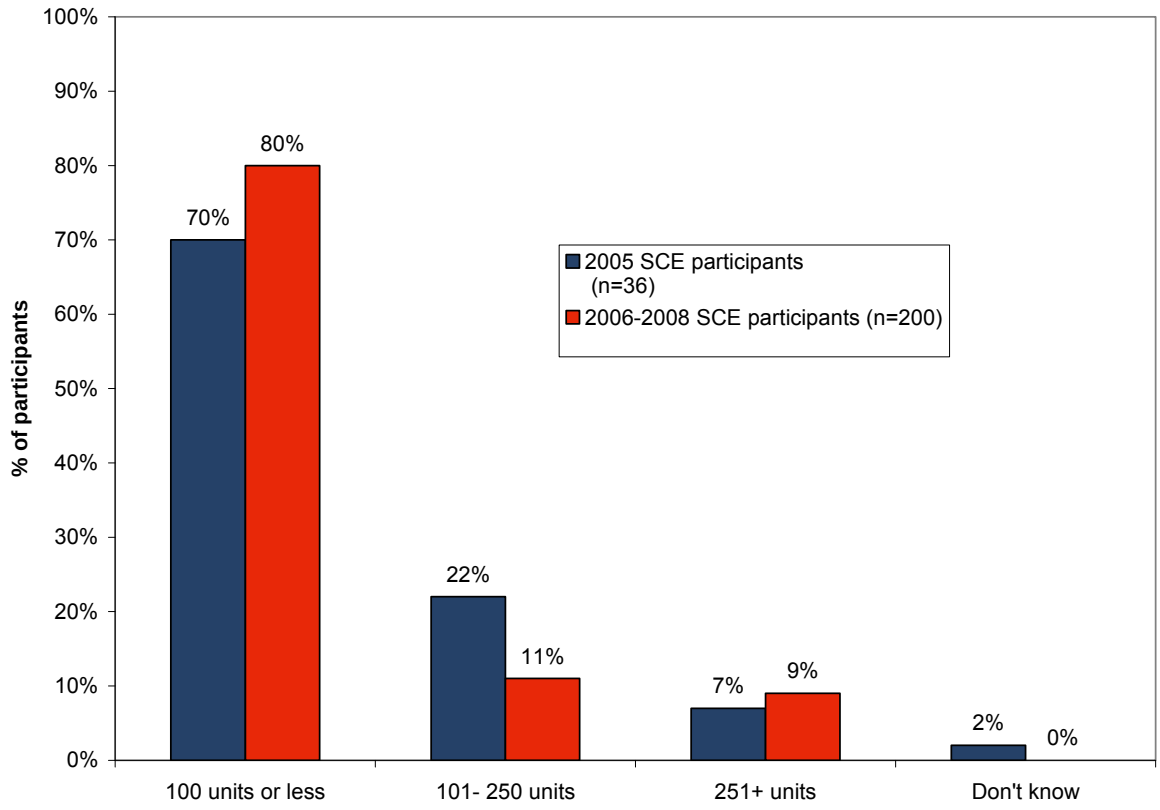
Figure 5-4
Ownership Status
of Participating Multifamily Properties
2005 vs. 2006-2008 SCE Participants



5.3.4 Property Size

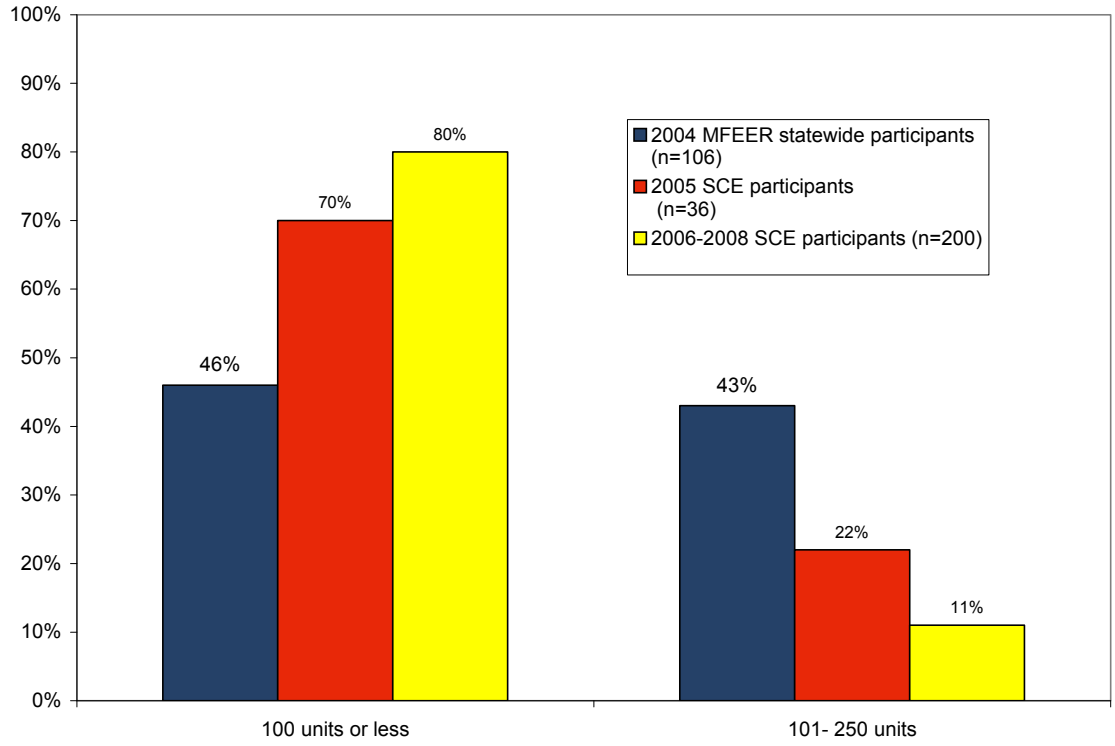
We asked the property managers/owners how many apartment units were in the building where the MFEER-rebated energy-efficient measures were installed. Figure 5-5 shows that percentage of smaller properties has increased from 2005 to 2006-2008 while the percentage of middle-range properties has dropped in half.

Figure 5-5
The Sizes of Participating Multifamily Properties
2005 vs. 2006-2008 SCE Participants



There are a couple of possible explanations for this. First it we go further back in time to the 2004 participants (see Figure 5-6), it appears that this shift from medium- to smaller-sized properties is part of a longer-term trend. Our evaluation of the 2004-2005 MFEER Program found that many participating contractors avoid smaller properties if they can because it is harder to recover their fixed costs with the smaller economies of scale. In addition, the contractors find it difficult to access large properties for a variety of reasons. As a result, the proportion of medium-sized properties in the 2004 MFEER Program was much higher (43%) than the proportion in the general population (25% from a 2000 California market baseline study). But over time, due to greater Program saturation in the middle-sized properties, it is likely that some of the participating contractors have had to turn to the less financially-attractive smaller properties to get their rebate dollars. Another possible explanation for the increase in the participation share by smaller properties in 2006-2008 is the fact that in 2006 the Program allowed multifamily properties with fewer than five units to participate for the first time.

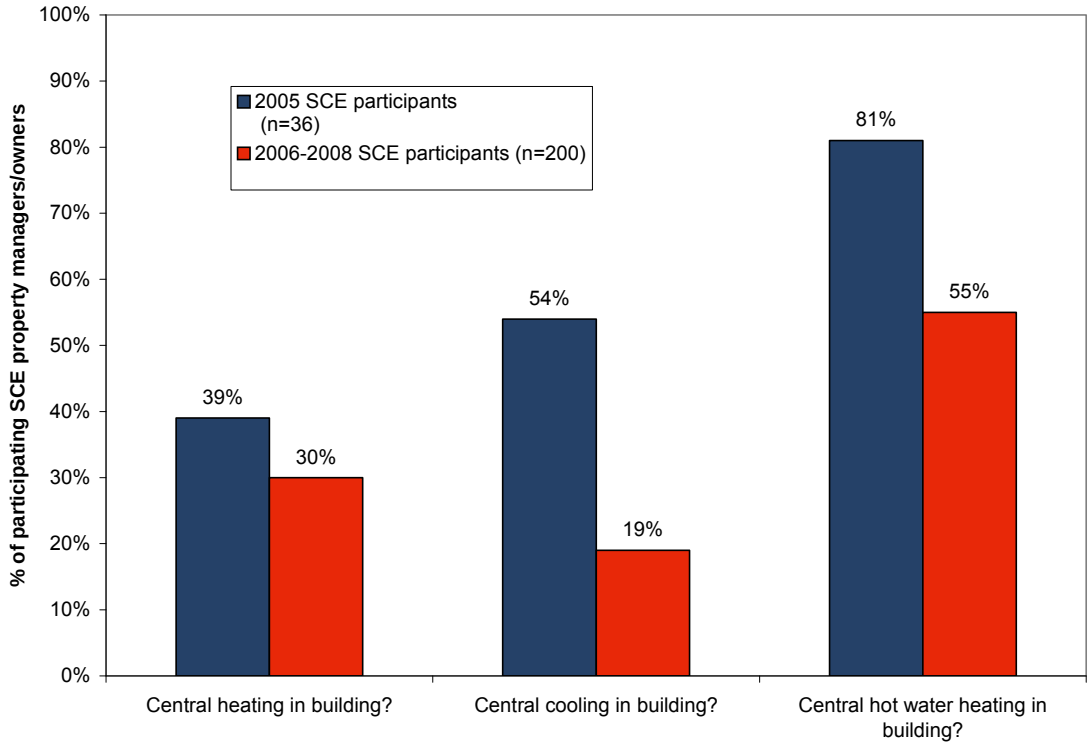
Figure 5-6
MFEER Program Participation Trends
for Small-, Medium-Sized Properties
2004-2008



5.3.5 Energy Systems

We asked the property managers/owners whether their buildings contained central systems that provided heating, cooling or water heating to all the tenants units. Figure 5-7 shows that over half of the participating properties have central heating systems, but less than a third have central heating and only about a fifth have central cooling. All these percentages are much lower than they were in 2005. One factor that may be contributing to this is the shift to smaller properties as shown in Figure 5-6.

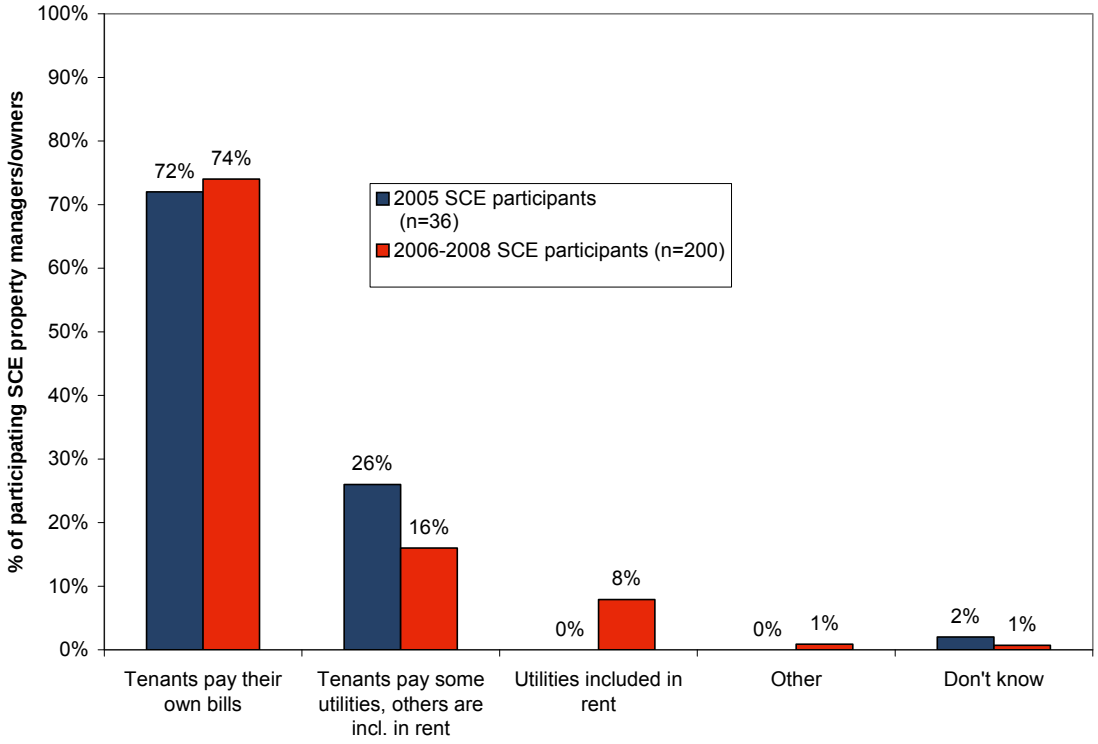
Figure 5-7
Energy Systems in Participating Multifamily Properties
2005 vs. 2006-2008 SCE Participants



5.3.6 Split Incentive Factors

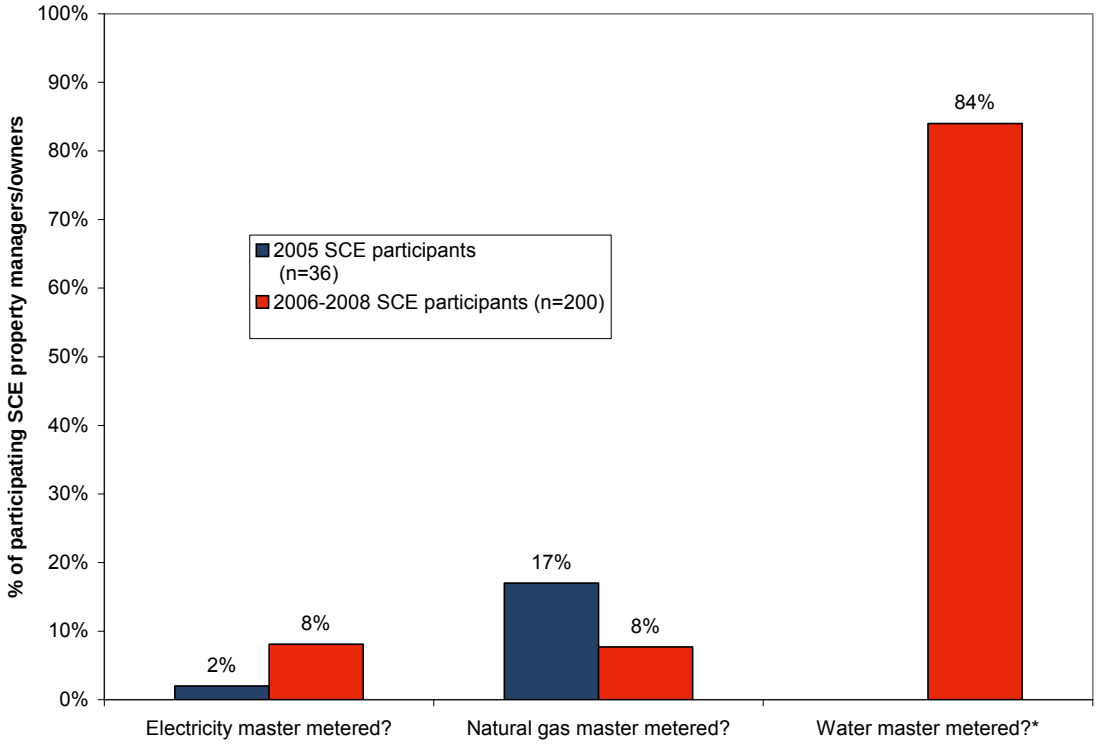
According to current program evaluation theory, as well as the program logic of the MFEER Program itself, one of the main reasons why property managers/owners do not improve the energy efficiency of their tenant units is the so-called “split incentive barrier.” The premise of this barrier is that although property managers/owners are responsible for facility improvements, they usually do not pay energy bills for the tenant spaces and therefore have little incentive to install more expensive energy-efficient measures in these spaces. To confirm the existence of these split incentives, we asked the property managers/owners whether their tenants pay their own utility bills or whether utilities are included in the rent. Almost three quarters of the property 2006-2008 managers/owners said that their tenants pay their own utility bills (Figure 5-8) – a similar proportion as to what the 2005 participants reported. The influence of this on the decision-making of the property managers/owners regarding energy-efficient equipment is discussed in the barriers section below.

Figure 5-8
Whether Tenants Pay Their Own Utility Bills
in Participating Multifamily Properties
2005 vs. 2006-2008 SCE Participants



In properties with master meters there is a greater likelihood that property managers/owners would have an incentive to reduce energy costs. This is because such properties – which usually have centralized heating or hot water systems -- are more likely than individually-metered properties to: 1) include some energy costs as a part of the rent or 2) charge fixed fees for such energy costs. Under both these scenarios the property owner would directly benefit from installing a centralized boiler or water heater that had greater energy-efficiency. We asked the 2006-2008 participating property managers/owners whether their properties had master metering for electricity, gas, and/or water. Figure 5-9 shows that master metering is very rare except for water.

Figure 5-9
Energy Master Metering
in Participating Multifamily Properties
2005 vs. 2006-2008 SCE Participants



Note: *The 2005 participants were not asked whether their properties were master metered for water.

5.4 Program/Rebate Awareness and Participation

This section summarizes our findings concerning:

- How familiar the responding property managers/owners were with the installed energy-efficient measures,
- How involved the property manager/owners were with the decision to install these measures;
- How familiar they were with the fact that SCE provided rebates to buy down the cost of these measures and how they found out about these rebates;

- Where they typically go for information when deciding the purchase/replacement of energy-using equipment; and
- Why they joined the MFEER Program.

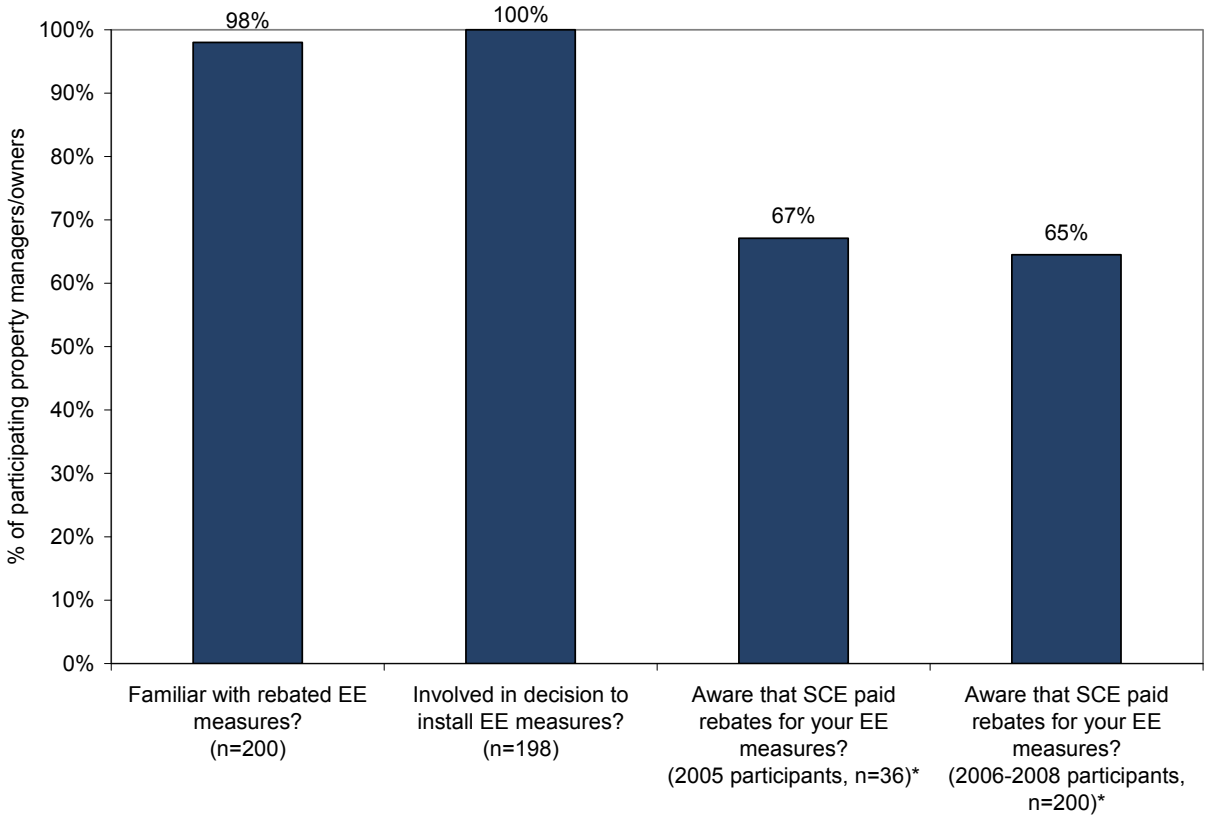
5.4.1 Awareness of the Rebated Measures and Rebates

To get maximum value out of the surveys, we wanted to make sure that we were talking to a high percentage of property managers who were:

- Familiar with the energy-efficient measures that were installed;
- Involved in the decision to install these energy-efficient measures; and
- Aware that the SCE MFEER Program provided rebates to buy down the cost of these energy-efficient measures.

Figure 5-10 shows that all 2008 participating property managers/owners claimed to be involved in the project decision-making and nearly all said they were familiar with the installed energy-efficient measures. However, only about two-thirds said they were aware that SCE had paid a rebate to buy down the cost of these installations. This was similar to the percentage of 2005 participants claiming awareness.

Figure 5-10
EE Measure and Rebate Awareness/Involvement
of Participating SCE Property Managers/Owners



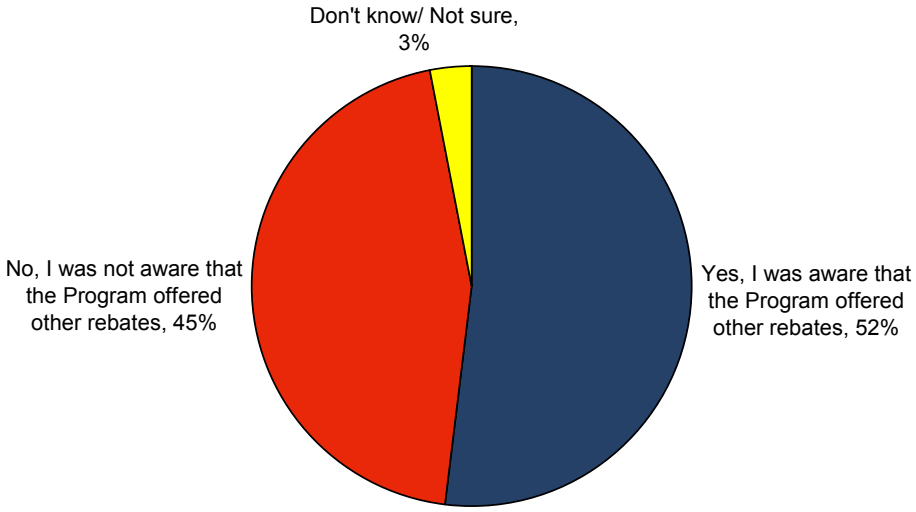
Note: *The sample sizes for the two rebate awareness questions are extrapolated from a series of nested questions. We first asked the property managers/owners in both 2006 and 2008 whether they were aware that SCE "offers rebates for making energy efficiency improvements to apartment complexes such as yours?" Those who claimed awareness were then asked: "Are you aware that in (Specified Year) Southern California Edison's multifamily rebate program paid rebates to either your company or the installation contractor to help reduce the cost of (Specified Measurement Type) at (Specified Address)?" The percentages in the chart are the products of the % of respondents who answered "Yes" to both these questions and the sample sizes are for those who were asked the first question.

The SCE staff was interested in knowing whether participating property managers/owners who only had one type of energy-efficient equipment installed through the MFEER Program knew that the Program also offered rebates for other types of energy-efficient equipment. Since the Program is mainly delivered through installation contractors, there was concern that these contractors would only promote MFEER rebates for the energy-efficient equipment that they sold. The survey responses indicated that there are reasons for concern. Figure 5-11 shows

that only about half (52%) of those who only had one type of MFEER-rebated equipment installed were aware that other types of MFEER rebates were available.

Figure 5-11
Whether 2006-2008 SCE Participants
Who Only Installed One Type of Rebated EE Equipment
Were Aware of the Availability of Other MFEER Rebates

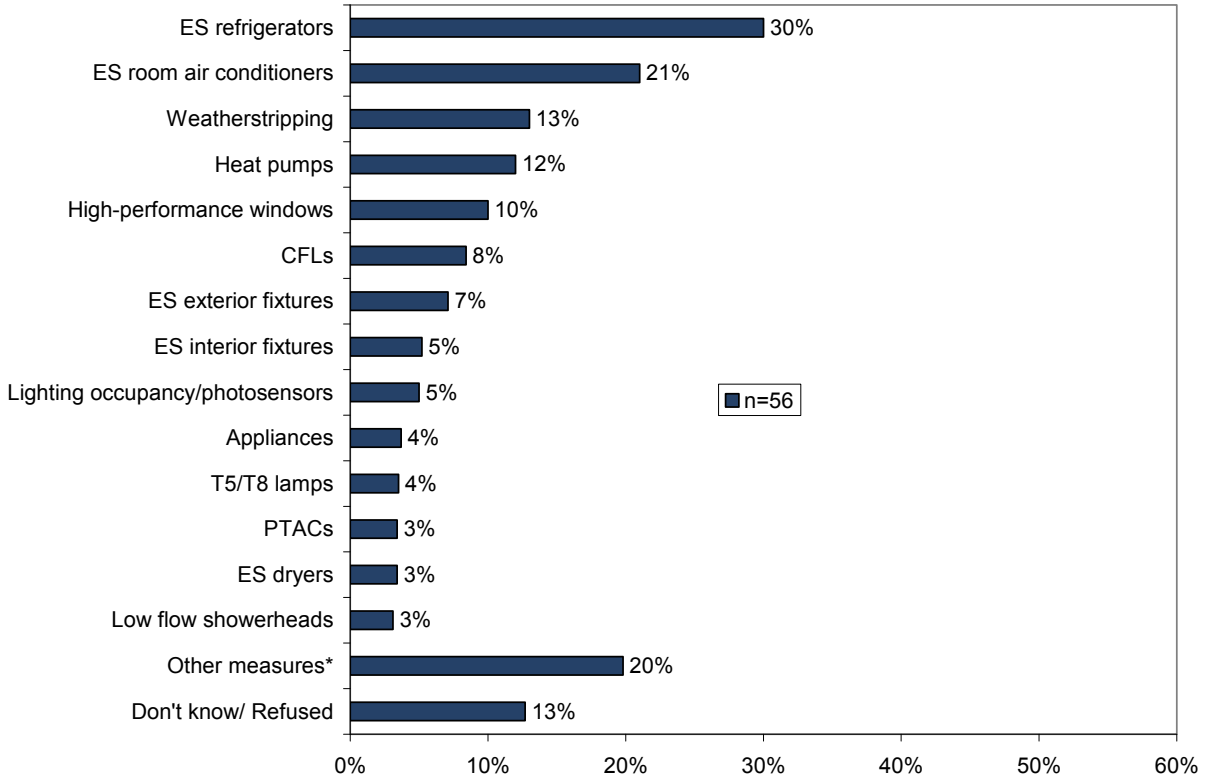
2006-2008 SCE participants who only installed one type of MFEER-rebated measure (n=108)



Note: This question was not asked of the 2005 participating property managers/owners.

We asked the "single-measure-type" participants who had heard of other MFEER rebates: "What other types of energy-efficient measures were you aware of that qualify for rebates from this program?" Figure 5-12 shows that they cited a wide variety of rebates including some (e.g., Energy Star dryers, low-flow showerheads) that the MFEER Program does not actually rebate.

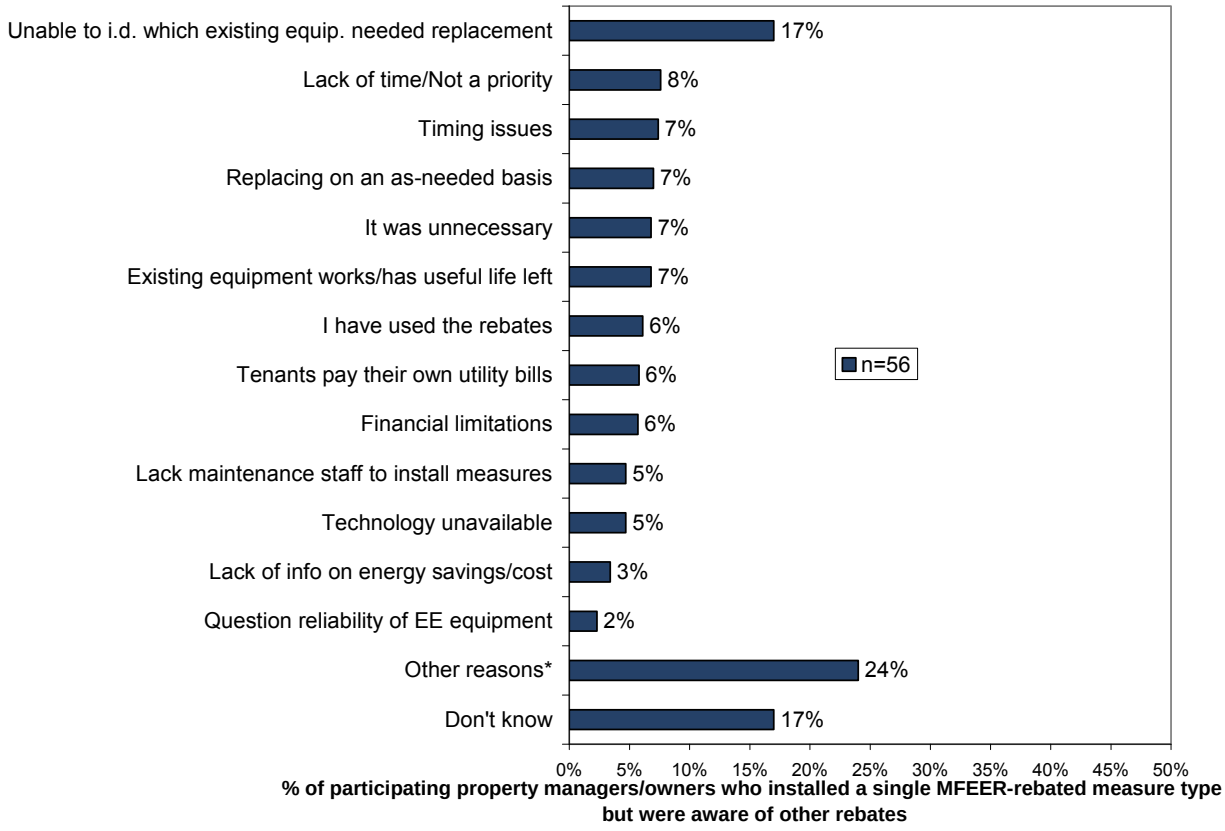
Figure 5-12
What Other SCE EE Equipment Rebates
2006-2008 Participants
Who Only Installed One Type of Rebated EE Equipment
Were Aware of



Notes: Totals exceed 100% because multiple responses were allowed. *Other measures include door sweeps, attic/wall insulation, low-flow toilets, water heaters, exterior lighting, hot water controls, unspecified lighting, and thermostats.

We asked the “single-measure-type” participants who had heard of other MFEER rebates why they had not had any of these other MFEER-rebated measures installed. Figure 5-13 shows that they had many different reasons with no particular reason being cited by a large percentage of respondents. The most-cited reason was the inability to identify which existing equipment needed replacement.

Figure 5-13
Why 2006-2008 SCE Participants
Who Only Had One Type of Rebated EE Equipment Installed
Did Not Install Other Types Despite Being Aware of the Other Rebates



Notes: Totals exceed 100% because multiple responses were allowed.

5.4.2 How Participants Heard About the Rebates/Program

MFEER Program staff told us that in recent years their marketing activities have mainly consisted of doing presentations for apartment associations and attending multifamily trade shows. We asked the 2006-2008 participating property managers/owners how they first learned about the SCE MFEER Program. Table 5-3 shows that an installation contractor offering services is, by far, the most common way those participating property managers/owners said that they heard about the Program. The table also shows that reports of first information from the Program marketing channels – whether the apartment/trade association presentations/newsletters or reports of SCE contacting them -- have dropped significantly. When we evaluated the 2004-2005 MFEER Program, SCE Program staff told us they were

calling all of the Program participants to assess their satisfaction with the installed work. Our interviews with Program staff in 2008, however, revealed that they are doing a much smaller percentage of these callbacks. In theory these satisfaction callbacks should not be a great source of new participants since the calls are being made to properties that have already participated. However, the high turnover rate in the multifamily management sector means that these satisfaction calls will result in new property managers becoming aware of the MFEER Program for the first time.

Table 5-3
How Participating Property Managers/Owners
First Heard About the Rebate Program
2005 vs. 2006-2008 SCE Participants

Information Sources	2005 SCE participants (n=24)	2006-2008 SCE participants (n=130)
Installation contractor offering services	43%	39%
Apartment/Trade association presentation/newsletter	17%	7%
Utility website	7%	7%
Previous participation in the Program	2%	5%
SCE contacted them	18%	5%
Utility bill insert	6%	5%
Community group	8%	0%
Other utility direct mail piece	0%	5%
Word-of-mouth	0%	4%
From board/ Company management	0%	4%
Other information sources*	6%	14%
Don't know/Refused	8%	6%

Note: *Other sources include conferences/seminars, somebody called them, newspaper, Internet, email along with other sources.

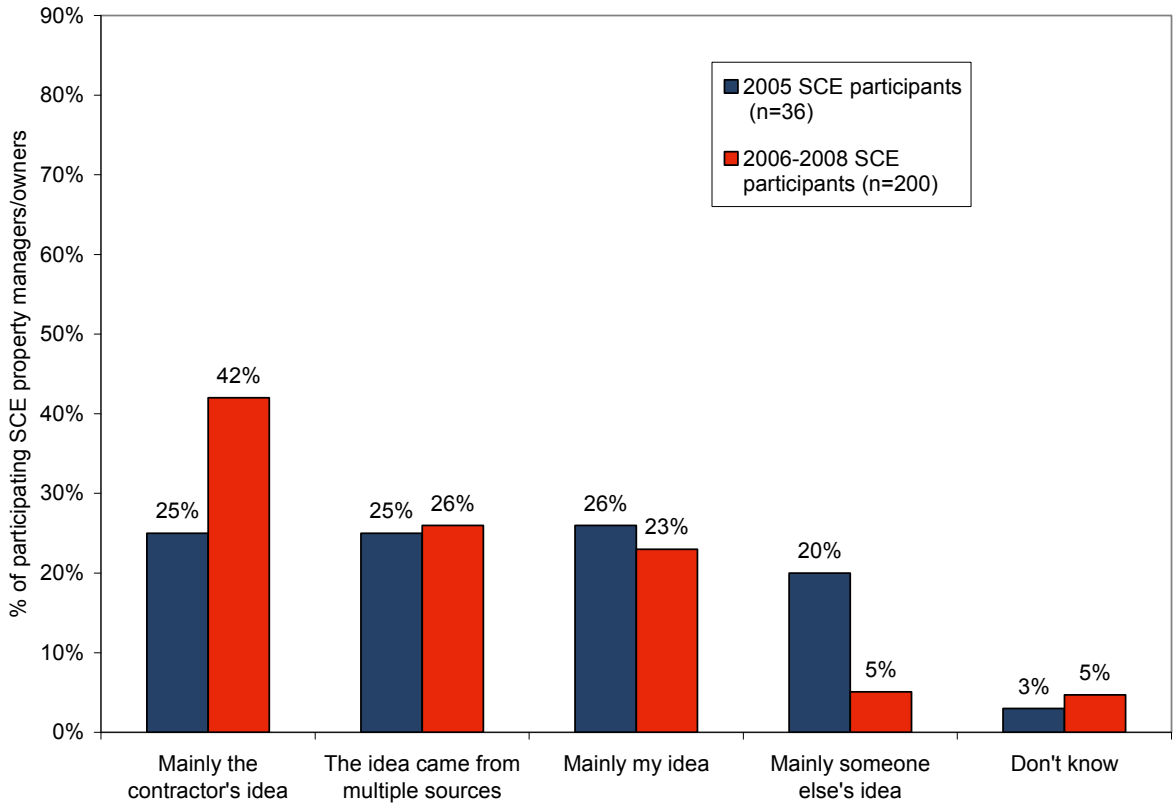
5.4.3 Project Decision-Making

When we interviewed SCE Program staff in 2006 for the evaluation of the 2004-2005 MFEER Program, they told us that they were actively trying to encourage more “self-initiators” to participate in the Program. These “self initiators” were property managers who joined the Program on their own accord rather than being brought into the Program by an installation

contractor. The hope was that these self-initiators would have a broader concept of their energy efficiency opportunities than contractor-driven participants – who may have only heard suggestions from a contractor that specialized in a certain type of energy efficiency technology.

We asked the 2006-2008 participating property managers/owners: “Who came up with the idea for the energy efficiency improvements at (Specified Address)? Was it mainly your idea, mainly the contractor's idea, or a combination of both?” Figure 5-14 shows their responses and compares them to those of the 2005 participants. The chart shows that the percentage of participating property managers/owners who came up with project ideas mainly on their own stayed about the same between the 2005 and the 2006-2008 participants. The biggest changes were that the 2006-2008 participants were much more likely to say that their contractors were the main sources of the ideas for their projects and much less likely to say it was “mainly someone’s else’s idea.” This other person was usually a property owner although occasionally it might be a pool maintenance contractor or a friend of the interviewee. This decline also may be due to the shift to smaller properties since there are likely fewer decision-makers -- besides the property manager/owner we interviewed -- involved in the decision-making.

Figure 5-14
Who Came Up with the Idea for the Energy Efficiency Project
According to Participating SCE Multifamily Property Managers
2005 vs. 2006-2008 Participants



We also asked the property managers/owners what sources of information they use to help them make a decision when they are purchasing or replacing energy-using equipment in their properties. Table 5-4 shows that the 2006-2008 participants used a wide variety of information sources with none of them accounting for a large percentage of the responses. Comparing these responses to those from the 2005 participants shows that there were sharp declines in the reliance on internal maintenance staffs, Internet research, regular installation contractors, and equipment manufacturers. The lower reliance on internal maintenance staff may be partly due to the 2006-2008 Program's shift to smaller property sizes (see later discussion) where internal maintenance resources are less available.

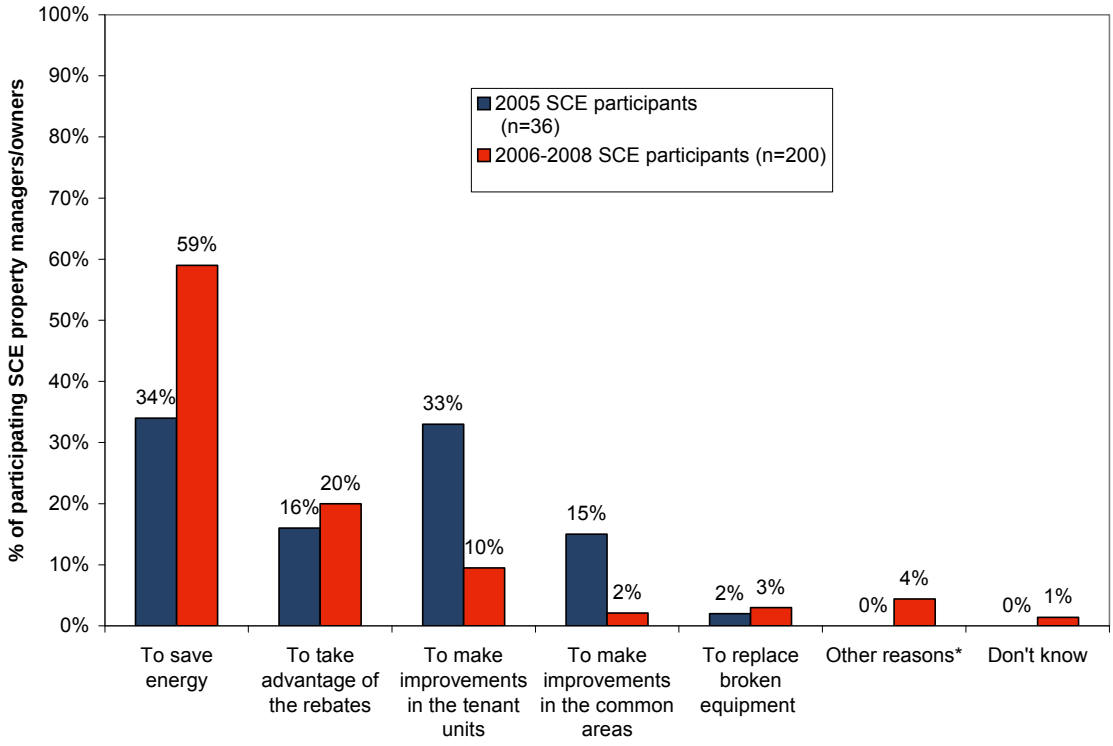
Table 5-4
Information Sources Used by
Participating Property Managers/Owners
When Deciding the Purchase/Replacement of Energy-Using Equipment
2005 vs. 2006-2008 SCE Participants

Information Source	2005 SCE participants (n=36)	2006-2008 SCE participants (n=200)
Internal maintenance staff	43%	14%
Our own Internet research	19%	10%
An outside installation contractor we consult occasionally	9%	7%
Our utility representative	10%	7%
Ownership/ Upper management	0%	6%
Our regular installation contractor	14%	6%
Equipment manufacturers	17%	3%
Equipment distributors, wholesalers	2%	5%
Equipment dealers, retailers	5%	5%
Apartment/ Trade association presentations/newsletters	6%	3%
Other information sources*	0%	15%
Don't know	4%	25%

Note: *Other sources include cost/savings information or energy efficiency information of unspecified origin, their own knowledge/research, unspecified advertisements, newspapers, utility websites, and word of mouth.

Finally we queried the property managers/owners as to their primary reasons for participating in the Program. The percentage of respondents who cited saving energy as their primary reasons nearly doubled between 2005 and 2006-2008 (Figure 5-15). This was likely due to the large increase in energy prices that occurred during the 2007-2008 period.

Figure 5-15
Primary Reasons Why
Participating SCE Multifamily Property Man
2005 vs. 2006-2008 SCE Participants



5.5 Barriers to Implementation

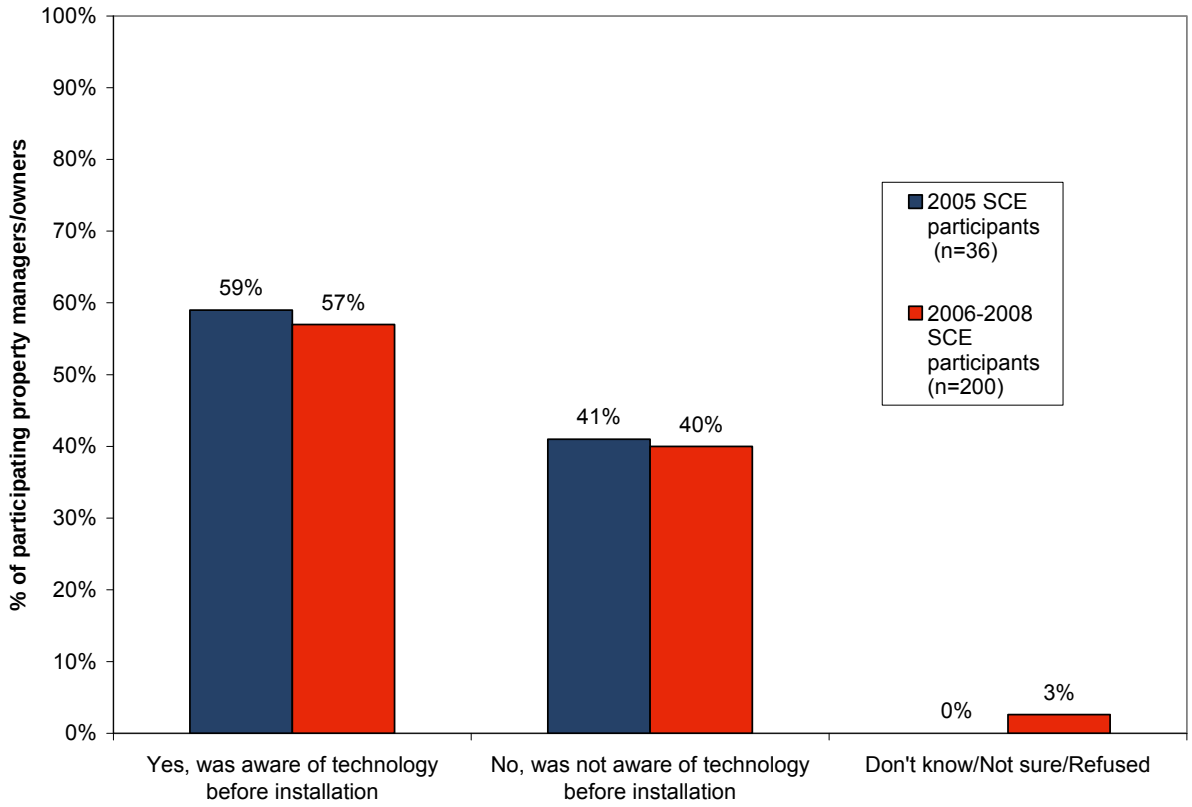
One key question of interest for evaluators of energy efficiency programs is: “Why didn’t the program participants install the energy-efficient equipment on their own without the program’s help?” We asked the participating property managers/owners a number of questions to explore possible reasons why they did not implement these projects on their own.

5.5.1 Technology Awareness/Familiarity Barriers

Some possible reasons why property managers/owners participating in the MFEER Program did not install the energy-efficient equipment on their own might include unawareness of the technology and/or lack of familiarity with or confidence in the technology. We asked the participating property managers/owners: “Were you aware of the (Specified Measure) technology before you had it installed at (Specified Address)?” Figure 5-16 shows that the 2006-

2008 participants claimed about the same level of awareness of the installed measures as the 2005 participants had.

Figure 5-16
The Frequency with which Participating Property Managers/Owners Claimed Previous Awareness of the MFEER-Rebated Technology
2005 vs. 2006-2008 SCE Participants



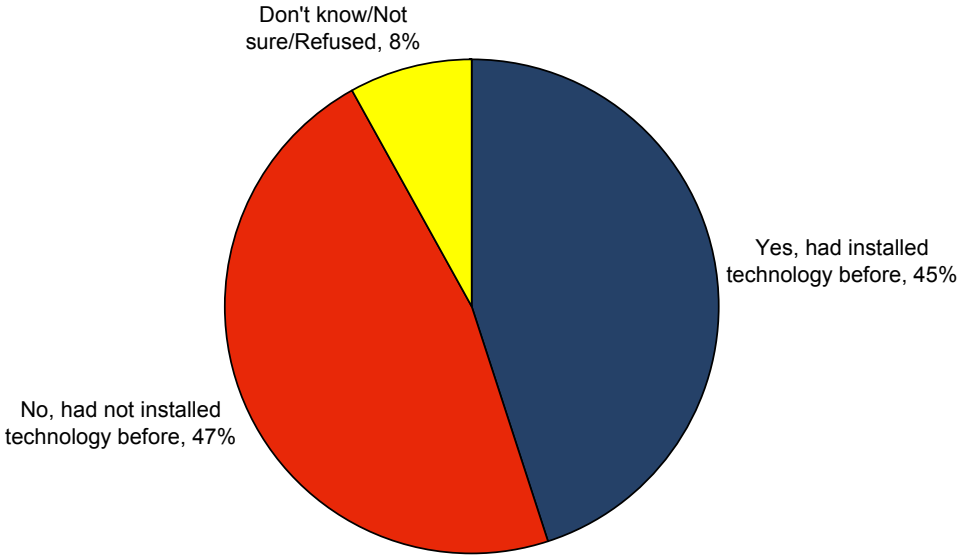
Among the various subgroups of the 2006-2008 participants there were some significant differences as to how they responded to these questions. As one might expect, those property managers/owners who said that their project ideas came only from the contractors were less likely (47%) to say that they had been aware of the rebated technologies than the other participants (65%). Participants who only had lighting measures installed were also less likely (54%) to say they had been previously aware of the technologies than participants who had installed some non-lighting measures (77% claimed awareness).

We also asked the participating property managers/owners: “Before you installed the (Specified Measure) at (Specified Address) in (Specified Year), had you installed the (Specified Measure)

technology at this location or any of the other properties that your company manages or owns?" Figure 5-17 shows that nearly half (45%) of the 2006-2008 participants said that these MFEER-rebated measures had been previously installed. Of the 90 2006-2008 participants who said that MFEER-rebated measures had been previously installed, 42 (47%) said that these previous installations had also used SCE rebates.

Figure 5-17
Whether Participating Property Managers/Owners
Had Previously Installed the MFEER-Rebated Technology
2006-2008 SCE Participants

n=200



Note: Although we also asked the 2005 participants this same question, it was only asked of those who said they had been previously aware of the MFEER-rebated technology. Therefore the 2005 participant responses are not directly comparable to those of the 2006-2008 respondents. For the record, 57 percent of the "measure-aware" 2005 SCE participants said that they (or their company) had installed the same technology before, 26 percent said they had not, and 17 percent said they did not know (n=23).

5.5.2 Split Incentive Barriers

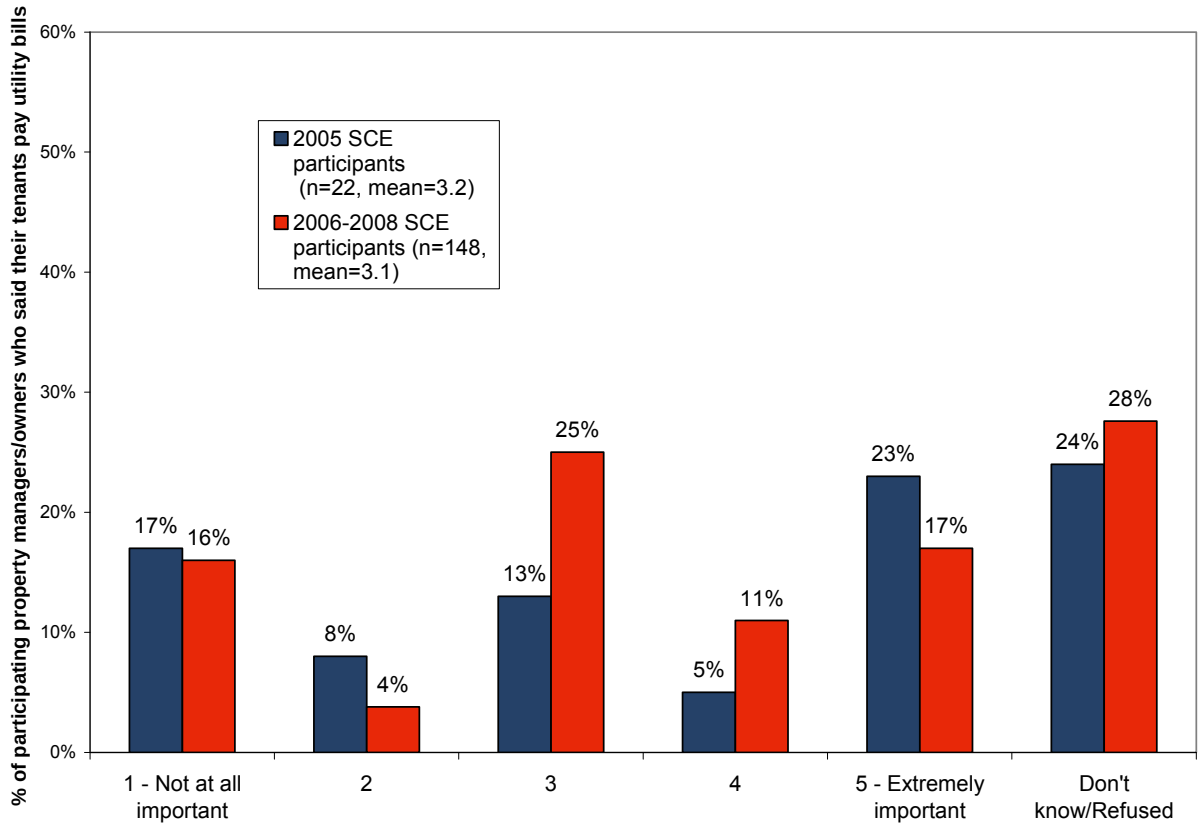
As mentioned above, current program evaluation theory, as well as the program logic of the MFEER Program itself, both posit that the "split incentive barrier" discourages property managers/owners from improving the energy efficiency of their tenant units. The premise of this barrier is that although property managers/owners are responsible for facility improvements, they usually do not pay energy bills for the tenant spaces and therefore have no direct financial incentive to install more expensive energy-efficient measures in these spaces.

We asked the 2006-2008 property managers/owners: “Earlier you said that your tenants pay their own utility bills. How important was this as a reason why you did not make these energy efficiency improvements earlier?” We told the respondents to use a 5-point importance scale where five equaled “very important” and one equaled “not important at all.” The average importance rating given by the 2006-2008 property managers/owners was 3.1 compared to 3.2 for the 2005 property managers/owners. Only 28 percent of the 2006-2008 respondents said it was an important factor (4 or 5 on the 5-point importance scale). Figure 5-18 shows the full range of responses.

There were some statistically-significant differences in how various respondent subgroups responded to this question. Respondents who owned their properties but did not manage them were more likely (49%) to say that this split incentive factor was less important (1, 2 or 3 on the 5-point importance scale) than respondents who managed their properties (16% for managers only, 18% for managers/owners). One explanation for this is that these owners’ desire for energy savings trumped any split incentive concerns they might have had. When we asked the property managers/owners for the primary reason why they participated in the MFEER Program, those who owned their properties but did not manage them were much more likely (81%) to say that saving energy was their primary reason for participation than respondents who managed their properties (59% for managers only, 54% for managers/owners). A related explanation is that these owners who were not involved in the day-to-day management of their properties simply did not spend a lot of time thinking about split incentive issues.

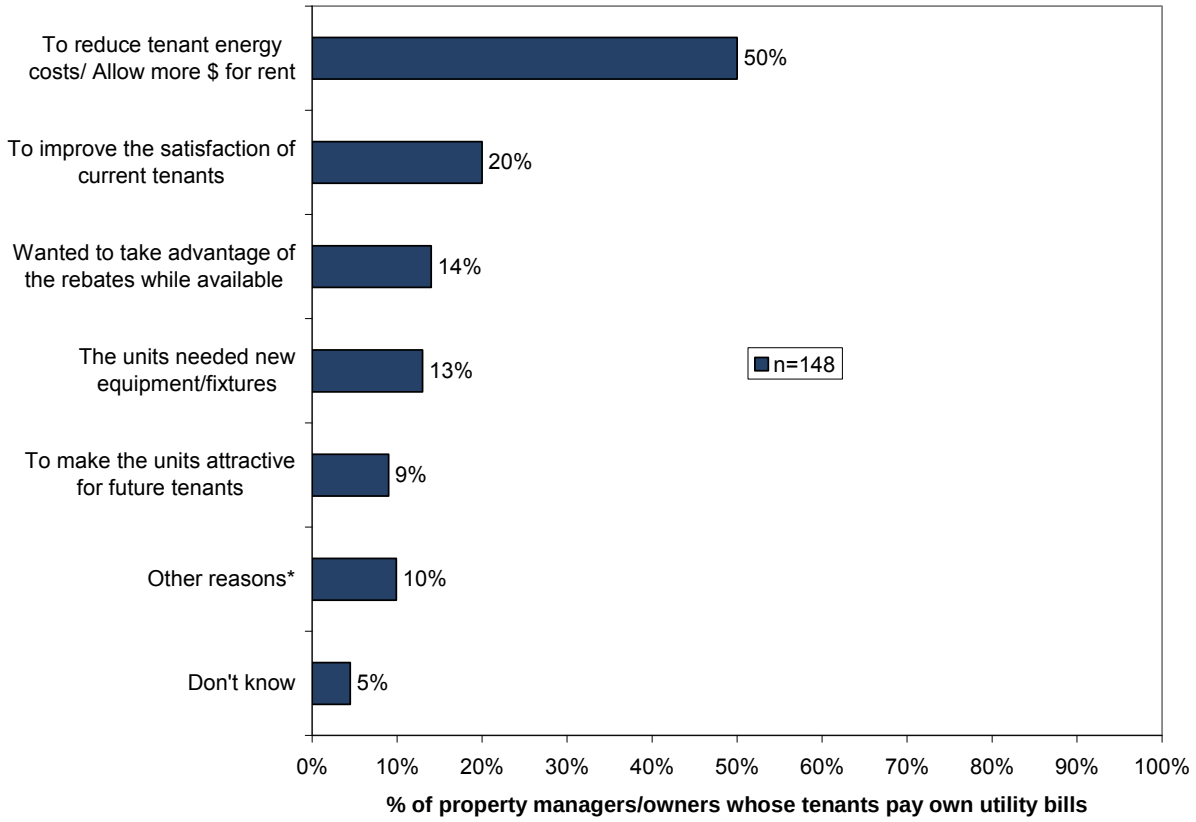
Property managers/owners who said that they had future plans for energy-efficiency improvements were twice as likely (34% vs. 17%) to say that this split incentive factor was important (4 or 5 on the 5-point importance scale) as those who did not have such plans. One possible explanation for this is that property managers/owners who have plans for future energy-efficiency improvements may be trying to stretch their energy-efficiency budgets and therefore they are only spending money on tenant energy-efficiency improvements when rebates are available. Another possible explanation is that those with future energy efficiency improvement plans are simply more conscious than others of the benefits and costs of energy efficiency spending and therefore they are more aware that energy efficiency improvements in the tenant units will not accrue to them directly.

Figure 5-18
The Importance of the Split Incentive Barrier
In Explaining Why Participants Did Not Make
The EE Improvements Earlier
2005 vs. 2006-2008 SCE Participants



Since the premise of the split incentive barrier is that property managers/owners have no economic incentive to improve energy efficiency in the tenant units, we asked the 2006-2008 property managers: "Since your tenants pay their own utility bills, why did you decide to install energy-efficient equipment in the tenant units?" The most-cited reason – cited by half the respondents – was that they wanted to reduce the energy costs of their tenants (Figure 5-19). Some of these respondents noted that by reducing their tenant's energy costs, this would allow these tenants more money to meet their rent payments. Other reasons included improving the satisfaction of their current tenants, wanting to take advantage of the rebates while they were available, and their units needing new equipment or fixtures.

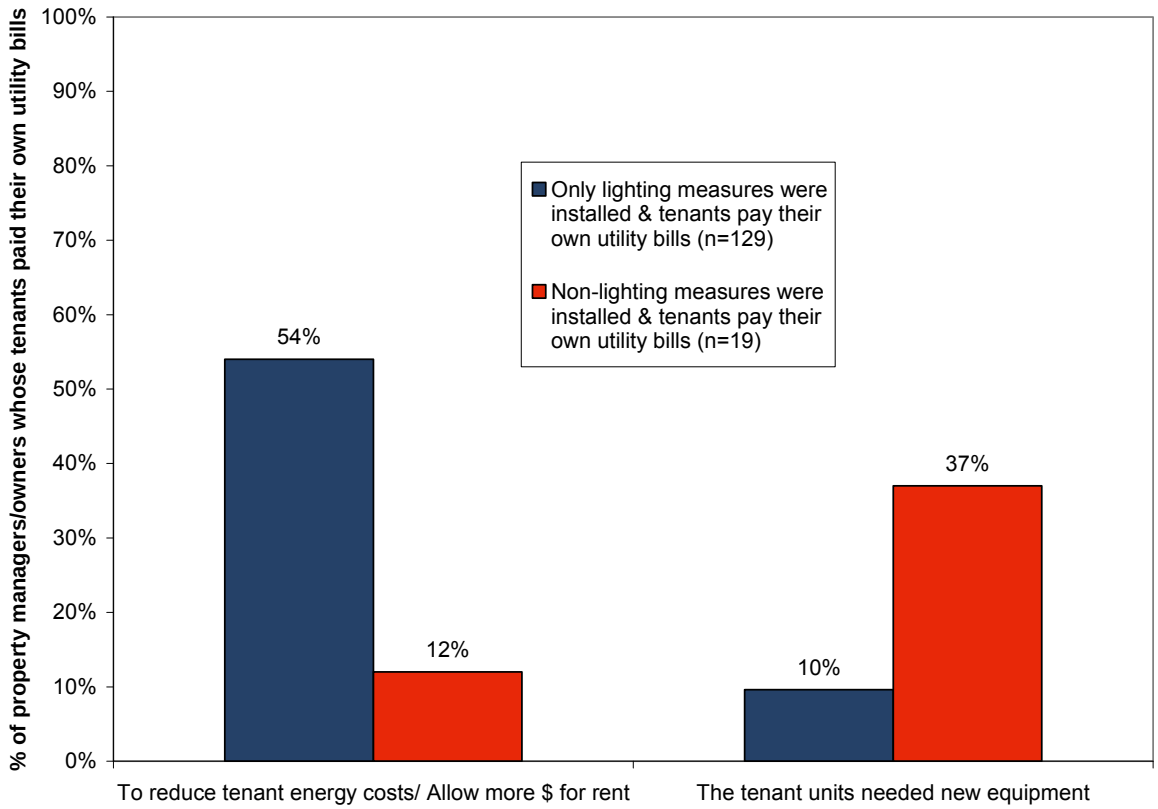
Figure 5-19
Why 2006-2008 SCE Participants
Installed EE Equipment in Tenant Units
Even Though Their Tenants Pay Their Own Utility Bills



Note: The total exceeds 100% because multiple responses were allowed. *Other reasons included they got the energy efficiency improvements for free, they wanted to save energy, and they claimed not to have had energy efficiency improvements installed in the tenant units.

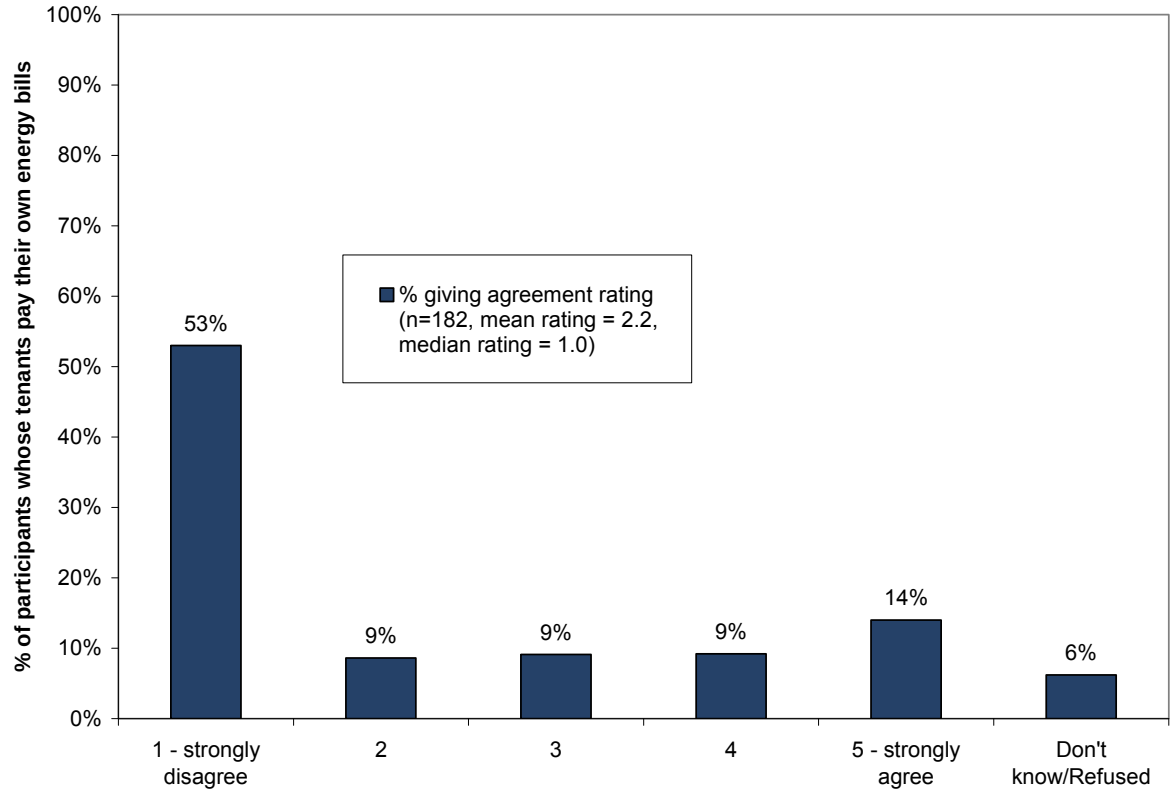
There were some statistically-significant differences in how various respondent subgroups responded to this question. One of the more interesting of these contrasts concerned those participants who only had lighting installed vs. those who had some non-lighting measures installed. Figure 5-20 shows that property managers/owners who had only lighting installed were much more likely to be motivated by helping to save energy for their tenants. In contrast, those who installed at least some non-lighting measures were motivated more by the need to get new equipment for their tenants. Participants who said that the ideas for their projects only came from contractors also were more likely (20%) to say they wanted to take advantage of the rebates while they were available than the other participants (10%).

Figure 5-20
Why 2006-2008 SCE Participants
Installed EE Equipment in Tenant Units
Even Though Their Tenants Pay Their Own Utility Bills
Lighting Only vs. Some Non-Lighting Participants



Finally we asked the 2006-2008 participants whose tenants paid their own energy bills how much they agreed with the statement: “Since our tenants pay their own energy bills, there is no reason for our company to install energy-efficient equipment in the tenant units”. They were told to use a five-point scale where five equaled “strongly agree” and one equaled “strongly disagree.” Figure 5-21 shows that the large majority of respondents disagreed with this statement and over half strongly disagreed with this statement. This is further evidence that in reality the split incentive barrier might not be as significant as theory might suggest.

Figure 5-21
How Much 2006-2008 Participants Agreed
That They Had No Reason to Install EE Equipment
Because Their Tenants Pay Their Own Energy Bills

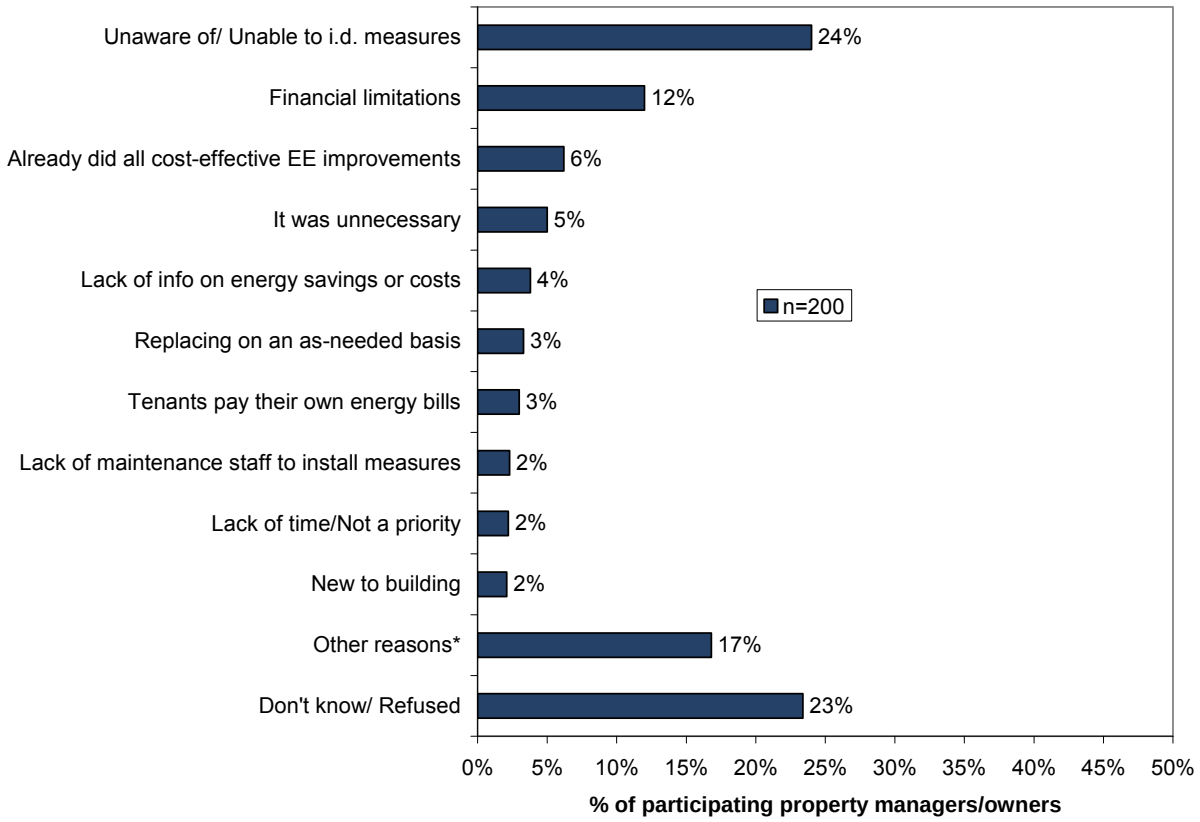


5.5.3 Other Barriers

In addition for probing about their awareness of/familiarity with the rebated technologies and the possible impact of the split incentive barriers, we also asked all the 2006-2008 participants a more direct barriers-related question. We asked them: “Why hadn't your company installed the (Specified Measure) on its own before participating in the Southern California Edison multifamily rebate program?”

Figure 5-22 shows that they had many different reasons with no particular reason being cited by a large percentage of respondents. The most-cited reasons included the inability to identify energy-efficient measures (24% of respondents) and financial limitations (12%).

Figure 5-22
Reasons Why 2006-2008 SCE Participants
Said They Had Not Installed the Rebated Measures On Their Own
Before Becoming Involved with the Program



Note: The total exceeds 100% because multiple responses were allowed. *Other reasons included they never thought about saving energy, they thought energy savings estimates for equipment are unreliable, timing issues, the technology was unavailable, they did install the technology before, they questioned the reliability of energy-efficient equipment, fuel prices were low, et al.

5.6 Project Implementation

The section summarizes the type of MFEER-rebated equipment that the participating property managers/owners had installed, where in the apartment building the equipment was installed, and who installed the equipment.

5.6.1 The Types of Equipment Installed

This subsection of the report discusses the mix of energy-efficient measures that were installed through the MFEER Program.[10] The following is a list of the measures that were installed under the MFEER Program during the Program cycle PY2006-2008:

- CF reflectors,
- HVAC,
- De-lamping,
- Electric water heaters,
- Exit signs,
- Exterior fixtures,
- Insulation,
- Interior fixtures,
- Lamps,
- Photocells,
- Pool pump and motors,
- Refrigerators,
- Room air conditioners, and
- Windows.

[10] The analysis in this subsection was not done by KEMA but by another member of the evaluation team: Katherine Randazzo of Fielding Graduate University. Since this was a process evaluation rather than an impact evaluation, tabulating exact counts of the energy efficiency measures installed over the whole 2006-2008 MFEER Program was not required. However, while the measure counts in this section may not be exact, they should be pretty close to the true program totals. We received a copy of the MFEER Program tracking database in late May 2008 and according to SCE staff the Program closed down in May 2008.

These measures, of course, had variations in size, wattage, speeds, etc. Other measures were authorized under the Program, but those mentioned are the measure types that were found in the Program tracking database.

It will be no surprise to Program planners and managers that the Program for the 2006-2008 program cycle was dominated by lighting measures. Table 5-5 shows the number of each measure category that was installed in this program cycle. In this table CF reflectors, de-lamping, exit signs, exterior fixtures, interior fixtures, lamps, and photocells were grouped together into a single lighting category. Figure 5-23 shows the same data in a pie chart format.

Table 5-5
MFEER Program Installations
PY2006-2008

Measure Category	Number Installed
All Measures	1,479,157
Insulation	1
Lighting	1,474,528
Windows	4,022
Room ACs	138
Pool Pumps	4
Refrigerators	464

*These figures may not match the reported numbers for this Program. There may have been differences between this dataset and what was used for the E3 calculator. ** Measures expressed in square footage, e.g., Windows and insulation were converted to be more comparable to the units of other measures. For windows, the conversion reflects an approximate number of windows implied by the square footage, and for insulation it reflects the number of dwellings installing insulation.

Figure 5-23
Percent of Installations by Measure Type

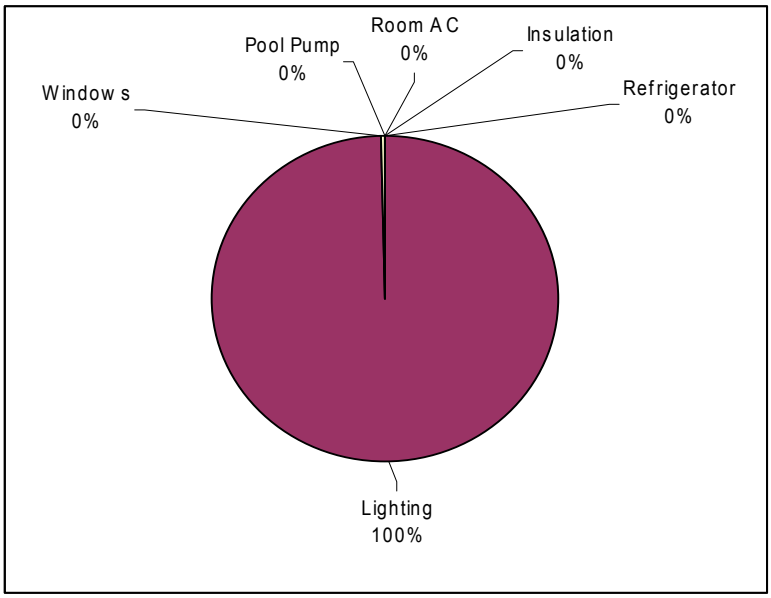
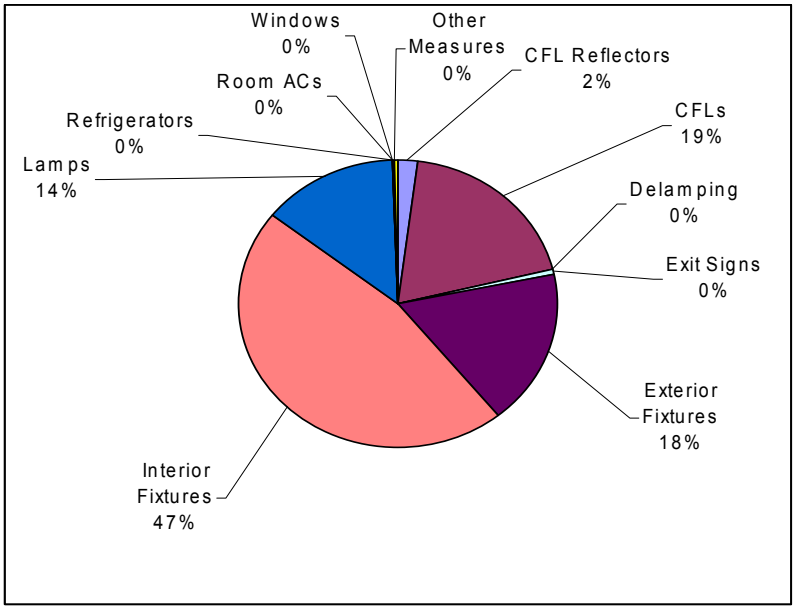


Figure 5-24 shows the distribution when lighting measures are disaggregated.

Figure 5-24
Percent of Installations by Measure Type:
Lighting Measures Disaggregated

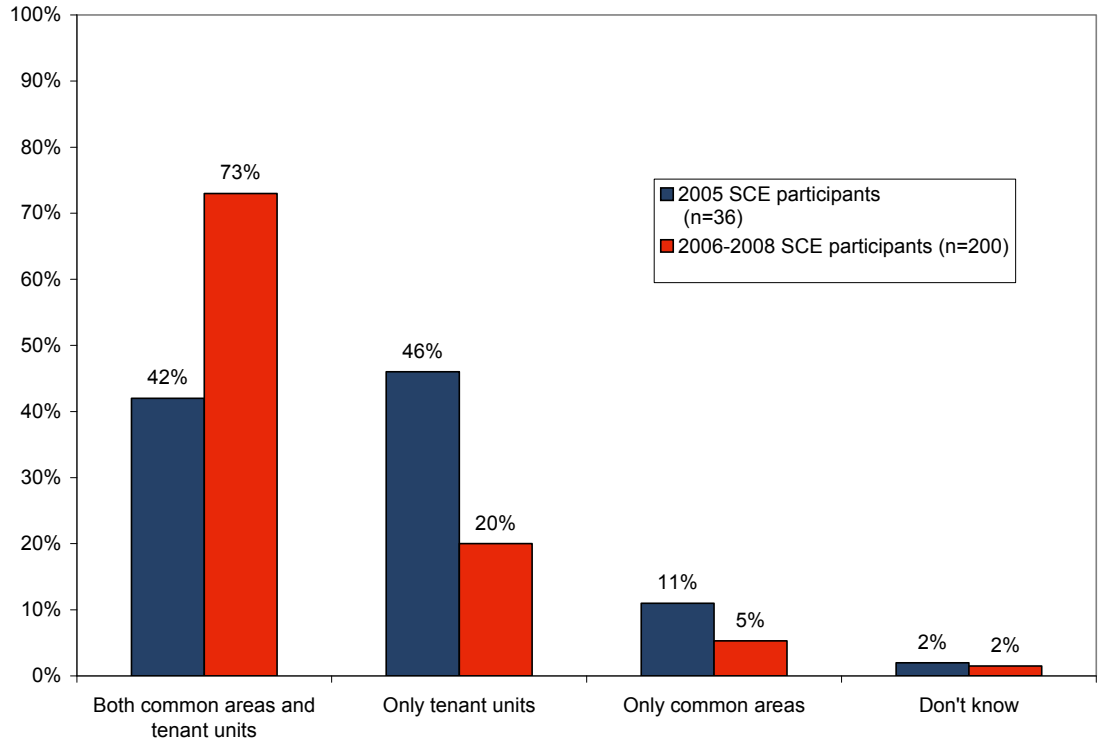


5.6.2 Where in the Multifamily Properties the Equipment was Installed

We asked the 2006-2008 participating property managers/owners whether their rebated equipment was installed in the common areas, the tenant units, or both. Figure 5-25 shows that almost three quarters of them said they had the rebated equipment installed in both the common areas and tenant units. This was a sharp increase from 2005 when less half of them said that installations were both in the common areas and tenant units. The property managers/owners who had some non-lighting measures installed were much more likely (69%) to have measures installed in the tenant units only than those who installed lighting only (13%). As discussed in the subsection on split incentives, these property managers/owners were most interested in giving their tenants new equipment.

Once again the Program shift to smaller properties may help explain the increasing frequency with which contractors are installing MFEER-rebated measures in both the common areas and tenant units. Contractors may be more interested in doing both tenant units and common areas in smaller properties to make the jobs more worth their while in terms of offsetting their fixed costs. When the evaluators presented preliminary results from this report to SCE staff in late March 2009, the MFEER Program manager also said that he has been actively encouraging contractors to install measures in both common areas and tenant units.

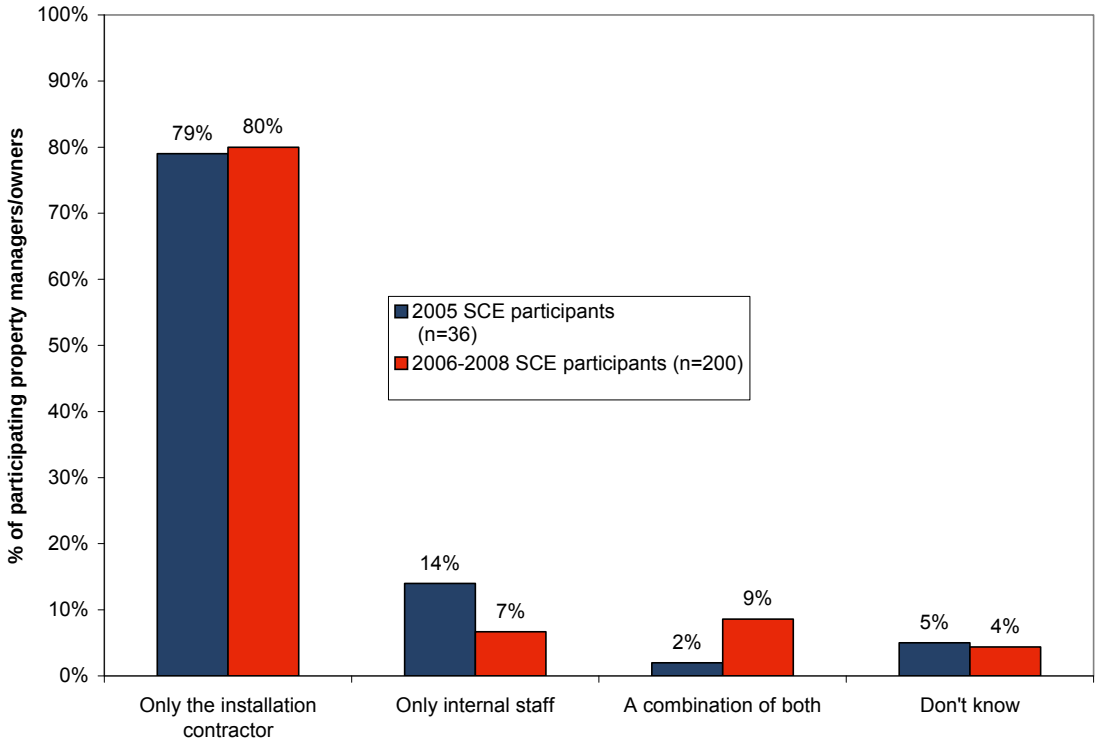
Figure 5-25
Where the MFEER-Rebated Equipment Was Installed
2005 vs. 2006-2008 SCE Participants



5.6.3 Who Installed the Equipment

We asked the 2006-2008 property managers who installed the energy-efficiency improvements. Like the 2005 participants, they said that contractors solely installed the vast majority of the measures. However, the 2006-2008 property managers were much less likely to say their internal staff installed the improvements on their own than their 2005 counterparts (Figure 5-26). This is likely due to the Program's shift towards smaller properties where internal maintenance resources are more limited. 2006-2008 property managers/owners who said they had non-lighting measures installed were much more likely (31%) to use their internal staff than those who only had lighting measures installed (3%).

Figure 5-26
Who Installed the Energy-Efficient Improvements
2005 vs. 2006-2008 SCE Participants



5.6.4 The Location of Installed Measures within the SCE Service Territory

5.6.4.1 Introduction

This subsection of the report focuses on where in the SCE service territory the MFEER Program measures were installed. It is based on analyses of the Program tracking system that include the addresses of the complexes where measures were installed.[11] One issue of interest that can be addressed with this database is the strategic concentration of Program activity during PY2006-2008, and what this may say about the future targeting of the Program. Specifically, a way to address this is to assess the focus of Program activity in relevant areas of the territory. In

[11] The analysis in this subsection was not done by KEMA but by another member of the evaluation team: Katherine Randazzo of Fielding Graduate University.

this case relevant parts of the territory would be those geographical areas that would maximize savings due to hotter temperatures, especially for HVAC measures, or those that impact HVAC, and areas that have a higher density of multifamily housing.

5.6.4.2 Climate Zones and Multifamily Housing Density as Targeting Factors

This subsection looks how MFEER Program activity is distributed across two variables of interest: temperature and multifamily housing density. Temperature is a possible targeting consideration for weather-dependent measures, i.e., those associated with air conditioning or HVAC. The same number of measure units installed in a hot weather area will produce higher savings than if they were installed in cooler areas. Multifamily housing density is another obvious targeting factor for Program efficiency. If Program activity were focused on low-density areas, this would imply that a shift of focus could be beneficial.

The temperature-related analysis involved mapping zip codes into California Energy Commission (CEC) weather zones. Program activity figures are shown for each climate zone represented in this Program. Eight of the 16 CEC zones are represented in the tables below. The tables are all organized so that the cooler zones are shown on the left side, and the hot zones are shown to the right. Hot zones are defined by the average high temperature in the month of August. This is based on the city that is listed as the representative of each of the CEC climate zones. Those that have an average high temperature of over 90 degrees Fahrenheit in August are shown in the hot zone area. There are five of these, and three cool zones.

Multifamily housing density is another obvious targeting factor for program efficiency. If program activity were focused on low-density areas, this would imply that a shift of focus, or increasing the program contractors in high-density areas could be beneficial.

The density of relevant[12] housing was approached in two ways for this report. Analyses were done at the zip code level, and therefore each zip code could be characterized by the number of multifamily housing units in it. Each zip code could also be characterized by how many MFEER Program measures had been installed within its borders. Taking a ratio of installations to housing units tells us how much of the potential has been exploited by the Program during this program cycle. A high ratio indicates that Program activity has focused on the area it came

[12] The following use codes were included in the multi-family housing category for these analyses: Multiple-individual, Domestic-non-dwelling, Domestic-unknown, Tract-master metered, Multiple-master metered, Residential hotel, and Residential-commercial-master.

from, while a low ratio indicates that there is more potential to be utilized. The ratio approach often produces very small numbers; therefore, they are presented in thousands. Specifically, the ratios indicate the number of measures installed per thousand multifamily housing units.

A second approach to using housing density for analysis and planning is to characterize each zip code into three levels of density: high, medium, and low. Both methods are used in this analysis, and they are used together. One might assume that calculating ratios of measures to housing density adequately accounts for density. However, a high ratio has a different meaning in a high- than in a low-density area. The same is true of the meaning of a low-density ratio. So, all zip codes were categorized into these three levels. A low-density zip code was defined as those with less than 274 units; a medium area was defined as 274 through 2,270, and a high-density area consisted of zip codes with more than 2,270 units. This category has the widest range in that some zip codes have over 10,000 units. The cut-points were set to produce approximately equal numbers of zip codes in each level.

5.6.4.2.1 Analyzing by Climate Zone

We used two measures of MFEER Program activity by climate zones including: 1) raw numbers of measures installed under the Program and 2) ratios of those numbers to multifamily housing density. Each can tell a different story. Table 5-6 shows the number of all measures and of each measure type by climate zone. For this section, the emphasis is on HVAC-related measures as they are the most sensitive to temperature. In terms of raw numbers (Table 5-6), windows were very highly concentrated in climate zone 6, followed by zone 8. The number of energy-efficient windows installed in the hot zones was negligible. Very few room air conditioners were installed anywhere, but there were more installed in zone 8, a cool zone, than anywhere else. Among less weather-related measures, refrigerators were about twice as likely to be installed in hot zones. Lighting measures tended to be a little more frequently installed in cool zones.

Table 5-7 shows the number of installations of each measure type for each 1000 multifamily units in the zone. This presents the same picture but in a more extreme way. Windows are extremely concentrated in zone 6 compared to any other zone, and room air conditioners have a very low concentration in any zone, but they show a higher rate in zones 8 and 9 than any other, by far.

Table 5-8 reveals the number of measures installed represented in Table 5-6, but the lighting measure category is disaggregated into narrower groups. Table 5-9 shows the installation rates per 1000 multifamily units.

Table 5-6
2006-2008 HEER Program Measures Installed
by Climate Zone

	Climate Zone								
	Cool Zones			Hot Zones					
	6 Los Angeles	8 El Toro	16 Mt Shasta	9 Pasadena	10 Riverside	13 Fresno	14 China Lake	15 El Centro	Total
All Measures	269,230	546,327	3,639	290,476	244,827	37,248	54,459	32,951	1,479,157
Insulation	0	0	0	1	0	0	0	0	1
Lighting	266,019	545,573	3,639	289,882	244,789	37,222	54,458	32,946	1,474,528
Windows	3,201	567	0	204	20	26	0	4	4,022
Room ACs	0	74	0	46	18	0	0	0	138
Pool Pumps	0	2	0	0	0	0	1	1	4
Refrigerators	10	111	0	343	0	0	0	0	464

Table 5-7
2006-2008 HEER Program Installations
per 1000 Multifamily Units
by Climate Zone

	Climate Zone							
	Cool Zones			Hot Zones				
	6 Los Angeles	8 El Toro	16 Mt Shasta	9 Pasadena	10 Riverside	13 Fresno	14 China Lake	15 El Centro
All Measures	831.77	1,806.04	818.49	1,442.47	1,797.82	1,958.46	1,477.54	1,602.52
Insulation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lighting	821.85	1,803.55	818.49	1,439.52	1,797.54	1,957.10	1,477.51	1,602.28
Windows	9.89	1.87	0.00	1.01	0.15	1.37	0.00	0.19
Room ACs	0.00	0.24	0.00	0.23	0.13	0.00	0.00	0.00
Pool Pumps	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.05
Refrigerators	0.03	0.37	0.00	1.70	0.00	0.00	0.00	0.00

Table 5-8
Measures Installed by Climate Zone
Lighting Measures Disaggregated

	Climate Zone								
	Cool Zones			Hot Zones					
	6 Los Angeles	8 El Toro	16 Mt Shasta	9 Pasadena	10 Riverside	13 Fresno	14 China Lake	15 El Centro	Total
All Measures	269,230	546,327	3,639	290,476	244,827	37,248	54,459	32,951	1,479,157
CFL Reflectors	8,357	9,134	119	6,001	4,994	358	305	2,127	31,395
CFLs	57,581	107,643	1,338	63,402	37,876	3,815	10,327	7,722	289,704
Delamping	89	214	-	2	-	-	-	-	305
Exit Signs	1,281	1,634	18	1,130	603	37	9	37	4,749
Exterior Fixtures	40,066	93,195	464	52,386	53,933	7,702	11,945	6,356	266,047
Interior Fixtures	130,989	271,013	1,337	141,555	106,602	20,788	22,880	7,699	702,863
Lamps	36,013	71,870	482	31,405	45,775	4,880	9,297	11,132	210,854
Refrigerators	10	111	-	343	-	-	-	-	464
Room ACs	-	74	-	46	18	-	-	-	138
Windows (Est)	3,201	567		204	20	26		4	4,022
Other Measures	2	6	-	3,805	5	-	1	1	3,820

Table 5-9
Measures Installed per 1000 Multifamily Units by Climate Zone
Lighting Measures Disaggregated

	Climate Zone							
	Cool Zones			Hot Zones				
	6 Los Angeles	8 El Toro	16 Mt Shasta	9 Pasadena	10 Riverside	13 Fresno	14 China Lake	15 El Centro
All Measures	831.77	1,806.04	818.49	1,442.47	1,797.82	1,958.46	1,477.54	1,602.52
CFL Reflectors	25.82	30.20	26.77	29.80	36.67	18.82	8.28	103.44
CFLs	177.89	355.84	300.94	314.85	278.13	200.59	280.18	375.55
Delamping	0.27	0.71	-	0.01	-	-	-	-
Exit Signs	3.96	5.40	4.05	5.61	4.43	1.95	0.24	1.80
Exterior Fixtures	123.78	308.08	104.36	260.14	396.04	404.96	324.08	309.11
Interior Fixtures	404.68	895.91	300.72	702.95	782.80	1,093.01	620.76	374.43
Lamps	111.26	237.59	108.41	155.95	336.14	256.59	252.24	541.39
Refrigerators	0.03	0.37	-	1.70	-	-	-	-
Room ACs	-	0.24	-	0.23	0.13	-	-	-
Windows (Est)	9.89	1.87	-	1.01	0.15	1.37	-	0.19
Other Measures	0.01	0.02	-	18.90	0.04	-	0.03	0.05

5.6.4.2.2 Analyzing by Multifamily Housing Density

In this section we address the issues of Program activity through the lens of multifamily unit density. Table 5-10 reveals that lighting measures are much more numerous in the high-density areas than in the other levels, especially the low-density area. This remains true in Table 5-11 as well, although the differences across density levels are much smaller. HVAC-related measures are concentrated in high-density areas in absolute terms. Table 5-10 indicates a 148 to 1 difference, high- to low-density areas for windows, and 7 to 1 for room air conditioners, although this is put in perspective as we look at the ratio information, This is because a great deal of the difference in Program activity by density group is accounted for by very high density in the high-density group. Specifically, the range of multifamily unit density in the high category is very wide. Therefore, when the installation numbers are divided by the specific number of multifamily units, the rates per 1000 units are much less different by category and some patterns are actually reversed. When specific density is taken into account (Table 5-11), the concentration of measures in high versus low is much less; almost 1.4 to 1 for lighting. For refrigerators, when specific density is taken into account, refrigerators are much more concentrated in the low-density areas, by 262 to 1, low to high density. There is clearly a great deal more potential for refrigerators in the medium and high-density areas. The same information is presented in Table 5-12 and Table 5-13 where lighting measures are disaggregated.

Table 5-10
HEER Program Installations
by Density Category of MF Units

	MF Density Level			
	Low (Under 274)	Medium (274-2270)	High (Over 2270)	Total
All Measures	5,641	299,574	1,173,942	1,479,157
Insulation	0	0	1	1
Lighting	5,535	299,073	1,169,920	1,474,528
Windows	26	130	3,866	4,022
Room ACs	0	17	121	138
Pool Pumps	0	2	2	4
Refrigerators	80	352	32	464

Table 5-11
HEER Program Installations per 1000 Multifamily Units
by Density Category of MF Units

	MF Density Level		
	Low (Under 274)	Medium (274-2270)	High (Over 2270)
All Measures	739.90	1441.79	1415.72
Insulation	0.00	0.00	0.00
Lighting	726.00	1439.38	1410.87
Windows	3.41	0.62	4.66
Room ACs	0.00	0.08	0.15
Pool Pumps	0.00	0.01	0.00
Refrigerators	10.49	1.69	0.04

Table 5-12
HEER Program Installations by Density Category of MF Units
Lighting Disaggregated

	MF Density Level			
	Low (Under 274)	Medium (274-2270)	High (Over 2270)	Total
All Measures	5,641	299,574	1,173,942	1,479,157
CFL Reflectors	148	5,442	25,805	31,395
CFLs	827	61,205	227,672	289,704
Delamping	-	-	305	305
Exit Signs	18	671	4,060	4,749
Exterior Fixtures	1,014	58,213	206,820	266,047
Interior Fixtures	3,116	132,114	567,633	702,863
Lamps	560	46,865	163,429	210,854
Refrigerators	80	352	32	464
Room ACs	-	17	121	138
Windows (Est)	26	130	3,866	4,022
Other Measures	-	7	3,813	3,820

Table 5-13
HEER Program Installations per 1000 Multifamily Units
by Density Category of MF Units
Lighting Disaggregated

	MF Density Level		
	Low (Under 274)	Medium (274-2270)	High (Over 2270)
All Measures	739.90	1,441.79	1,415.72
CFL Reflectors	-	0.03	4.60
CFLs	19.41	26.19	31.12
Delamping	108.47	294.57	274.56
Exit Signs	-	-	0.37
Exterior Fixtures	2.36	3.23	4.90
Interior Fixtures	133.00	280.17	249.42
Lamps	408.71	635.84	684.54
Refrigerators	73.45	225.55	197.09
Room ACs	10.49	1.69	0.04
Windows (Est)	-	0.08	0.15
Other Measures	3.41	0.62	4.66

5.6.4.2.3 Combining Temperature with Density

A more complete picture can be painted now by combining both targeting criteria into one analysis. From one perspective, at least, the most fruitful area of focus for HVAC-related measures would be hot areas with high multifamily housing density. For the other measures, climate is less important, but density is important in terms of defining program potential. Because of the size of the tables that analyze by climate and density, only the aggregated version of lighting measures is shown.

Focusing on HVAC-related measures as raw numbers of installations (Table 5-14), we get the impression that activity was focused on the low-temperature, high-density areas, followed by high-temperature, high-density areas.

In terms of ratios (Table 5-15) windows are highly focused in zip codes within zone 6 (a cool zone) and high density areas. Very likely, a great deal of potential remains in the hot, high-density areas. For lighting, the patterns are much less clear. The concentration of activity is more evenly spread across density levels, but there are some big differences across climate zones. Overall, however, lighting appears to have been more targeted to high-density areas.

Table 5-14

HEER Program Measures Installed by Temperature Zone and Density Category of MF Units

MF Density	Climate Zone							
	Cool Zones			Hot Zones				
	6 Los Angeles	8 El Toro	16 Mt Shasta	9 Pasadena	10 Riverside	13 Fresno	14 China Lake	15 El Centro
Low (Under 274)								
All Measures	0	1,546	563	198	466	2,501	367	0
Insulation	0	0	0	0	0	0	0	0
Lighting	0	1,466	563	198	466	2,475	367	0
Windows	0	0	0	0	0	26	0	0
Room ACs	0	0	0	0	0	0	0	0
Pool Pumps	0	0	0	0	0	0	0	0
Refrigerators	0	80	0	0	0	0	0	0
Medium (274-2270)								
All Measures	21,835	73,144	3,076	101,254	60,978	14,620	15,266	9,400
Insulation	0	0	0	0	0	0	0	0
Lighting	21,792	73,134	3,076	100,823	60,963	14,620	15,265	9,400
Windows	37	0	0	84	8	0	0	0
Room ACs	0	4	0	6	7	0	0	0
Pool Pumps	0	1	0	0	0	0	1	0
Refrigerators	6	5	0	341	0	0	0	0
High (Over 2270)								
All Measures	247,394	471,637	0	189,024	183,383	20,127	38,826	23,551
Insulation	0	0	0	1	0	0	0	0
Lighting	244,227	470,973	0	188,861	183,360	20,127	38,826	23,546
Windows	3,163	567	0	120	12	0	0	4
Room ACs	0	70	0	40	11	0	0	0
Pool Pumps	0	1	0	0	0	0	0	1
Refrigerators	4	26	0	2	0	0	0	0

Table 5-15

HEER Program Installations per 1000 Multifamily Units by Temperature Zone and Density Category of MF Units

	Climate Zone							
	6	8	16	9	10	13	14	15
MF Density	Los Angeles	El Toro	Mt Shasta	Pasadena	Riverside	Fresno	China Lake	El Centro
Low (Under 274)								
All Measures	0.00	1,721.60	461.48	427.65	252.71	2,005.61	443.77	0.00
Insulation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lighting	0.00	1,632.52	461.48	427.65	252.71	1,984.76	443.77	0.00
Windows	0.00	0.00	0.00	0.00	0.00	20.85	0.00	0.00
Room ACs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pool Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigerators	0.00	89.09	0.00	0.00	0.00	0.00	0.00	0.00
Medium (274-2270)								
All Measures	882.84	1,496.28	953.50	1,558.96	1,644.51	1,714.35	1,006.66	1,803.18
Insulation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lighting	881.09	1,496.07	953.50	1,552.32	1,644.09	1,714.35	1,006.59	1,803.18
Windows	1.50	0.00	0.00	1.30	0.23	0.00	0.00	0.00
Room ACs	0.00	0.08	0.00	0.09	0.19	0.00	0.00	0.00
Pool Pumps	0.00	0.02	0.00	0.00	0.00	0.00	0.07	0.00
Refrigerators	0.24	0.10	0.00	5.25	0.00	0.00	0.00	0.00
High (Over 2270)								
All Measures	829.93	1,866.26	0.00	1,390.28	1,885.57	2,177.30	1,860.73	1,561.22
Insulation	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Lighting	819.31	1,863.63	0.00	1,389.08	1,885.33	2,177.30	1,860.73	1,560.89
Windows	10.61	2.24	0.00	0.88	0.12	0.00	0.00	0.27
Room ACs	0.00	0.28	0.00	0.29	0.11	0.00	0.00	0.00
Pool Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Refrigerators	0.01	0.10	0.00	0.01	0.00	0.00	0.00	0.00

5.6.4.3 Summary

This section has focused on the geographical distribution of PY2006-2008 activity. Analyses addressing the geographical targeting of Program activities focused on the potential inherent in putting focus on high-density areas and hot-weather areas. Both raw numbers and ratios of installations to multi-family unit density reveal that the heaviest Program activity does tend to take place in the higher-density areas. However, for room air conditioners, the Program seems not to have fully taken advantage of the possibility of targeting high-density, hot areas. In particular, the concentration of room air conditioners and energy-efficient windows tend to be installed disproportionately in cool areas.

5.7 Program Satisfaction

This section addresses the participating property manager's/owner's satisfaction with:

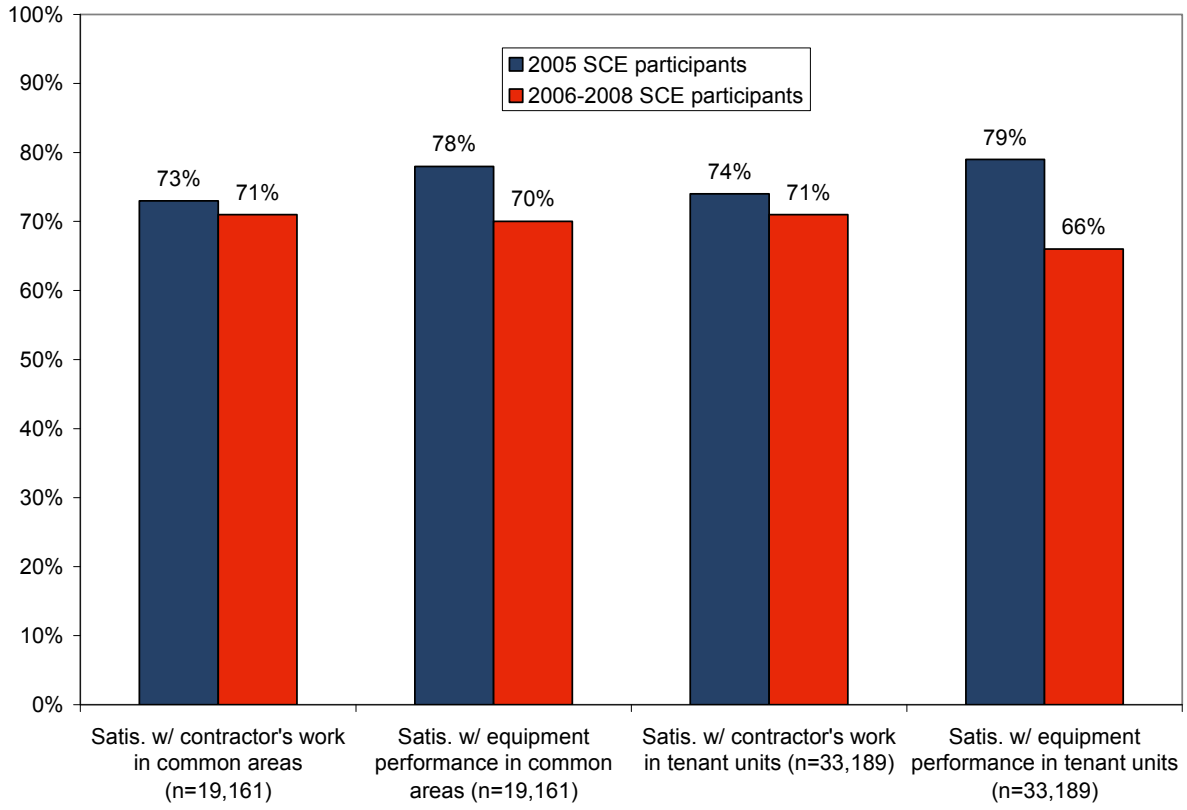
- The rebated equipment and the contractors who installed it;
- The rebates and rebate processes;
- The Program staff;
- The Program as a whole; and
- Recommendations for Program improvements.

It also summarizes an analysis of the MFEER Program inspection results.

5.7.1 Satisfaction with the Contractors and Equipment

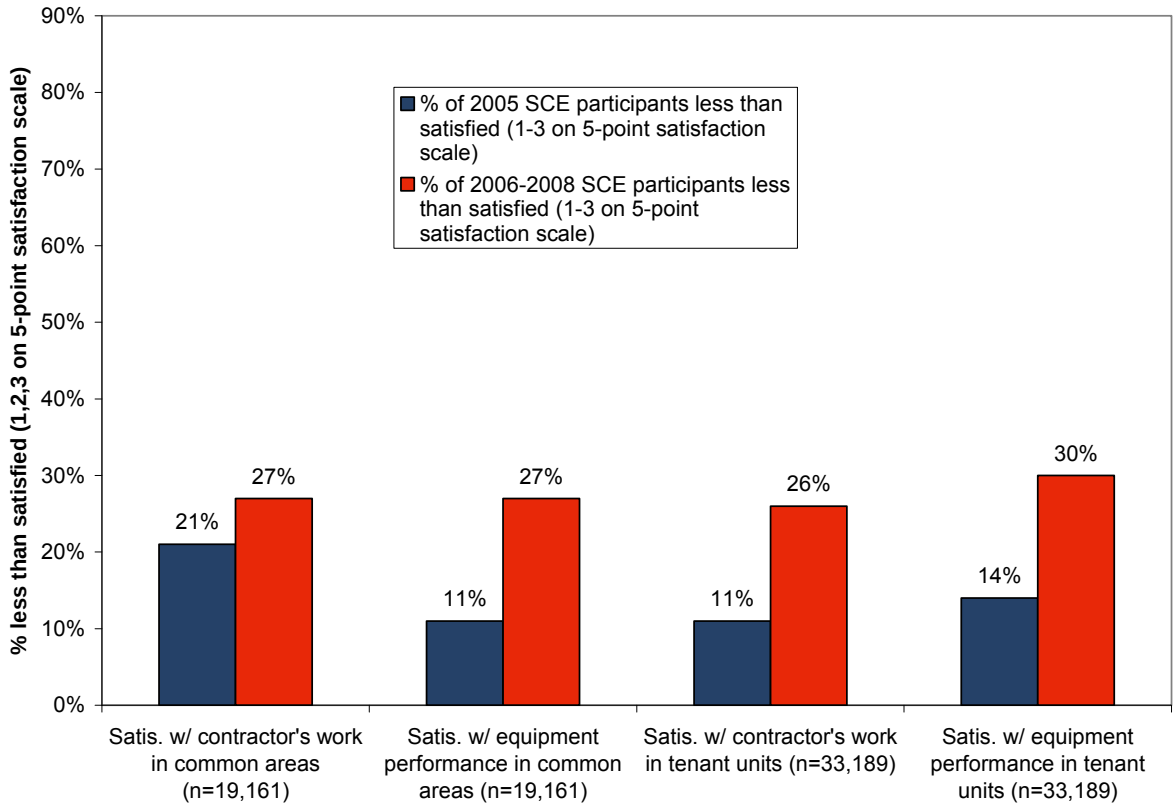
We asked the participants to rate their satisfaction with the quality of the contractors' work and the performance of the rebated equipment. We told them to use a five-point satisfaction scale where five signified "extremely satisfied" and one signified "not at all satisfied." We obtained from them separate satisfaction ratings for the common area and tenant unit installations. Figure 5-27 shows that the 2006-2008 participants consistently gave lower average satisfaction ratings for the contractors and equipment than the 2005 participants did.

Figure 5-27
% of Participating Property Managers/Owners
Average Satisfaction with the Contractors & Equipment
2005 vs. 2006-2008 SCE Participants



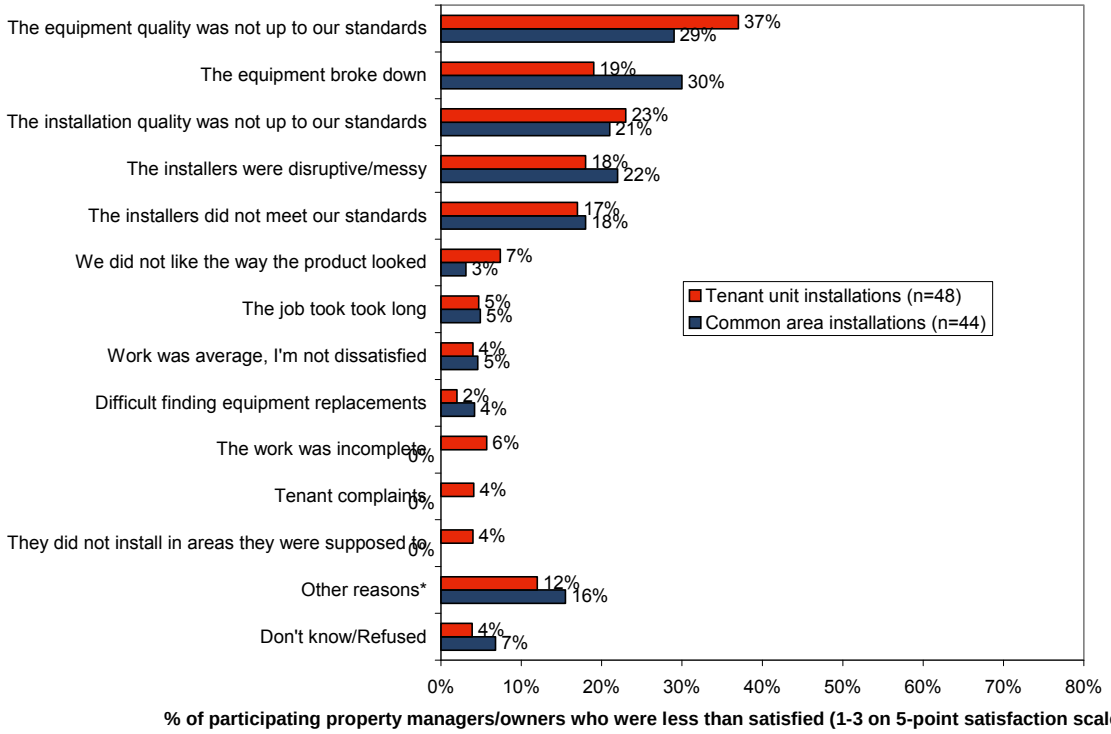
Another way to look at these satisfaction ratings besides average ratings is to look at the percentages of respondents who were less than satisfied (1, 2, or 3 on the 5-point satisfaction scale) with the contractors or equipment. Figure 5-28 shows that the percentages of respondents who were less than satisfied with their contractors or equipment more than doubled between 2005 and 2006-2008.

Figure 5-28
% of Participating Property Managers/Owners
Who Were Less Than Satisfied with the Contractors, Equipment
2005 vs. 2006-2008 SCE Participants



Why were so many of the 2006-2008 property managers/owners less than satisfied with the contractors and rebated equipment? Figure 5-29 shows that these participants had a wide variety of reasons with complaints about equipment breaking down or being of poor quality being the most common.

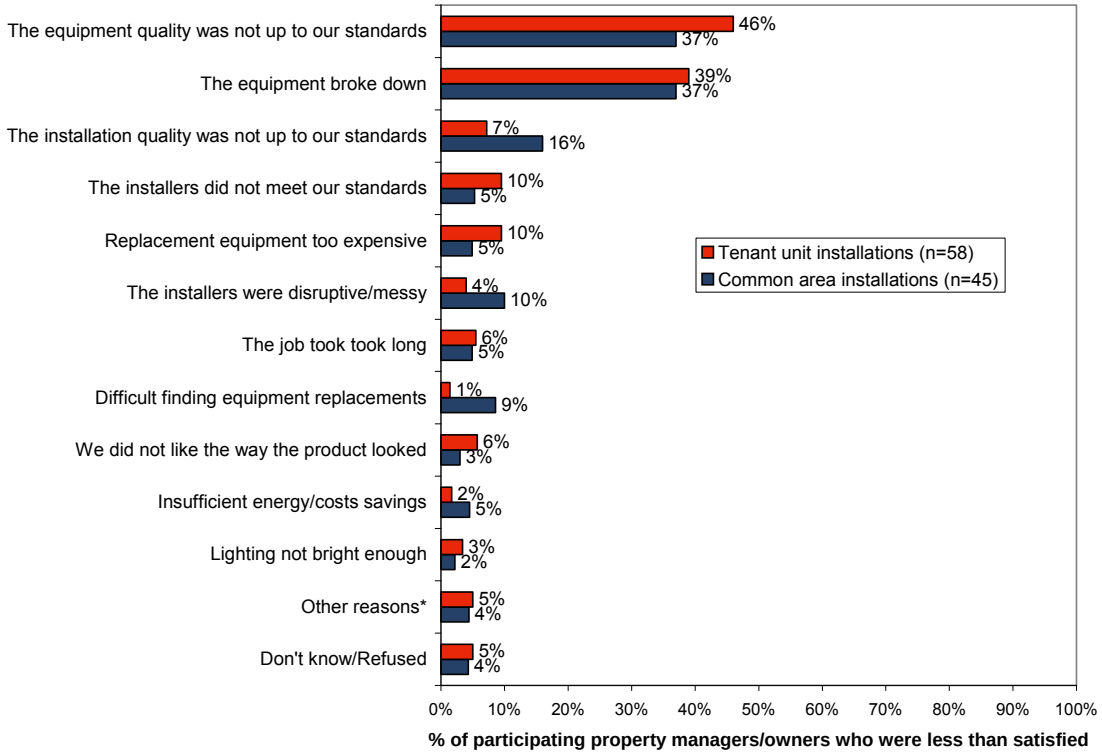
Figure 5-29
Reasons Why 2006-2008 SCE Participants
Were Less Than Satisfied with Their Contractors



Note: Totals exceed 100% because multiple responses were allowed. *Other reasons included insufficient energy/cost savings, lighting not bright enough, poor communications & language problems, replacement equipment being too expensive, contractor did not return to fix improper install, equipment was improperly installed, and inaccurate contractor contact information.

We also asked the 2006-2008 property managers/owners why they were less than satisfied with the rebated equipment. Figure 5-30 shows that they had a similar range of complaints as those who were less than satisfied with the contractors.

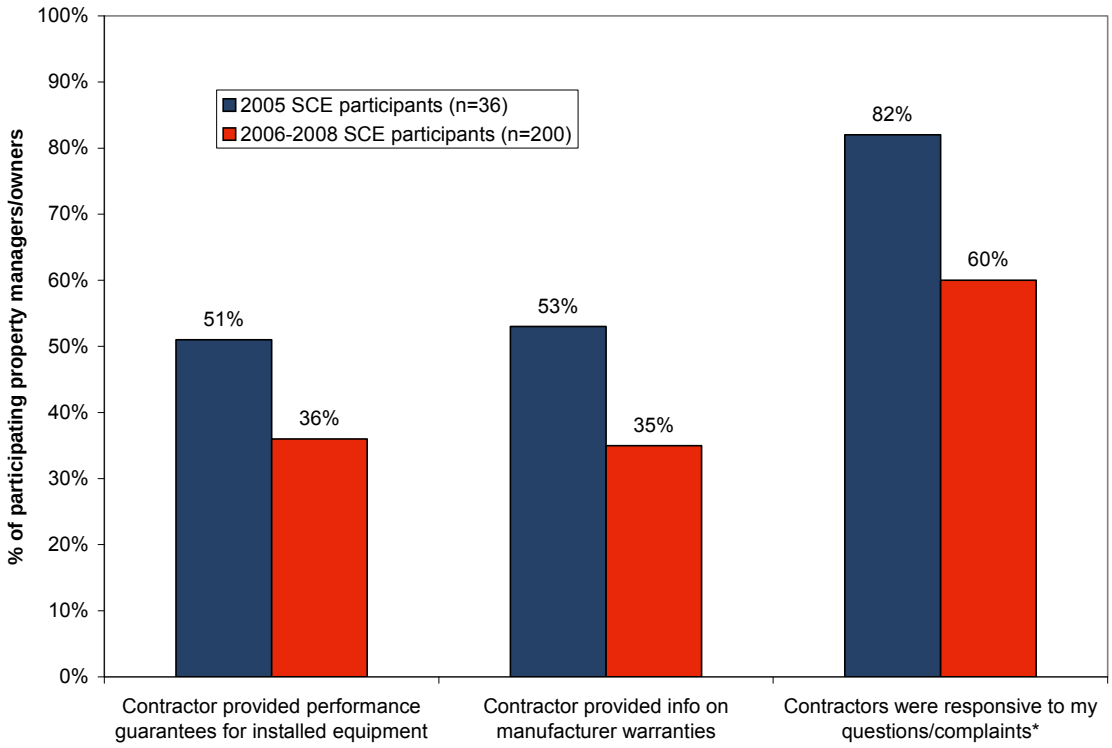
Figure 5-30
Reasons Why 2006-2008 SCE Participants
Were Less Than Satisfied with Their Rebated Equipment



Note: Totals exceed 100% because multiple responses were allowed. *Other reasons included contractor didn't leave behind replacement bulbs, contractor didn't return to fix improper install, and work was average so I'm not dissatisfied.

Not only did the 2006-2008 participating property managers/owners have a higher level of dissatisfaction with the contractors and equipment than the 2005 participants, they also reported a lower incidence of contractors providing performance guarantees or information on manufacturer warranties. While over half of the 2005 participants reported that their contractors provided performance guarantees or information on manufacturer warranties, only a little more than a third of the 2006-2008 participants did (Figure 5-31). While only five percent of the 2005 participants said that their contractors were not responsive to their questions and complaints, 19 percent of the 2006-2008 participants said that their contractors were non-responsive.

Figure 5-31
How Frequently Property Managers/Owners Said
Contractors Provided Quality Control Information and Responsiveness
2005 vs. 2006-2008 SCE Participants



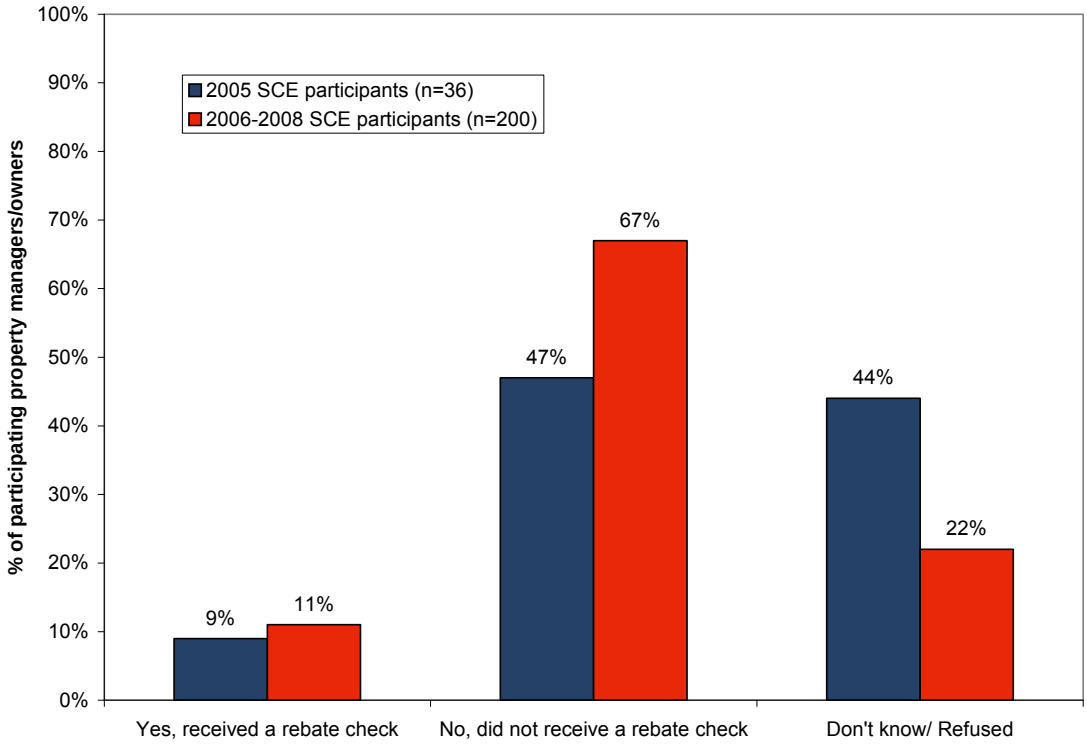
Note: *Eighty-two percent of the 2005 participants said the contractors had been responsive to their questions/complaints, five percent said that they had not been responsive, and the remainder didn't know or refused to answer. Sixty percent of the 2006-2008 participants said the contractors had been responsive to their questions/complaints, 19 percent said that they had not been responsive, 16 percent said that they did not have questions or complaints, and the remaining five percent didn't know.

However, when the evaluators presented preliminary results from this report to SCE staff in late March 2009, the MFEER Program Manager said that for 2009 he has strengthened his Program requirements for contractors' qualification. He was hopeful that these tougher qualification requirements would reduce some of the problems with poor quality installation, poor quality equipment, and substandard customer service.

5.7.2 Satisfaction with the Rebates and Rebate Processes

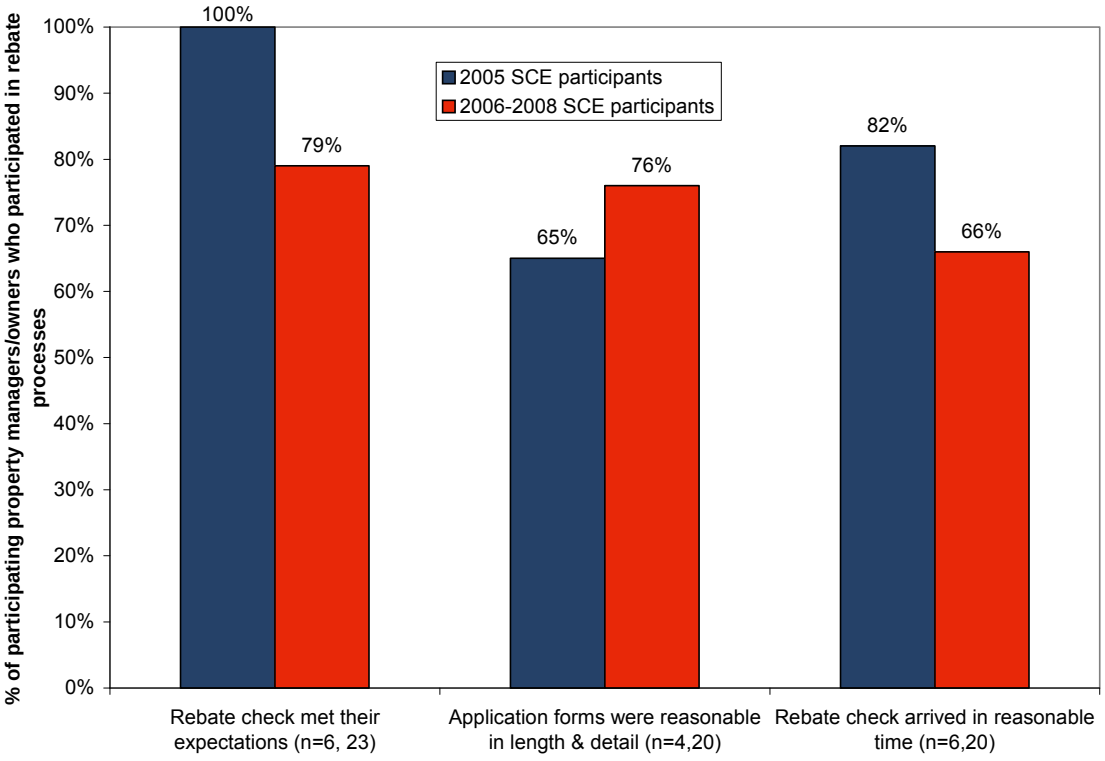
As was the case with the 2005 participants, very few of the 2006-2008 property managers/owners said that they received a rebate check from the MFEER Program. Figure 5-32 shows that only 11 percent of them reported receiving a check.

Figure 5-32
Participating Property Managers/Owners Saying
They Received a Rebate Check from the MFEER Program
2005 vs. 2006-2008 SCE Participants



Because so few of the 2005 and 2006-2008 participants recalled receiving a rebate check, the sample sizes for assessing satisfaction with the rebate application and payment processes were very small. Figure 5-33 shows the percentage of respondents who were satisfied with these processes, although the small sample sizes make it difficult to discern any trends with any degree of confidence.

Figure 5-33
Participant Satisfaction with the MFEER Rebate Processes
2005 vs. 2006-2008 SCE Participants



5.7.3 Satisfaction with the Program Staff

We asked the 2006-2008 participating property managers/owners whether they had interacted with the SCE MFEER Program during the energy efficiency improvements that were made at their properties. Only 15 percent said that they had – down from 25 percent for the 2005 participants. We asked the 2006-2008 participants who had reported these interactions with Program staff how satisfied they had been with way the SCE staff had responded to their questions. We told them to use a five-point satisfaction scale where one equaled “not satisfied at all” and five equaled “extremely satisfied.” Figure 5-34 compares the satisfaction ratings of the 2005 participants with the 2006-2008 participants. It shows that while nearly three quarters of the 2006-2008 participants who interacted with Program staff were satisfied (4 or 5 ratings) with these interactions, the percentage who were less than satisfied (1, 2, or 3 ratings) nearly tripled from the 2005 participant levels and the average satisfaction rating fell from 4.6 to 4.1.

In interpreting these findings we should be cautious on two counts. First we do not know for sure whether these participants actually interacted with the MFEER Program staff as opposed

to complaining to a general SCE call center, for example. Second this increase in dissatisfaction may have less to do with how the MFEER Program staff conducted themselves, and more to do with the growing dissatisfaction over the quality of the contractor installations and rebated equipment discussed in a previous subsection. Another possible cause is that while the 2004-2005 SCE MFEER Program attempted satisfaction callbacks with 100 percent of its participants, the 2006-2008 SCE MFEER Program only did such callbacks when an SCE inspection had found a problem. Since the inspections themselves only covered 5-7 percent of Program projects, this mean only a tiny percentage of the 2006-2008 participants received a callback from the MFEER Program asking about their satisfaction.

Figure 5-34
Satisfaction with Interactions with SCE MFEER Staff
2005 vs. 2006-2008 Participants

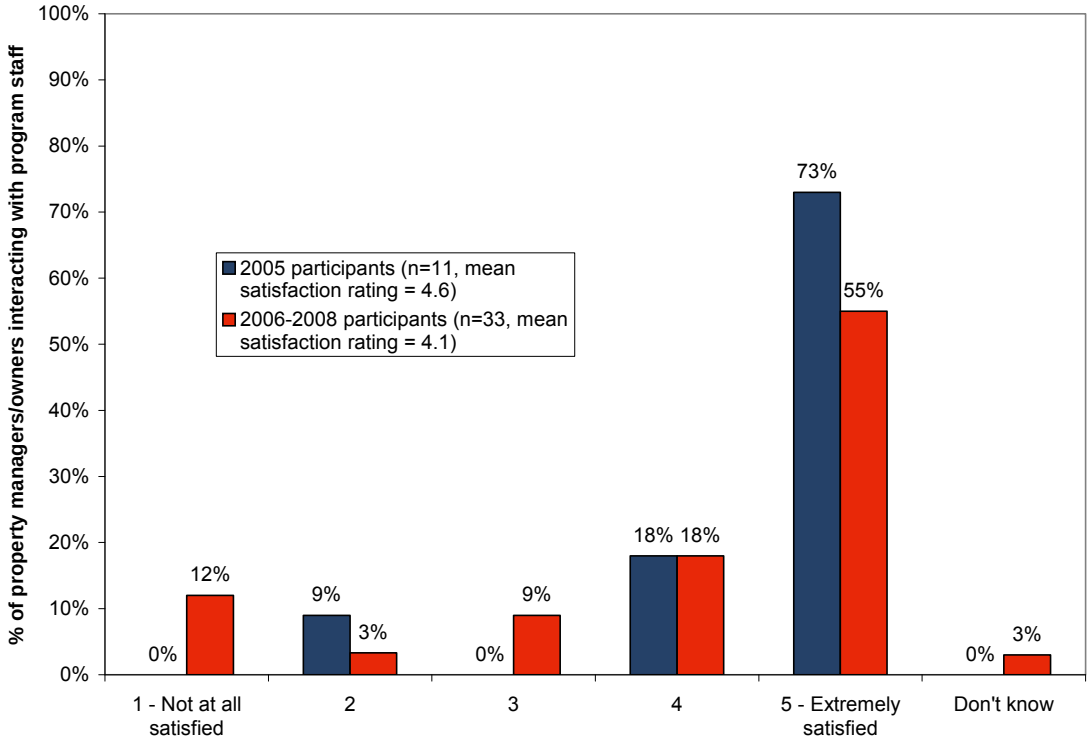
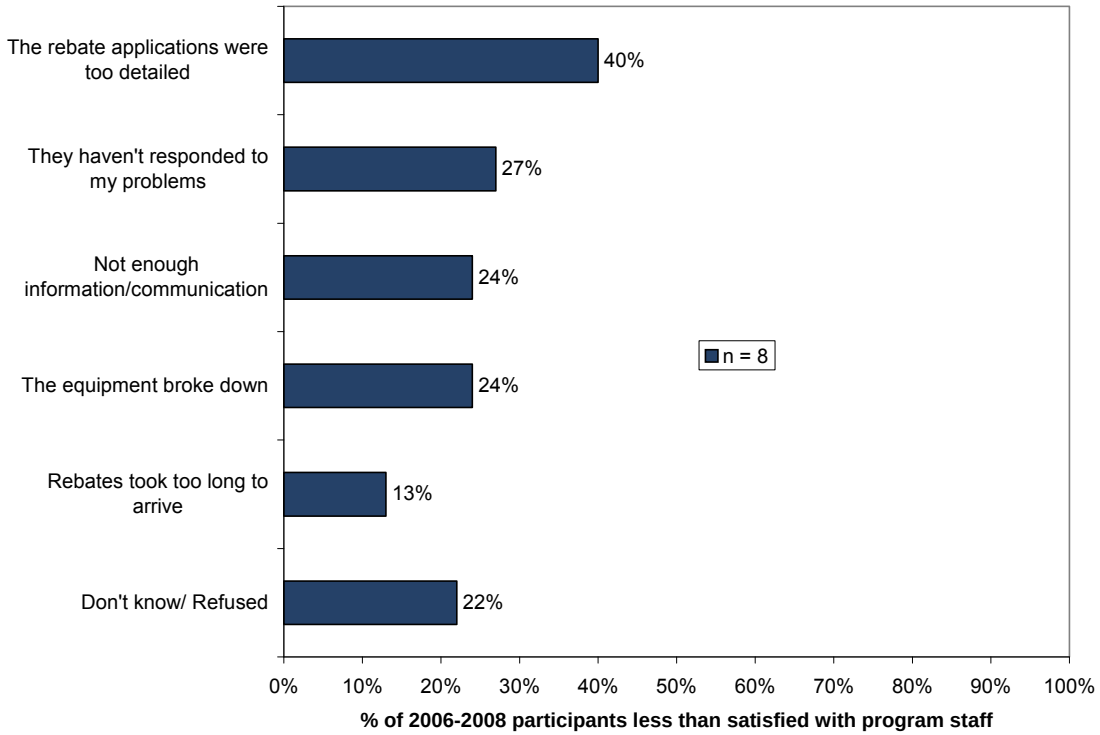


Figure 5-35 shows why the 2006-2008 participants said they were less than satisfied with their staff interactions. While some of these complaints stem from interactions with Program staff, others appear to be outcomes of frustration with onerous or tardy Program rebate practices. For example, the most-cited complaint – cited by 40 percent of the less-than-satisfied participants – is that the rebate application forms are too detailed.

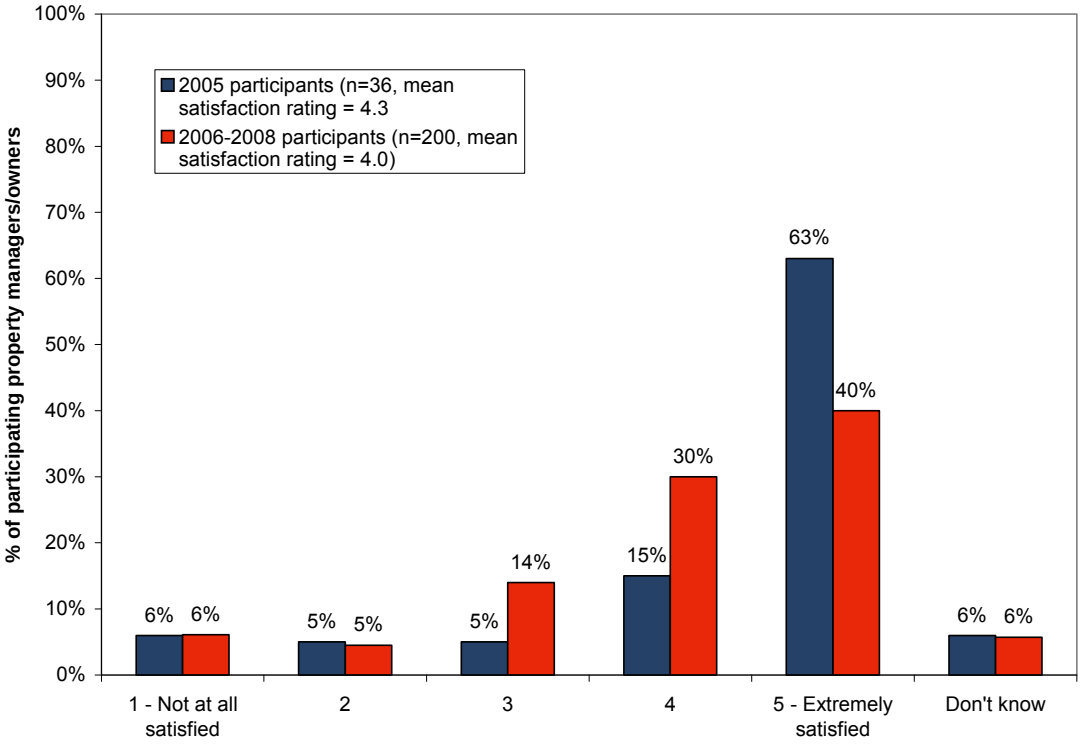
Figure 5-35
Why 2006-2008 SCE Property Managers/Owners
Were Less Than Satisfied with Program Staff



5.7.4 Satisfaction with the Program as a Whole

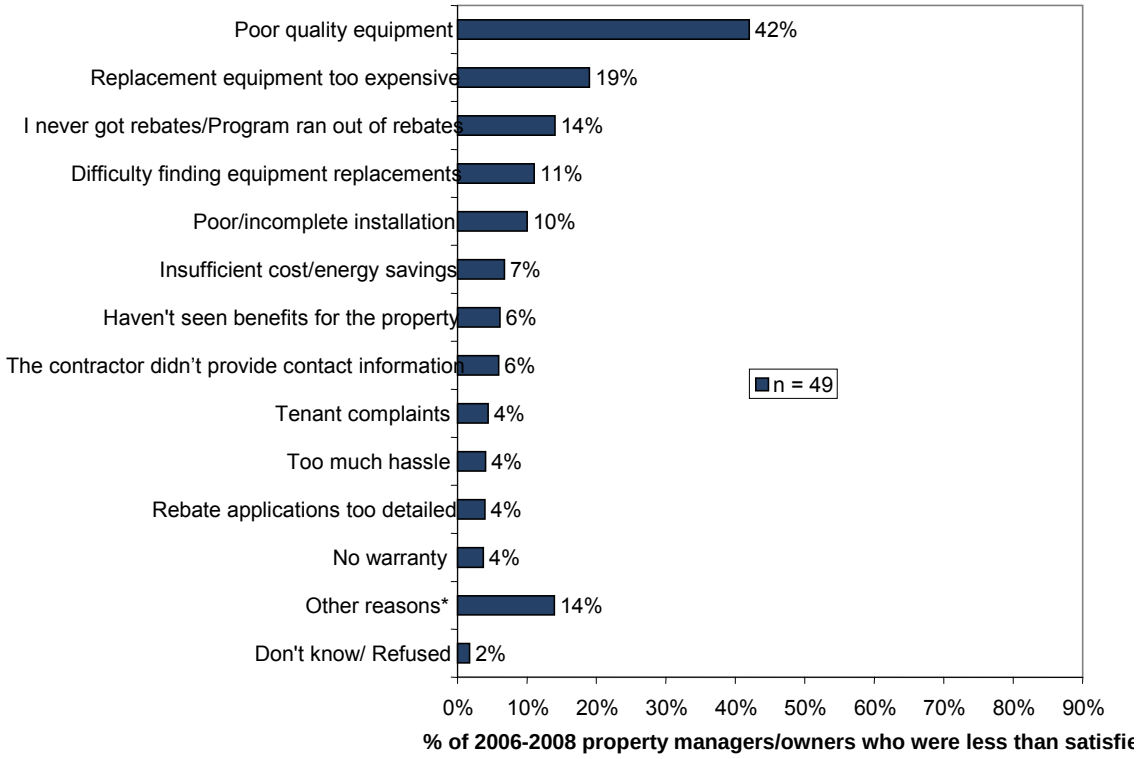
We asked the 2006-2008 property managers/owners how satisfied they were with the MFEER Program as a whole. Figure 5-36 compares their satisfaction ratings with those from the 2005 participants. It shows that seventy percent of the 2006-2008 participants were satisfied (4 or 5 ratings) with the Program as a whole. However, the average satisfaction rating fell from 4.3 to 4.0 and the percentage of respondents who were “extremely satisfied” with the Program fell from nearly two thirds for the 2005 participants to only 40 percent for the 2006-2008 participants.

Figure 5-36
Satisfaction with the MFEER Program as a Whole
2005 vs. 2006-2008 SCE Participants



What aspects of the MFEER Program were the 2006-2008 participants less than satisfied with? Figure 5-37 shows that complaints about poor quality equipment were by far the most common with over 40 percent of the complainants citing this as a reason. Other reasons cited by at least 10 percent of the complainants included the energy-efficient equipment being too expensive to replace, not receiving Program rebates, difficulty finding replacement equipment, and poor or incomplete installations.

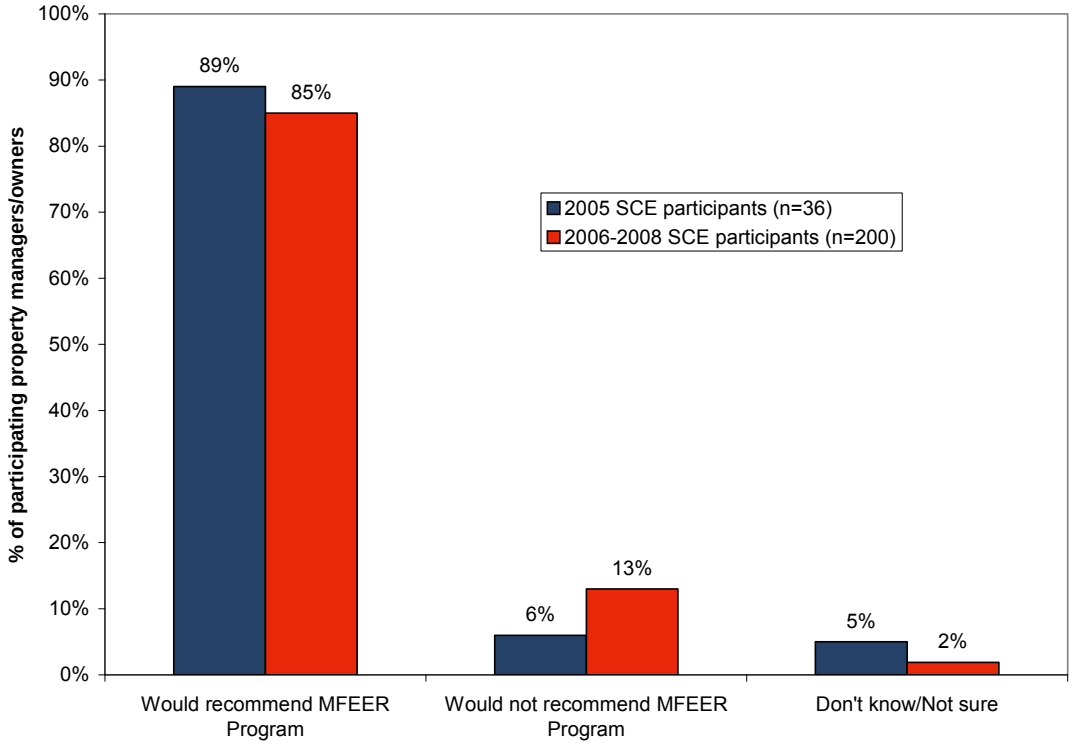
Figure 5-37
Why 2006-2008 SCE Property Managers/Owners
Were Less Than Satisfied with the MFEER Program as a Whole



Note: Totals exceed 100% because multiple responses were allowed. *Other reasons included work was average so I'm not dissatisfied, it didn't meet my standards, no communication from the contractor, wrong equipment, lighting not bright enough as well as other reasons.

On the positive side, 85 percent of the 2006-2008 property managers/owners said that they would recommend the MFEER Program to another property manager. This was similar to the recommendation level of the 2005 participants (Figure 5-38). When we asked the 2006-2008 participants who said that they would not recommend the Program why they would not do so, they cited reasons similar to those they gave in response to the Program satisfaction questions. These reasons included poor quality equipment (30% of those who wouldn't recommend the Program, n=26), a bad experience with the Program (24%), too much hassle (15%), poor/incomplete installation (11%), replacement equipment too expensive (9%), and insufficient energy/cost savings (8%) as well as other, less common, reasons.

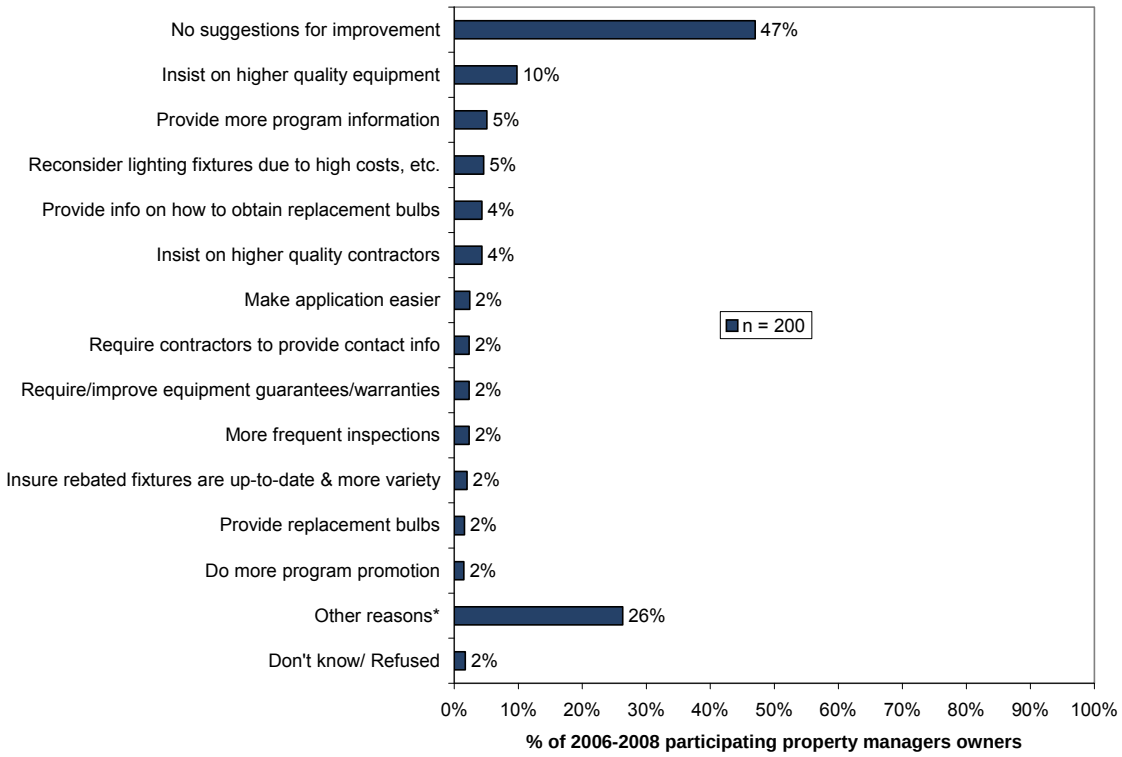
Figure 5-38
Would You Recommend the MFEER Program
To Another Property Manager?
2005 vs. 2006-2008 SCE Participants



5.7.5 Recommendations for Program Improvements

Although almost half (47%) of the 2006-2008 participating property managers/owners had no recommendations for improving the MFEER Program, those who did had many different ones. Figure 5-39 shows these recommendations. Most of the recommendations concerned improving the quality of the contractors and equipment and making it easier for property managers/owners to replace failed equipment (mostly burned-out CFLs).

Figure 5-39
2006-2008 Participating SCE Property Managers
Recommendations for Improving the MFEER Program



Note: Totals exceed 100% because multiple responses were allowed. *Other recommendations included simplify the Program, expand Program to non-SCE cities, make sure installations are complete, respond better to participant complaints, insure that contractors clean up afterwards, insure that contractors speak English, provide a list of products used by the Program, involve property managers more in the projects, make more program processes available online, simplify Program qualification rules, administer Program internally rather than outsourcing to vendors, provide rebates for industrial complexes, insure that exterior fixtures are vandal-proof, provide more energy savings information, provide more light bulbs, allow participants to work directly with SCE rather than through contractors, do better quality control, insure that equipment reduces energy costs, let property managers/owners purchase their own fixtures and the Program can do the install, provide a list of available contractors, provide more information on the work being done, provide more information about the status of rebate payments, withhold payment to contractors until work is completed satisfactorily, hire more people to handle rebate requests, insure that there are sufficient rebate funds, make sure fax # is correct, more solar energy rebates, provide more clear Program contact information, provide more rebate $, provide public training on how Program works, SCE should have better relationships with tenants, contact the property manager before the contractor does, require contractors to do free replacements of failed equipment, better email communications, improve the program website, make replacement equipment easier to obtain, and reduce energy costs along with other suggestions.

5.7.6 Inspection Results

The MFEER Program inspects a certain percentage of customer installations before paying the rebates to those customers. According to the Program inspection guidelines, new installation contractors automatically have their first two applications inspected and the incidence of inspections for a given contractor decreases if they passed earlier inspections. For contractors who have passed their previous inspections the inspection incidence declines to five percent of applications. The Program management selects specific applications ("invoices") for selection, at its discretion, in order to meet or exceed the minimum percentage of inspected installations.

Once an application has been selected for inspection, a randomly-determined percentage of the tenant units or common areas associated with that application are targeted for inspection. SCE inspectors inspect the installation before payment. If the installation doesn't pass inspection, the Program Manager has the discretion to reduce the total rebate amount or reject the entire application. In the case of CFLs, if inspectors find less than 90 percent of the installed bulbs then the default option is to reject the whole application although the Program Manager has the discretion to allow another inspection.

Table 5-16 reveals the results of the inspections based on individual measures (there can be multiple measures for an application).[13] Overall, the pass rate was almost 94 percent with the last year achieving a 98 percent rate. The failure rate began at a little over five percent in 2006 and decreased to less than two percent in 2008. In 2007, almost four percent of measures were not inspected, but were categorized as passing (the "force pass" row in table) by the Program Manager. This was rare in 2006 and none were handled in that way in 2008.

[13] The analysis in this subsection was not done by KEMA but by another member of the evaluation team: Katherine Randazzo of Fielding Graduate University.

Table 5-16
MFEER Program Inspection Results
by Program Year

Result		Program Year 2006	2007	2008	Total
Closed		0	168	0	168
	%	0.00	0.67	0.00	0.32
Failed		842	898	201	1,941
	%	5.35	3.59	1.74	3.71
Force Pass		90	905	0	995
	%	0.57	3.62	0.00	1.90
Not Indicated		10	43	20	73
	%	0.06	0.17	0.17	0.14
Passed		14,790	22,989	11,300	49,079
	%	94.01	91.94	98.08	93.92
Total		15,732	25,003	11,521	52,256

5.8 Future Energy Efficiency Project Implementation

This section addresses:

- Whether the participating property managers/owners are considering the implementation any other energy-efficiency projects through in the near future and which technologies they are contemplating installing;
- What barriers might prevent or delay the implementation of these projects; and
- If they are not planning future energy-efficient projects, why they have no such plans.

5.8.1 Future Energy Efficiency Project Implementation

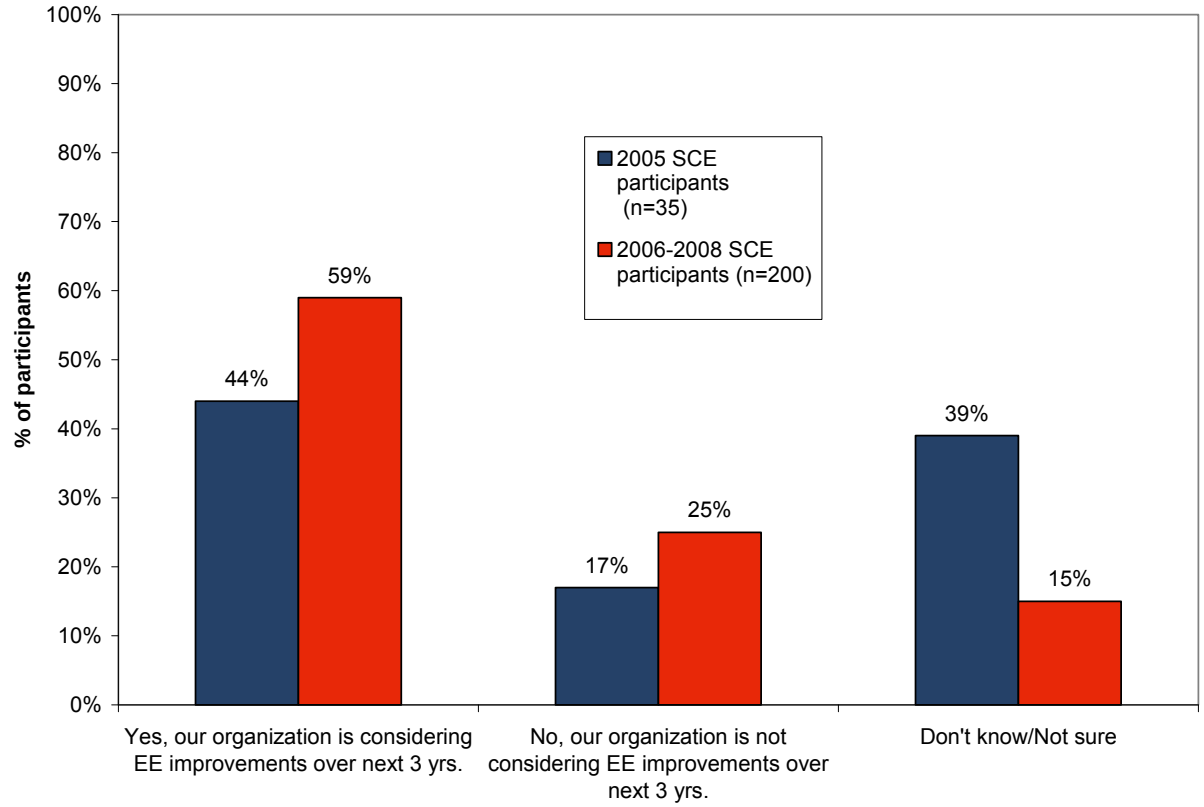
We asked the participating SCE property managers/owners whether they were considering other energy efficiency projects over the next three years. Figure 5-40 shows that the 2006-2008 participants were more likely than the 2005 participants to both say that they were considering future energy efficiency projects and were not considering such projects.

The increase in both these categories was possible because of the sharp drop in the percentage of MFEER participants who did not know what their companies' future plans were – from 39 percent for the 2005 participants to 15 percent for the 2006-2008 participants.

Increasing participation by smaller properties in the 2006-2008 MFEER Program (see discussion in previous sections) is likely one reason for this trend. Owners/managers of smaller properties are more likely to know the project implementation plans of their companies than those representing larger properties or companies. For example, in the 2005 property managers/owners with the larger participating properties (greater than 250 units) were almost twice as likely (46%) to not know what their companies' project implementation plans were as the managers of smaller units (25%). Similarly 26 percent of the 2006-2008 MFEER participants with larger properties did not know what their companies' project implementation plans were compared to only 14 percent for the managers/owners of the smaller properties.

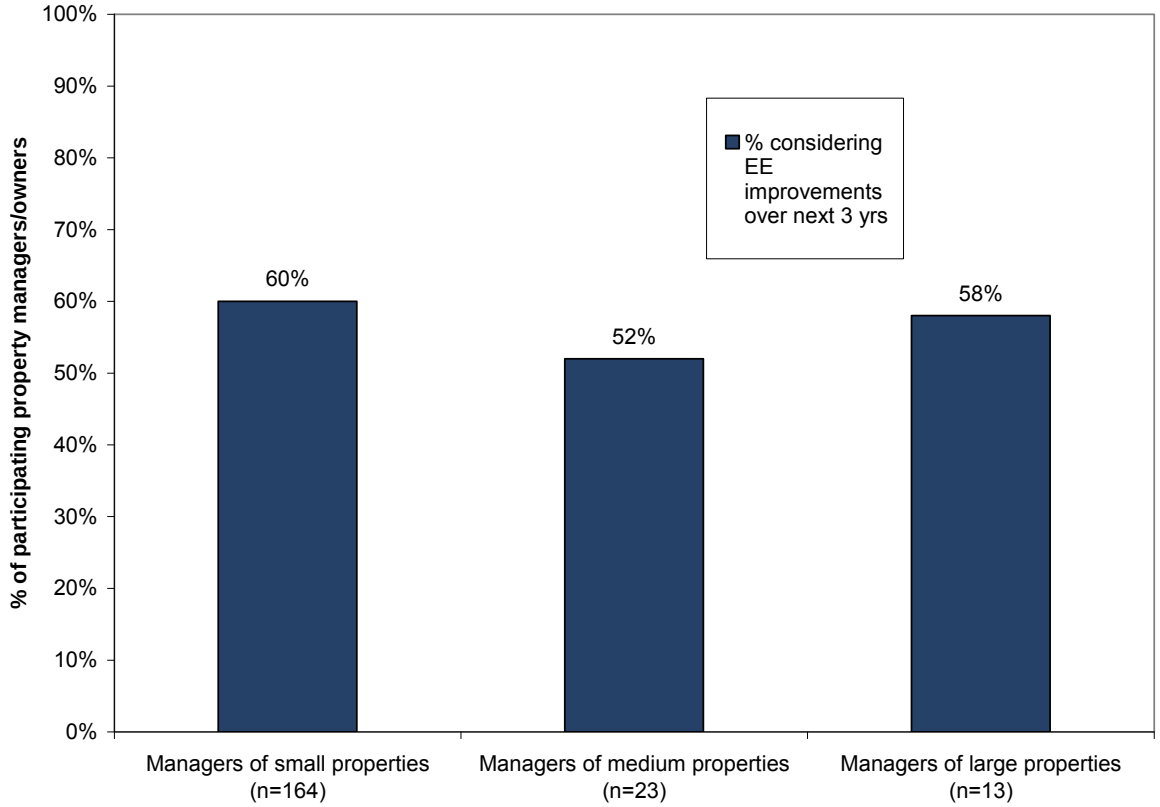
However, this last comparison shows that the increased knowledge of future project implementation of the 2006-2008 participants was not just due to the MFEER Program's shift to smaller properties. The 2006-2008 managers/owners of larger properties were much more knowledgeable of their project implementation plans than their 2005 counterparts were. The sharp rise in energy prices in 2007-2008 may have forced more property managers/owners of all property sizes to develop plans for energy-efficient projects.

Figure 5-40
Considering Future EE Projects?
2005 vs. 2006-2008 SCE Participants



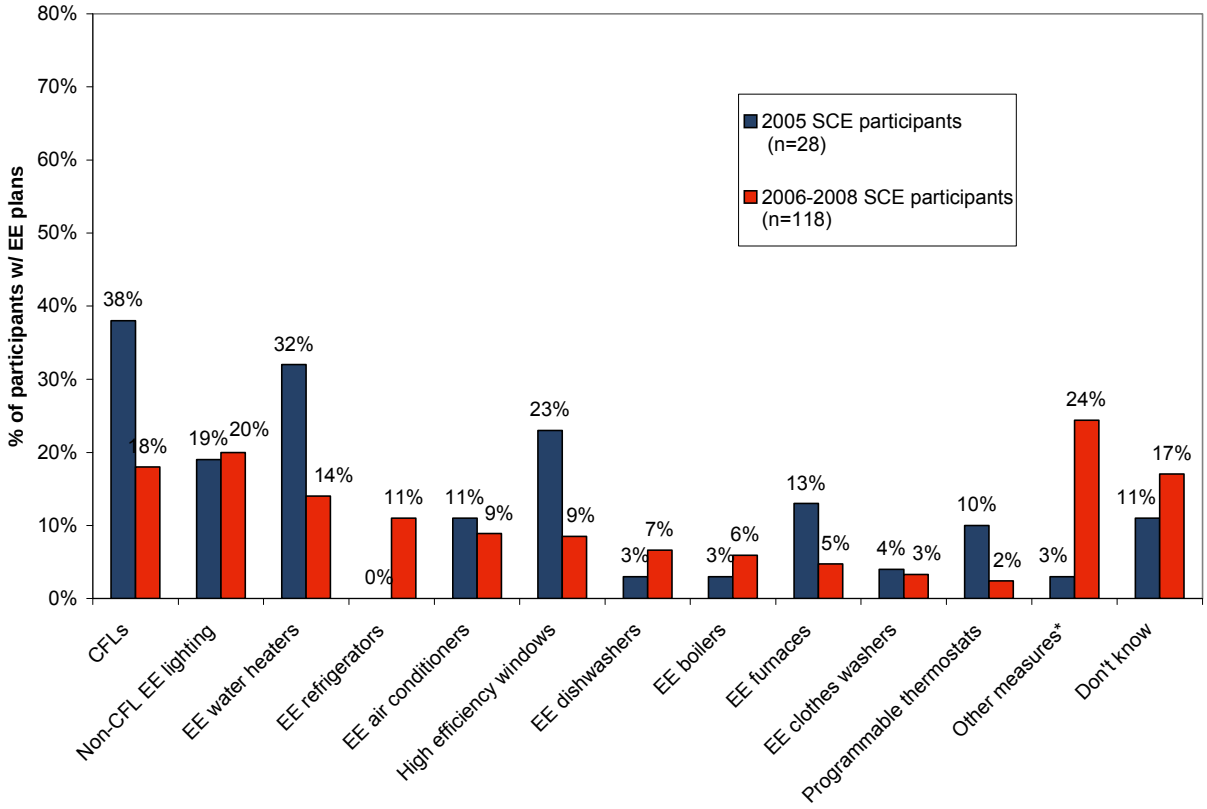
Will the 2006-2008 MFEER Program's shift to smaller properties reduce the chance of energy efficiency project implementation in the future? The survey data show no evidence of this. Figure 5-41 shows that the managers/owners of the smaller properties are as likely or more likely to be considering future energy efficiency improvements as managers/owners of medium-sized or larger properties.

Figure 5-41
Considering Future EE Projects?
2006-2008 SCE Participants by Property Size



What types of energy-efficient equipment are the participating property managers/owners considering for implementation? Figure 5-42 shows that the 2006-2008 participants were less interested than the 2005 participants in CFLs, water heaters, windows, furnaces and programmable thermostats and more interested in refrigerators, dishwashers, boilers, and other measures such as low-flow toilets, stoves, and solar equipment.

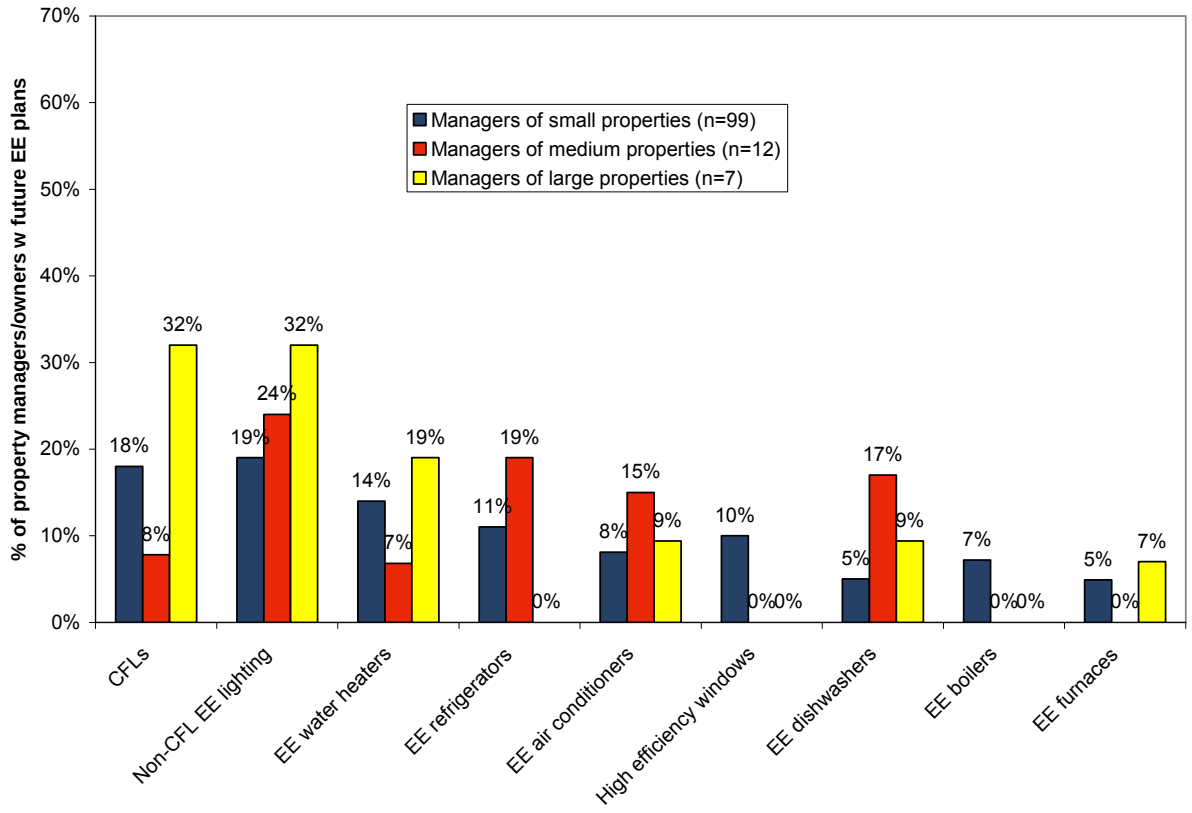
Figure 5-42
Types of EE Equipment Considered for Future Implementation
2005 vs. 2006-2008 SCE Participants



Notes: *Other measures include low-flow toilets, stoves, solar equipment, low-flow showerheads, insulation, weather-stripping, doors, low-flow sprinklers, and unspecified lighting or lighting controls.

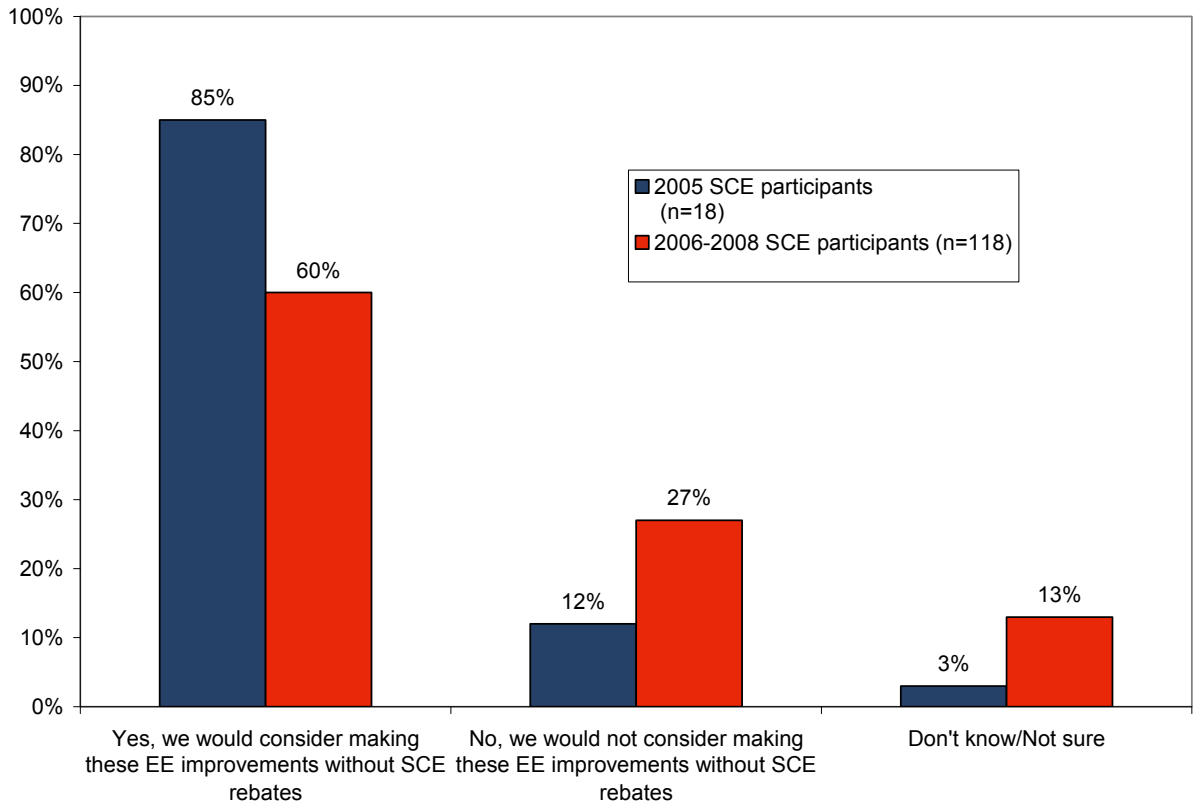
How will the 2006-2008 MFEER Program's shift to smaller properties affect the types of energy-efficient measures that property managers/owners are considering? Figure 5-43 shows that the managers of the smaller properties were considering a wider variety of energy-efficient measures than the managers of the larger properties.

Figure 5-43
Types of EE Equipment Considered for Future Implementation
2006-2008 SCE Participants by Property Size



We asked the participating property managers/owners whether they would be considering these energy efficiency improvements without the rebates or assistance of the SCE MFEER Program. Figure 5-44 shows that the 2006-2008 participants were much less likely to say that they would than the 2005 participants. Once again the 2006-2008 MFEER Program's shift to small properties is a factor in this trend. For example, only 59 percent of the 2006-2008 property managers/owners with participating properties of 100 units or less said that they would consider the energy efficiency improvements without the SCE assistance vs. 84 percent of the property managers/owners with properties of 101-250 units. The smaller properties likely have fewer internal resources – whether financial or manpower – to implement these projects on their own.

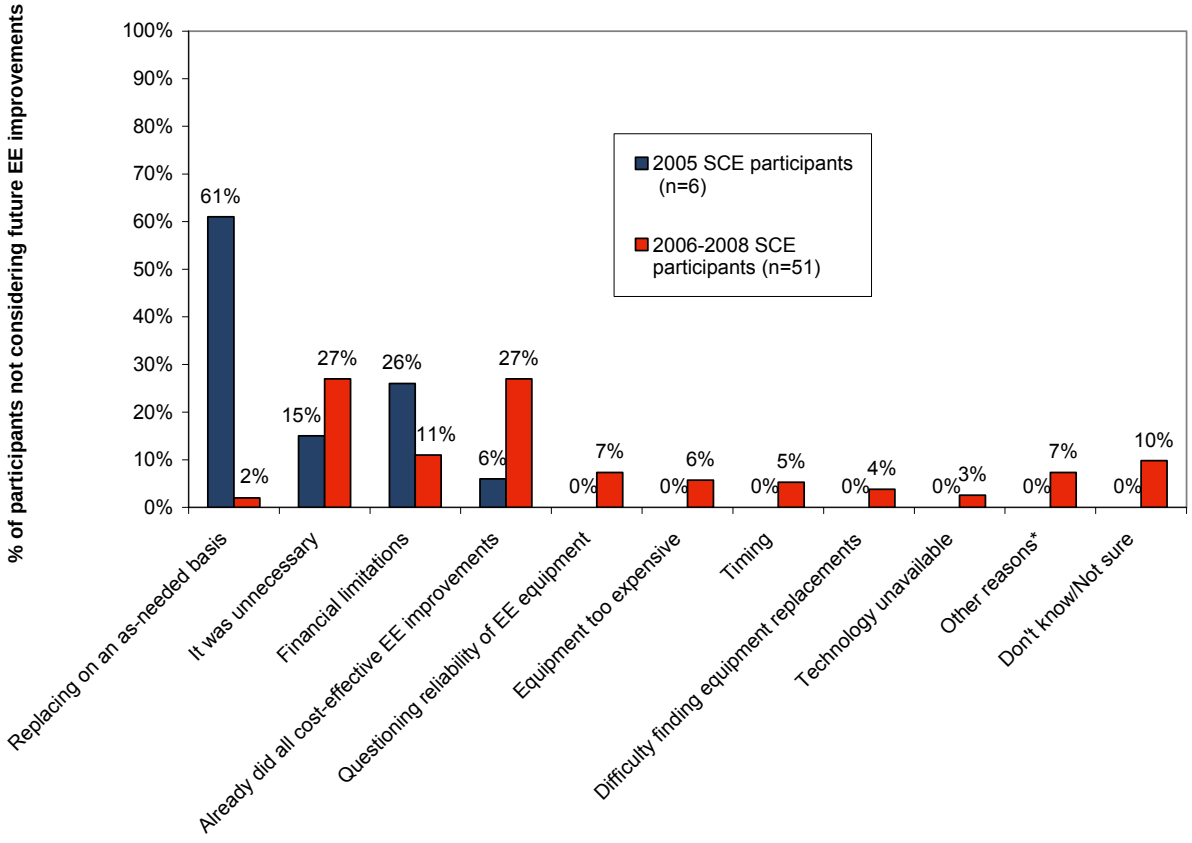
Figure 5-44
Whether Participating Property Managers/Owners
Will Consider EE Improvements without SCE Rebates/Assistance
2005 vs. 2006-2008 Participants



5.8.2 Reasons for Not Considering Future Energy Efficiency Project Implementation

We asked the participating property managers/owners who said that they were not considering energy efficiency improvements over the next three years why they had no such plans. Figure 5-45 shows that the most-cited reasons for the 2006-2008 participants included assumptions that they had already done all cost-effective energy efficiency improvements and claims that such improvements were “unnecessary.” The small sample size for the 2005 participants makes it difficult to discern any historical trends.

Figure 5-45
Why Participating Property Managers/Owners
Were Not Considering Future EE Improvements
2005 vs. 2006-2008 Participants



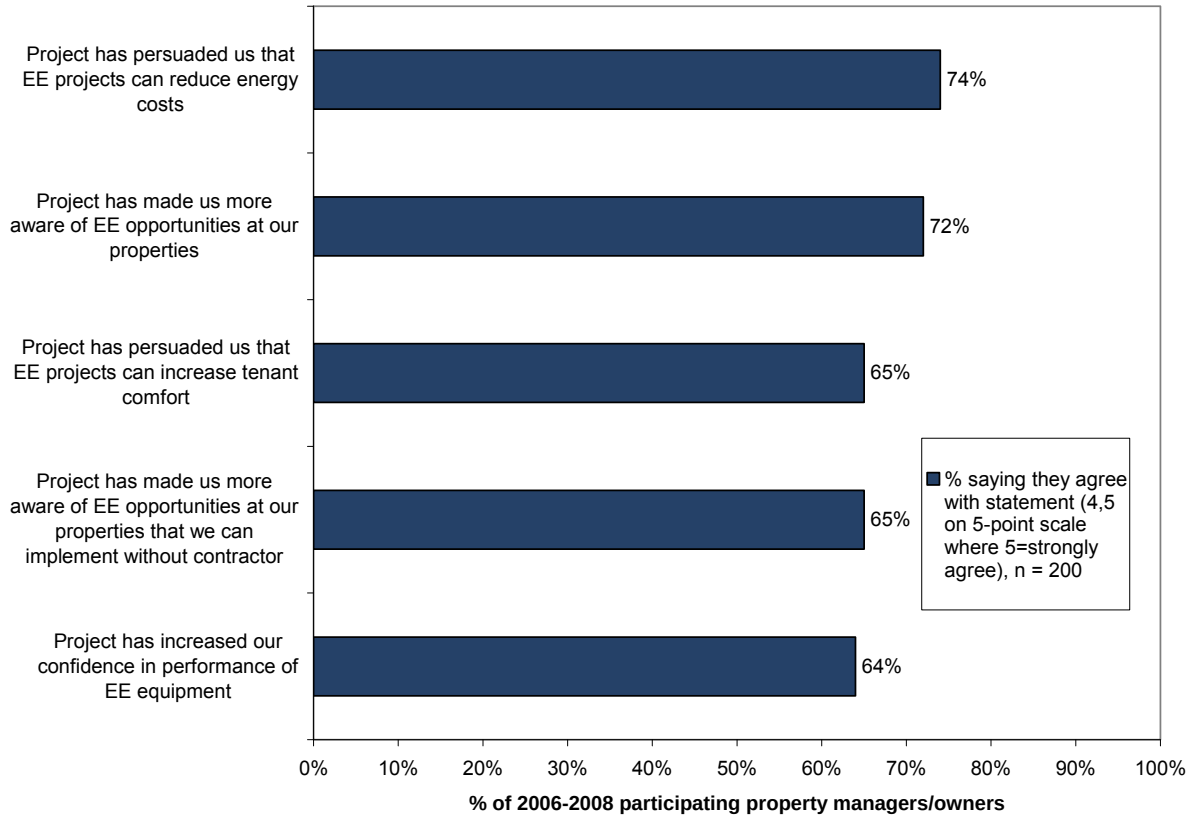
5.9 The Effects of MFEER Program Participation on Participant Energy Efficiency Awareness and Attitudes

SCE's Program Implementation Plans (PIPs) for its 2009-2011 residential programs indicate that SCE will measure over time the effects of these programs on the energy efficiency awareness, knowledge, and attitudes of program participants. To help some baseline measurements for this effort, we read to the 2006-2008 MFEER Program Participants a number of statements concerning energy efficiency awareness, knowledge, and attitudes. For each statement we asked them to rate their level of agreement with the statement using a five-point scale where five equaled "strongly agree" and one equaled "strongly disagree." These statements included:

- “This project has made our company more aware of energy efficiency opportunities at the properties that my company manages.”
- “This project has made our company more aware of possible energy efficiency projects at our properties that we can implement on our own without the help of an outside contractor?”
- “This project has persuaded our company that energy efficiency projects can reduce energy costs.”
- “This project has persuaded our company that energy efficiency projects can increase tenant comfort.”
- “This project has increased our company's confidence in the performance of energy efficient equipment.”
- “Since our tenants pay their own energy bills, there is no reason for our company to install energy-efficient equipment in the tenant units.”

These statements were read in random order to minimize any bias due to sequencing. Figure 5-46 shows that almost three quarters of the 2006-2008 MFEER Program participants agreed that their projects had persuaded them that energy efficiency projects can reduce energy costs and had made them more aware of the energy efficiency opportunities at their properties. Almost two thirds agreed that the MFEER Program projects had increased their energy efficiency knowledge and attitudes in other ways. The participant responses to the statement: “Since our tenants pay their own energy bills, there is no reason for our company to install energy-efficient equipment in the tenant units” were discussed in the previous subsection on split incentive barriers.

Figure 5-46
Levels of Agreement with Statements Concerning
Energy Efficiency Awareness, Knowledge, and Attitudes
2006-2008 Participants



6. Detailed Findings from the Survey of Participating Multifamily Installation Contractors

This section discusses, in much more detail, the findings that are summarized in the Executive Summary above. The sections that make up these detailed findings include:

- Introduction and methodology;
- Contractor characterization;
- Contractor reactions to the rebate program; and
- Market characterization.

6.1 Introduction and Methodology

This report documents the results of a survey conducted with contractors who participated in Southern California Edison's (SCE's) Multifamily Energy Efficiency Rebate (MFEER) Program from 2006 to 2008. The MFEER Program promotes energy savings in apartment dwelling units and in the common areas of apartment and condominium complexes and mobile home parks. Property owners (and property managers, as authorized agents for property owners) of existing residential multifamily complexes may qualify for rebates for installing a variety of energy efficiency measures. Starting in 2006 the Program allowed multifamily properties with fewer than five units to participate for the first time.

Although the Program does some limited marketing, most of the MFEER-rebated energy-efficient projects are identified and installed by a cadre of installation contractors – mostly lighting contractors – who have a primary focus on the multifamily sector. Measures that were rebated by the Program during the 2006-2008 program cycle included:

- CF reflectors,
- HVAC,
- De-lamping,
- Electric water heaters,

- Exit signs,
- Exterior fixtures,
- Insulation,
- Interior fixtures,
- Lamps,
- Photocells,
- Pool pump and motors,
- Refrigerators,
- Room air conditioners, and
- Windows.

The lighting measures accounted for the vast majority of the measures installed through the Program.

The 2008 information in this report came from a KEMA-designed Computer-Aided Telephone (CATI) Instrument that was administered by Opinion Search Inc. The survey was fielded in December 2008 and January 2009. SCE provided a list of 78 contractors who installed rebated measures through SCE's MFEER Program from 2006 to 2008. Because this population size (78) was not much larger than KEMA's pre-determined target number of completed surveys (30), KEMA did not sample from this population list but gave Opinion Search the whole list in randomly-sorted order. Opinion Search was able to complete the target number of 30 contractors' surveys.[14] The survey covered several topics, including: firmographics, market characterization, contractor awareness and participation in the Program, Program marketing efforts, and contractor satisfaction with the Program

[14] The survey firm Opinion Search Inc. attempted contact with 78 contractors of which 61 had working phone numbers. Of the 61 contractors with working numbers, Opinion Search made contact with 39 of these. Thirty of these 39 contractors completed the survey, seven refused, and the remaining two were determined to be ineligible. The total response rate was 52% (32 divided by 61) and the total refusal rate was 18% (7 divided by 30).

We will frequently compare these 2008 survey results with another survey of multifamily contractors that KEMA conducted in May 2005.The 2005 survey was part of an evaluation of the 2004-2005 California Statewide Multifamily Rebate Program.[15] Compared to the 2008 survey, the 2005 survey included more multifamily contractors that operate in the San Diego Gas & Electric (SDG&E), Pacific Gas & Electric (PG&E), and Southern California Gas (SCG) service territories.

6.2 Contractor Characterization

This section covers the company size and target markets of the multifamily contractors, the types of measures they install (including those not installed through the MFEER Program), their level of activity in the MFEER Program and other energy efficiency programs, and their sales and customer service practices.

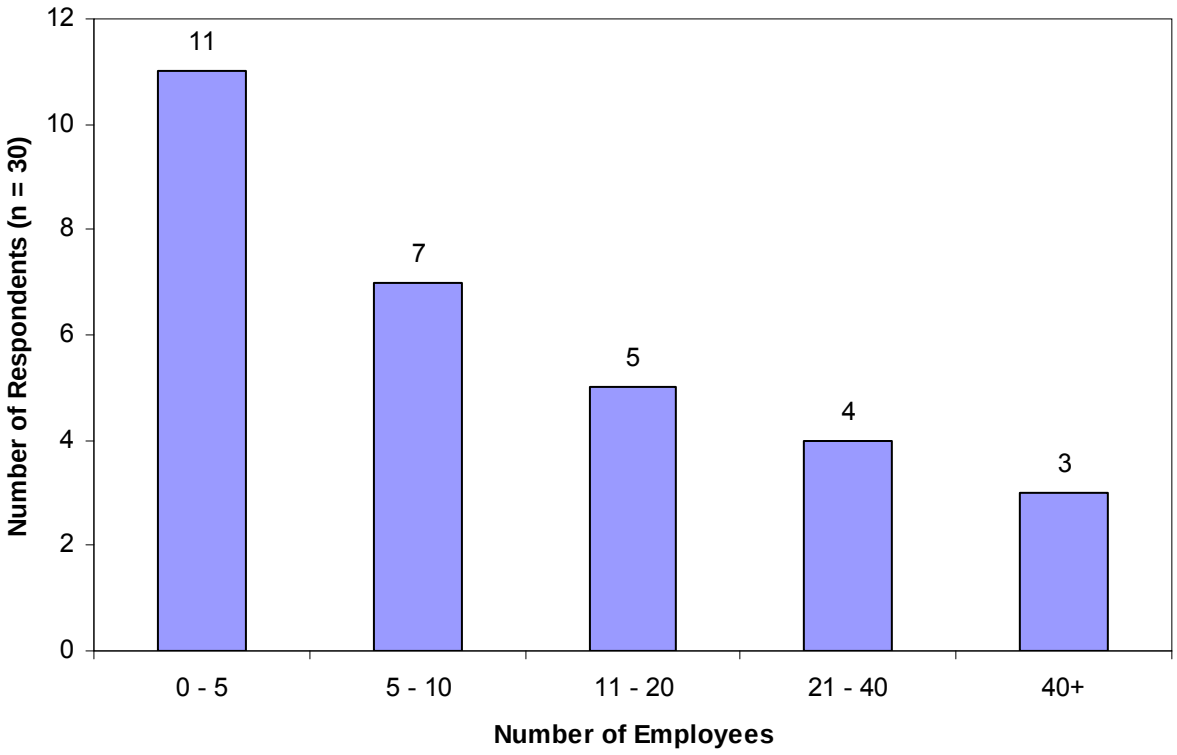
6.2.1 Company Size and Target Markets

Most contractors participating in SCE's MFEER Program are small to medium-sized companies. The majority (60%) of the companies had 10 or fewer employees. Only three (10%) of the companies had 40 or more employees (Figure 6-1). The average number of employees was 19, but the median was only eight. There is some inherent uncertainty in these employee numbers. We did not ask respondents to distinguish between full-time and part-time employees, and some contractors hire additional labor depending on the availability of work. These numbers are about the same as in 2005.

In terms of number of employees, contractors who only installed lighting measures tended to be smaller than those who installed lighting and other measures ($p < .05$). Seventy-six percent of lighting-only contractors had 10 or fewer employees. In contrast, only 25 percent of companies that installed lighting and other measures had 10 or fewer employees.

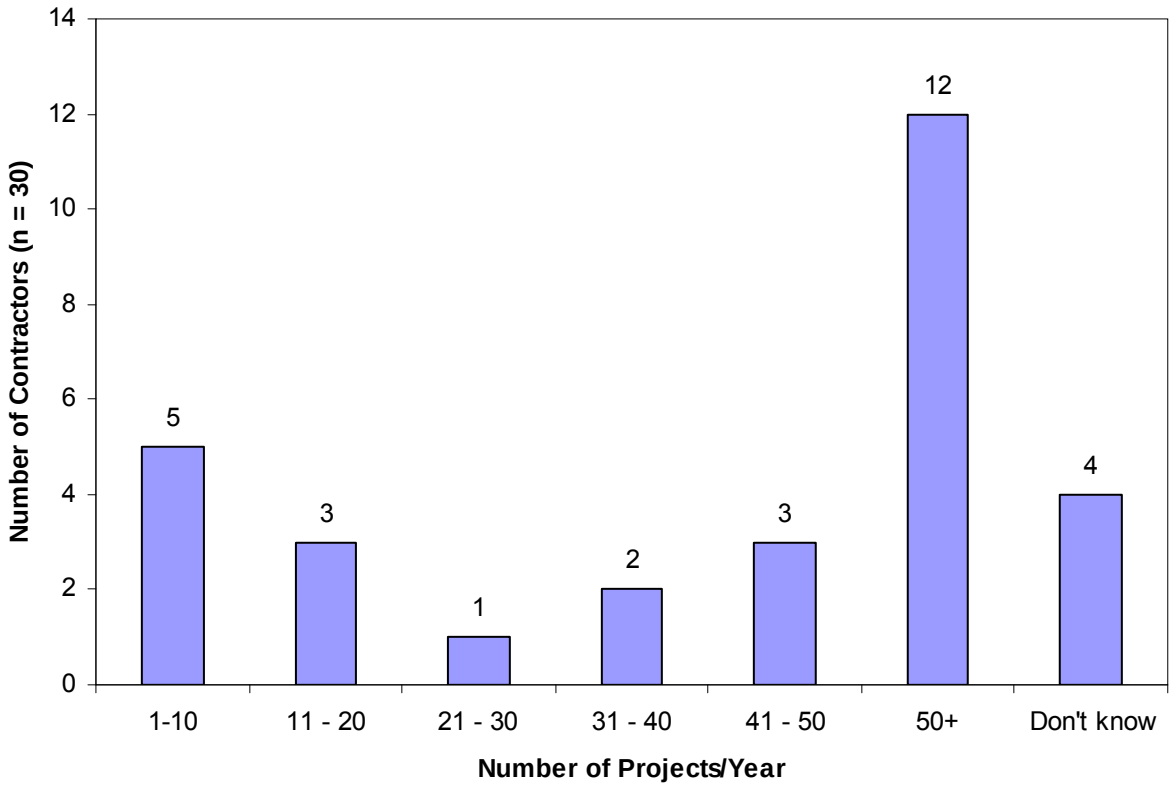
[15] These survey results first appeared in a report containing preliminary findings based on an interim round of process and impact research that was conducted for the MFEER evaluation (*Interim Report For The 2004-2005 Statewide Multi-Family Rebate Program Evaluation*, Prepared by KEMA, Inc., Oakland, California, September 15, 2005).

Figure 6-1
Size of 2008 SCE Participating Multifamily Contractors
by Number of Employees



The reported number of energy-efficient installation projects in multifamily buildings in a typical year ranged from 2 to 850 (Figure 6-2). The average number of projects was 118. However, the median was only 50, suggesting that half of the contractors do 50 or fewer projects in a typical year. This range is similar to what KEMA observed in 2005. In 2005, the average number of installations was 128 with a median of 36.

Figure 6-2
Number of Projects in a Typical Year
Reported by 2008 SCE Participating Multifamily Contractors



KEMA asked the contractors which electricity and natural gas utilities served most of their customers. The majority (87%) of the respondents said that SCE provided electricity service for most of their customers. However, as can be seen in Table 6-1, other utility companies provided electricity service to the contractors' customers.

Table 6-1
Primary Electric and Gas Utilities
for Customers of 2008 Participating Multifamily Contractors

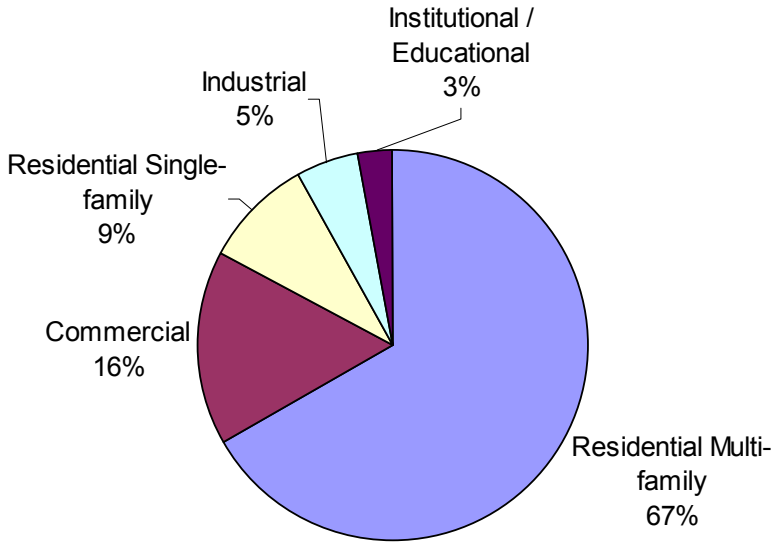
Fuel Supplied	SCE (% of respondents)	PG&E (% of respondents)	SDG&E (% of respondents)	LADWP (% of respondents)	SCG (% of respondents)
Electric	87%	17%	17%	13%	3%
Gas	3%	3%	13%	0%	57%

Note: Electric total exceeds 100% because some respondents identified multiple utilities. Respondents who did not know are not represented here.

The multifamily residential sector accounted for the majority of the participating contractors' energy efficiency installations. Figure 6-3 shows the average percent of total installations from each business sector. This distribution is similar to what KEMA observed in 2005. Smaller contractors (those with 10 or fewer employees) were more likely than larger contractors (those with 11 or more employees) to specialize in the multifamily residential sector ($p < .05$). Fifty-six percent of the smaller contractors did more than 80 percent of their projects in the multifamily residential sector. In contrast, only 17 percent of the larger contractors did more than 80 percent of their projects in this sector.

Figure 6-3
Energy Efficiency Installations by Market Sector
2008 SCE Participating Multifamily Contractors

n = 30



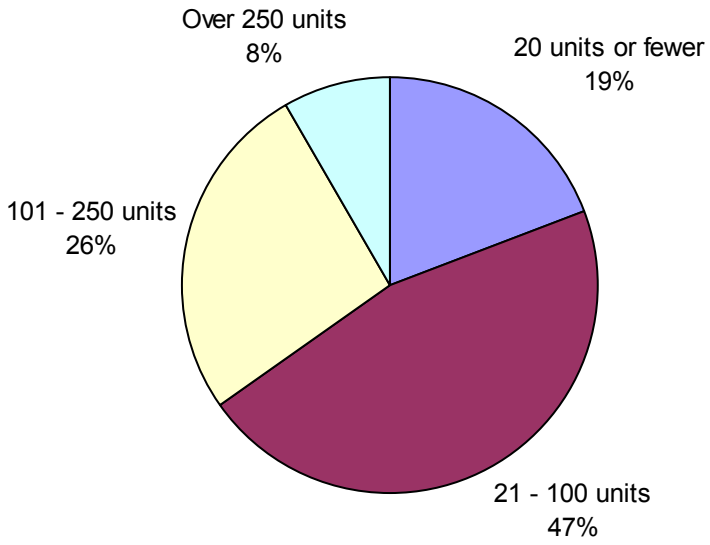
KEMA asked participating contractors what percent of their multifamily residential business was done in public or government-subsidized housing. On average, 21 percent of the participating contractors' multifamily residential business took place in this type of property. Contractors who only installed lighting measures through the Program reported a smaller proportion (15%) of their multifamily residential business in public or government-subsidized housing than more diversified contractors (25%).

Participating contractors estimated how their installations were distributed by multifamily building size. Figure 6-4 shows the average percentage of total installations represented by each building size category. The proportion of installations in properties with 101-250 units was slightly smaller in 2008 (26%) than in 2005 (32%). In contrast, the proportion of installations in properties with 20 or fewer units was slightly higher in 2008 (19%) than it was in 2005 (12%). One possible explanation for this is that starting in 2006 the multifamily programs allowed properties with fewer than five units to participate for the first time. Table 6-4 shows that this

distribution is close to that found in the 2005 interim report and the 2000 baseline study[16]. This suggests that the distribution of building sizes reached by participating contractors in both 2005 and 2008 was similar to the population as a whole. However, in 2008, it appears that contractors may be focusing on the smaller properties and excluding some of the larger properties.

Figure 6-4
Energy-Efficiency Installations by Multifamily Building Size
As Reported by 2008 SCE Participating Multifamily Contractors

n = 30



[16] Final Report, Statewide Survey of Multifamily Common Area Building Owners Market, Volume I: Apartment Complexes, prepared by: ADM Associates, Inc., TecMRKT Works LLC. June 2000. p. 2-3. The building size distributions are for the combined PG&E, SCE, and SDG&E service territories. The baseline study developed its building size estimates primarily from data collected through interviews with multifamily property managers and owners.

Table 6-2
2008 Participating Contractor Energy Efficiency Installations by Multifamily Building Size Compared to Building Size Distributions from 2000, 2005 Reports

Units per Apartment Building	Size Distribution of Apartment Buildings (2000 CA Multifamily Market Baseline Report, n = 541)	% of EE Installations Reported by Participating Contractors (2005 KEMA Evaluation, n = 28)	% of EE Installations Reported by Participating Contractors (2008 KEMA Evaluation, n = 30)
100 or fewer	57%	56%	66%
101 to 250	25%	32%	26%
Over 250	18%	12%	8%
Total	**100%**	**100%**	**100%**

Note: The baseline study findings were based on surveys of property managers rather than contractors.

KEMA also asked the contractors to estimate what percentage of the energy-efficient equipment installation projects in multifamily buildings were for common areas only, tenant units only, or both common and tenant units. A substantial portion (40%) of the contractors reported that all of their projects involved both common areas and tenant units. The majority of contractors (57%) said that more than 60 percent of their projects took place in both common areas and tenant units. Twenty-three percent of the contractors reported that more than 60 percent of their projects took place in tenant units only. No contractors said that more than 60 percent of their projects took place in common areas only. Compared to 2005 observations, in 2008, more contractors said they performed installations in common and tenant areas and fewer contractors performed installations only in common areas. One possible explanation for this is that over time, as property managers become more knowledgeable about their energy efficiency opportunities, they have become more self-sufficient in reducing energy costs in the common areas where they pay the utility bills.

6.2.2 Energy-Efficiency Measures Installed

Twenty-nine (97%) of the thirty participating contractors said that they install lighting of some sort. Twenty-one (70%) reported that they only install lighting. Participating contractors installed a wide range of other energy efficiency measures, as shown in Table 6-3.

Table 6-3
Energy Efficiency Installations by Measure Type
2008 SCE Participating Multifamily Contractors

EE Measures Offered	% of Contractors Installing Measure (n = 30)
Hard-wired fluorescent fixtures	73%
CFLs	60%
T5 or T8 Lamps	37%
Exterior Lighting	30%
Interior Lighting	30%
Exit Signs	17%
LF Showerheads	13%
Lighting Controls	13%
Unspecified Lighting Fixtures	13%
Programmable Thermostats	10%
Faucet Aerators	10%
Energy Efficient Electric Storage Water Heaters	3%
Attic/Wall Insulation	3%
PTAC	3%
Unspecified AC	3%
Unspecified EE Lighting Fixtures	3%
Unspecified Water Measures	3%
Unspecified Retrofit	3%
Water Heater Blankets	3%
Duct Sealing	3%
T12's	3%
Halogen Lighting	3%
LF Toilets	3%
Irrigation	3%
Boiler Controls	3%
Solar Energy	3%
Windows	3%

Note: Total exceeds 100% because multiple responses were allowed.

In 2008, a much greater proportion of contractors said that they install only lighting compared to 2005. In 2008, 70 percent of the contractors said they installed only lighting. In 2005, only 25 percent of the participating contractors reported installing only lighting. Substantially fewer contractors installed programmable thermostats in 2008 (10%) than in 2005 (68%). This decrease is likely due to the fact that the Program no longer offered rebates for programmable thermostats in 2006-2008. It is possible that those contractors who installed both types of measures in 2005 (33%) reverted to lighting-only contractors after the thermostat rebates ceased.

The number of contractors installing boiler controls also decreased in 2008 (3%) compared to 2005 (21%). This decrease is likely due to sampling differences. The 2008 survey only sampled contractors that participated in the SCE MFEER Program, and SCE is only an electrical utility. In contrast, the sample in 2005 included all three California investor-owned gas utilities (PG&E, SCG, and SDG&E).

6.2.3 Activity in the MFEER Program and other Energy Efficiency Programs

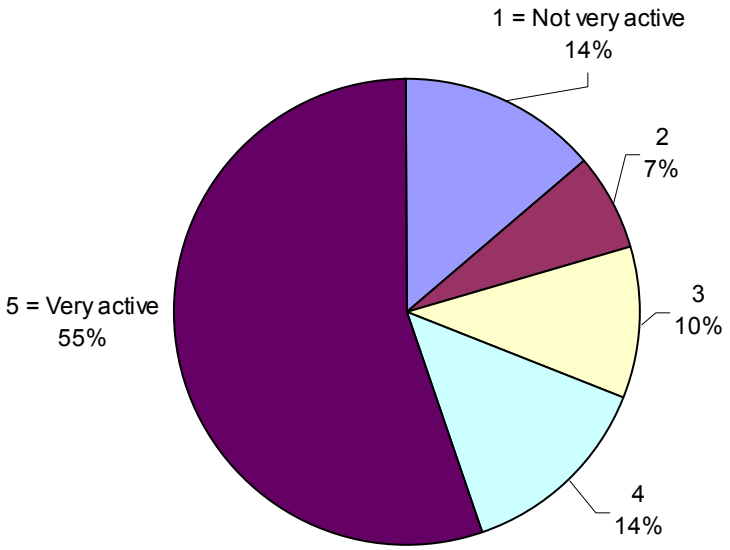
KEMA asked contractors how actively they promoted the rebates offered by the MFEER Program. The contractors were asked to rate their activity using a scale where 1 indicated “not very active” and 5 indicated “very active”. Figure 6-5 shows that 69 percent of the contractors rated their activity levels at 4 or 5 on this scale. The average rating was 3.9. Contractor promotion of the Program seems to have declined between 2008 and 2005. In 2008, 69 percent of the contractors gave a promotion rating of 4 or 5. This is down from 85 percent in 2005. In addition, the average promotion rating decreased from 4.5 in 2005 to 3.9 in 2008.

Contractors who were less satisfied with the MFEER Program in general (3 or less on a 5-point scale) were unlikely to actively promote the Program. Sixty percent of the less satisfied contractors said they were “not very active” (1) at promoting the Program. None of the less satisfied contractors rated their promotion activities higher than 3. In contrast, 85 percent of the contractors who were satisfied with the Program in general rated their promotion activities higher than 3.

KEMA asked contractors who rated their activity at 3 or less on this scale why they were not more active in promoting the rebates. These answers were evenly distributed between two categories. Some contractors said that there were funding issues, including lack of funding and that the Program was not as lucrative as it used to be. Other contractors reported that the Program was too cumbersome and difficult to work/communicate with.

Figure 6-5
2008 SCE Participating Multifamily Contractor
Promotion of the MFEER Program

n = 30



Overall, a substantial portion of the contractors said they were dependent on the MFEER Program for their business. Forty-one percent of the participating contractors said that 81 percent or more of their installations use the Program. A small portion of the contractors claimed to be much less dependent on the Program. Twenty-eight percent of the participating contractors reported that 20 percent or less of their installations go through the Program (Table 6-4).

The proportion of installations done through the MFEER Program depended on two different factors. First, contractors who worked primarily in the SCE service area (70+ percent of their installations were in the SCE service area) claimed to be much more dependent on the rebate programs than those who did not ($p < .05$). All of the participating contractors who worked primarily in the SCE service area said they performed at least 60 percent of their installations through the Program. In contrast, none of the contractors who work primarily outside the SCE

service area reported that they derived more than 60 percent of their installations through the Program.

The proportion of installations that contractors did through the Program also appeared to depend on company size. Contractors with small companies (10 or fewer employees) said they were more likely to be dependent on the Program than large companies ($p < .05$). Sixty-five percent of the small company contractors said they performed at least 81 percent of their installations through the Program. In contrast, only eight percent of the large company contractors said they performed this proportion of installations through the Program.

Table 6-4
Percentage of Business Through MFEER Program
2008 SCE Multifamily Participating Contractors by Company Size

Proportion of Installations Through Rebate Program	Overall (n = 29)	10 or Fewer Employees (n = 17)	More than 10 Employees (n = 12)
0	3%	0%	8%
1-20	24%	24%	25%
21-40	14%	6%	25%
41-60	7%	6%	8%
61-80	7%	0%	17%
81-100	41%	65%	8%
Don't Know	3%	0%	8%

KEMA also asked the contractors which other California energy-efficiency programs they participated in. We allowed them to provide multiple answers. Answers were highly varied, included both utilities in general and specific program names, and a substantial portion (33%) of the contractors did not know (Table 6-5).

Table 6-5
2008 SCE Participating Multifamily Contractor Participation in Other Energy Efficiency Programs

Other Utilities and Energy Efficiency Programs	% of Contractors (n = 30)
Pacific Gas & Electric (PG&E)	17%
San Diego Gas & Electric (SDG&E)	13%
Los Angeles' Department of Water and Power	13%
Other Municipal Utilities (Anaheim, Glendale, Long Beach)	10%
Low Income Energy Efficiency Program	7%
Express Efficiency Program	7%
Standard Performance Contract Program	7%
Small Business Super Saver	7%
Energy Savings Bid Program	7%
Southern California Gas Co. (SCG)	3%
Commercial Laundry Program	3%
Thermostat Replacement Program	3%
Community Energy Partnership Program	3%
Low Income Home Energy Assistance Program (LIHEAP)	3%
Mobile Home Comprehensive programs	3%
Unspecified AC programs	3%
Smartlight	3%
Did not participate in other California EE programs	17%
Don't know	33%

Note: Total exceeds 100% because multiple responses were allowed.

6.2.4 Sales and Customer Service Practices

KEMA asked participating contractors if there were any types of multifamily properties that they avoid. Six (20%) of the contractors said they did avoid some types of multifamily properties. This proportion is lower than 2005 levels (36%). Reasons for avoiding certain properties included geographical location, mostly based on driving distance. Contractors also mentioned that if a

property was in really bad condition, they would avoid it. And one contractor mentioned that there are certain property owners/managers they avoid.

KEMA asked the contractors whether they found it more difficult to get installation business from large property management firms. The majority of the sample (53%) said that they did, which is substantially higher than in 2005 (32%). Contractor difficulty getting installation business from large property management firms depended somewhat on contractor company size ($p < .10$). Two-thirds of the small contractors (10 or fewer employees) said that they found it difficult to get business from large properties. In contrast, only one third of the large contractors reported difficulty. Participating contractors cited bureaucracy and communication problems as reasons for having difficulty getting business from large management firms. Some contractors also cited a lack of concern about energy efficiency and mistrust about the rebates from larger property management firms. These reasons for difficulty are similar to what contractors cited in 2005.

Participating contractors were asked if they left product or warranty information with property managers. All of the contractors said that they did. KEMA also asked the participating contractors what information they provide property managers about the MFEER Program. The information left by contractors varied (Table 6-6). Twenty-seven percent of the contractors said that they left behind SCE Program materials, and ten percent left behind information about the SCE website. These numbers are slightly lower than they were in 2005, when most contractors left behind MFEER Program or website materials. Some contractors said they left behind other materials, including general energy savings information (27%), warranty or replacement information (20%), and their own marketing materials (13%).

The types of information that contractors said they left behind depended on how satisfied they were with the MFEER Program in general. Thirty-two percent of the contractors that were satisfied with the Program in general (4 or 5 on a 5-point satisfaction scale) left behind SCE program materials whereas none of the less satisfied contractors (3 or less on a 5-point scale) left behind these materials. The less satisfied contractors were more likely to leave behind their own marketing materials (40%) than the more satisfied contractors (8%). This pattern, and the relationship between general satisfaction and Program promotion activity (p. 6-11), suggests that contractors who are unsatisfied with the Program do not want to promote it. However, another possible explanation is that the unsatisfied contractors simply do not think the SCE marketing materials are good enough and prefer their own materials.

Table 6-6
Information about MFEER Program Provided by 2008 Contractors

Information Type Provided	% of Contractors (n = 30)
Energy Savings Information	27%
SCE Program Materials / Applications	27%
Warranty / Replacement Information	20%
How Program / Rebates Work	17%
Company Contact Information	13%
Contractor's Own Marketing Materials	13%
Information on Lighting Choices	13%
Environmental Information	10%
SCE Website Information	10%
All Available Information	7%
Contract Information	7%
Product Catalog / Information	7%
Sample Lighting Products	7%
Unspecified Flyer/Pamphlet	7%
Energy Star Information	3%
List of Installed Products	3%
Property Improvement Information	3%
Unspecified Edison Information	3%
Other	3%

Note: Total exceeds 100% because multiple responses were allowed.

KEMA asked those contractors that install some lighting measures whether they leave behind extra lamps to replace early burnouts. Most (83%) of the contractors claimed that they do leave behind extra lamps. This level is equivalent to what the 2005 survey results showed (81%).

KEMA asked the participating contractors what their standard procedure was for dealing with customer complaints. The vast majority (82%) of the contractors said that they would fix the problem and make the customer happy. This level is higher than participating contractors reported in 2005 (71%). Twenty-one percent of the contractors said that they would replace products that were still under warranty, 18 percent said they would go back to the customer's

site to investigate the problem, and 11 percent named other procedures (e.g., refer them to senior management, leave warranty information, etc.).

6.3 Contractor Reactions to Rebate Program

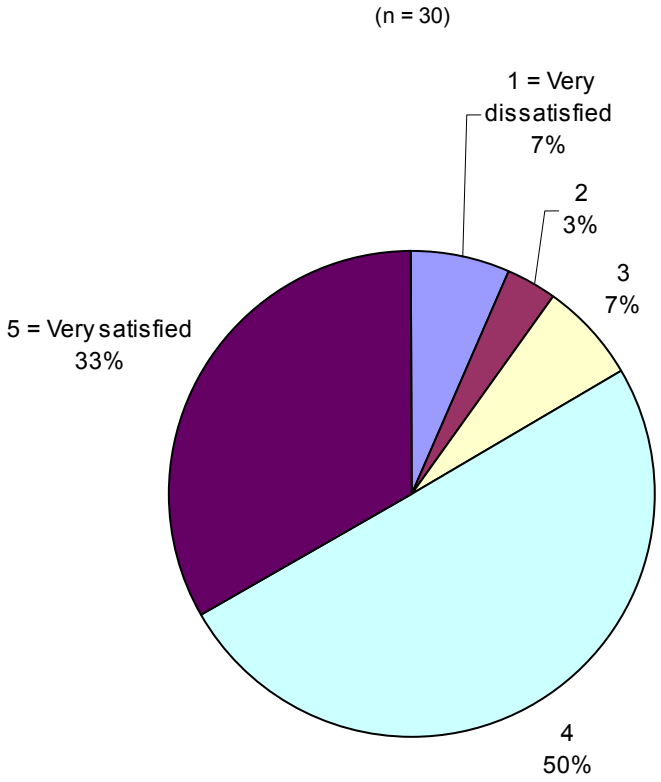
This section addresses the multifamily contractor's general satisfaction with the MFEER Program, satisfaction with the rebate application process, satisfaction with Program marketing and communications, satisfaction with rebate allocation and rebate levels, and suggestions for Program improvements.

6.3.1 General Satisfaction with MFEER Program

Overall, contractor satisfaction with the MFEER Program was high, with 83 percent of the participating contractors indicating that they were satisfied (4 or 5 on a 5-point scale where 5 equals "very satisfied.") This level of satisfaction was equivalent to 2005 levels (85%).[17]

[17] It is important to remember that the 2005 survey covered MFEER-participating multifamily contractors from all three California investor-owned utility (PG&E, SCE, and SDG&E) service territories while the 2008 survey covered MFEER-participating multifamily contractors that operated primarily in the SCE service territory.

Figure 6-6
Overall Satisfaction with MFEER Program
2008 SCE Participating Multifamily Contractors



KEMA asked the participating contractors what they liked about the MFEER Program. The most-liked Program attributes were that the Program helps save energy and benefits both the tenants and the utilities, that the rebates drive sales and give the contractors business, that the Program is well-funded and pays well, and that the Program is well-run and easy to interact with.

Participating contractors identified a similar set of Program attributes they liked in 2005. However, some differences existed (Table 6-7). Three of the attributes that contractors liked in 2008 were not mentioned in the 2005 survey. These were that the Program is well-funded, encourages specific types of equipment, and helps educate the public about energy efficiency measures.

Table 6-7
What Participating Multifamily Contractors Like About the MFEER Program
2005 vs. 2008

What Contractors Like About the Program	% of Participating Contractors in 2005 (n = 27)	% of Participating Contractors in 2008 (n = 29)
Program helps save energy, benefiting tenants and utilities	30%	34%
Rebates drive sales, give contractors business	37%	24%
Program is well-funded, pays well		21%
Program is well-run, rebate process is easy/straight-forward/efficient, payment is timely	30%	20%
General, unspecified praise (e.g. "Good program")	33%	17%
Program encourages specific types of equipment		10%
Educates public about EE measures		7%
Program reaches underserved market sector	7%	3%
Other (objectives are achievable, helps property owners, etc.)	19%	7%

Note: Total exceeds 100% because multiple responses were allowed.

Those contractors who were less than satisfied with the Program in general said that there was too much bureaucracy and paperwork and that SCE seemed to care more about the paperwork

than promoting energy efficiency. One contractor also claimed that the market for energy efficient measures was saturated.

6.3.2 Satisfaction with Rebate Application Process

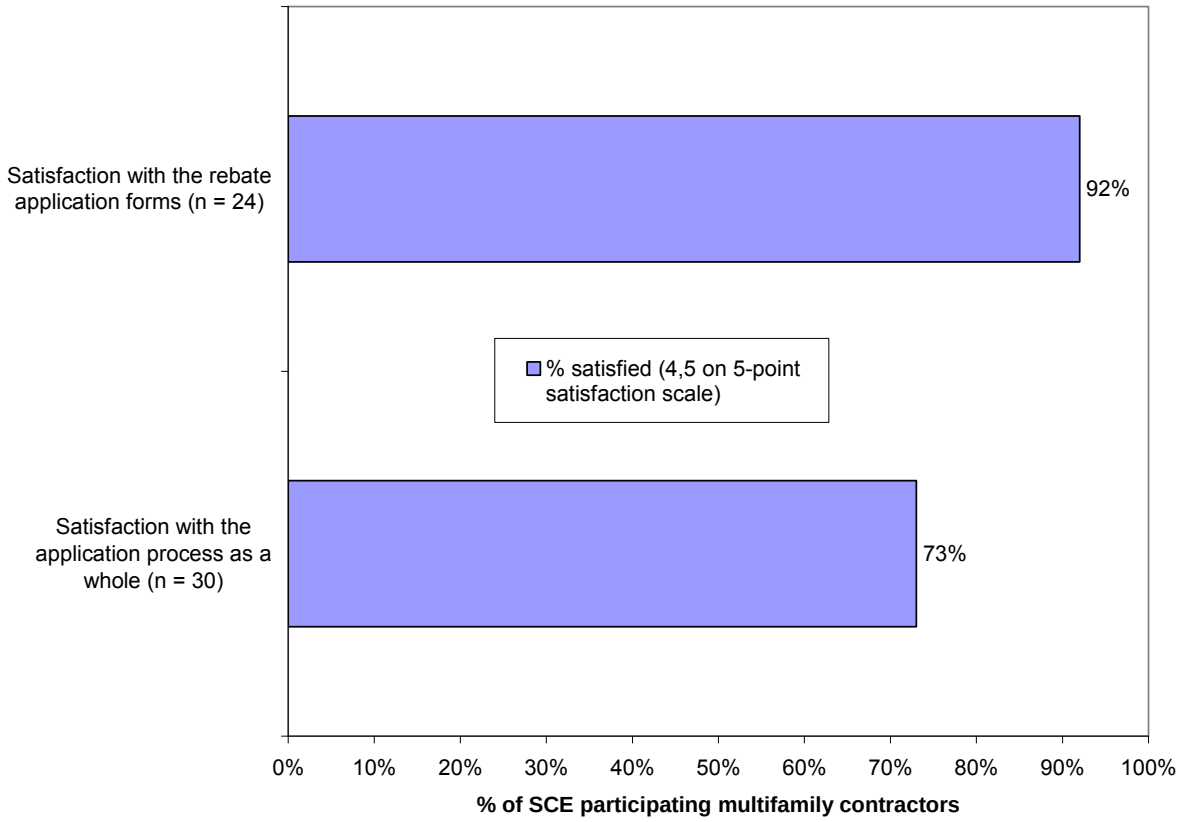
Seventy-three percent of the contractors said that they were satisfied with the application process as a whole (4 or 5 on a 5-point scale where 5 equals “very satisfied,” Figure 6-7). This level of satisfaction is roughly equivalent to what contractors reported in 2005 (78%). Contractors who were less than satisfied with the application process as a whole said that it takes too long to get rebates, that the application process is inefficient and some of the paperwork is redundant, and that it is hard to know whether an application will be approved.

KEMA asked the contractors if they ever fill out rebate applications on behalf of the property managers. Twenty-four (80%) of the contractors said that they did. This level of contractor involvement in filling out the forms is slightly higher than in 2005 (71%). This may be due to the Program’s shift towards smaller properties with fewer internal resources as discussed in the previous report. Larger contractors (greater than 10 employees) were more likely to fill out applications for property managers (100%) than small contractors (10 or fewer employees, 67%).

KEMA asked the contractors who filled out forms on behalf of the property managers several additional questions about those forms. First, KEMA asked these contractors how satisfied they were with the application forms. Ninety-two percent said they were satisfied (4 or 5 on a 5-point satisfaction scale, Figure 6-7). Contractors that were less than satisfied with the forms complained about too much paperwork or SCE being “picky” about the information required for the forms. These reasons for dissatisfaction are similar to those cited by participating contractors in 2005.

KEMA also asked the contractors who filled out the rebate application forms whether their applications had ever been rejected by SCE. Ten of these contractors (42%) claimed that some of their applications had been rejected. This rejection rate is slightly lower than contractors reported in 2005 (50%). The most common reason for an application rejection was that other energy efficient equipment had already recently been installed (60%) or because of errors on the application (30%). Insufficient funding was also mentioned as a reason for rejection (10%). Interior lighting and fixtures were the most commonly rejected energy efficiency measure (56%), followed by CFLs (22%), general lighting (11%), and kitchens and bathrooms (11%).

Figure 6-7
Satisfaction with Rebate Forms and Application Process
2008 SCE Participating Multifamily Contractors

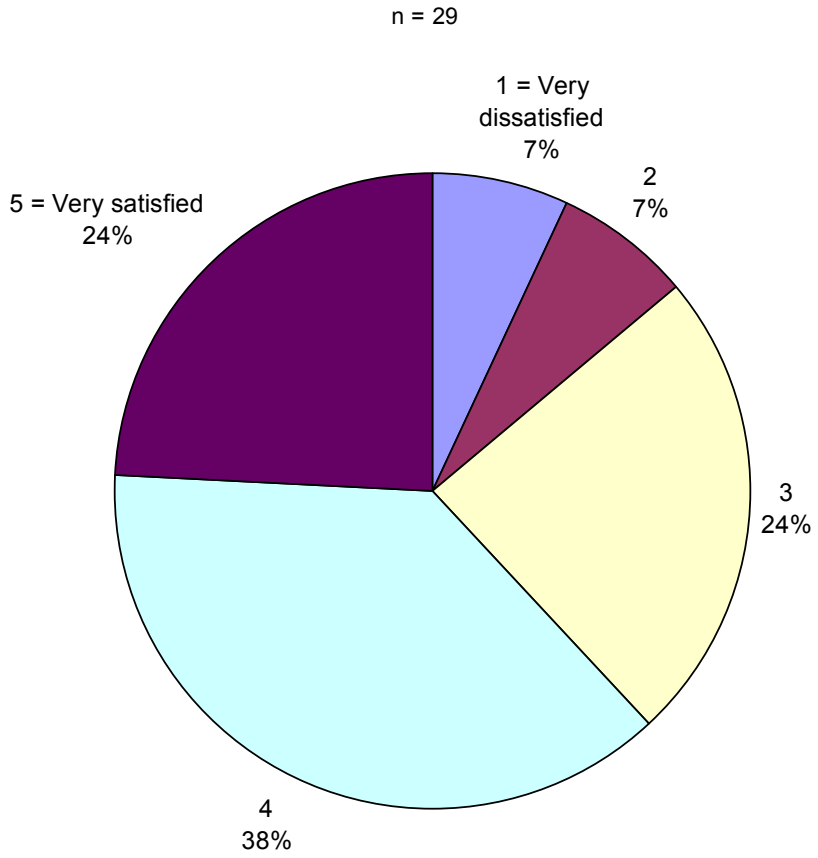


6.3.3 Satisfaction with Program Marketing and Communications

Contractors gave a middling rating to the MFEER Program on its marketing efforts. As shown in Figure 6-8, over 60 percent of the contractors gave a rating of four or five on the five-point scale (where 1 equals “very dissatisfied” and 5 equals “very satisfied). However, the average score was a 3.7. These results indicate a slight improvement over the 2005 results in terms of the proportion of satisfied installers. In 2005 only 52 percent of the respondents gave a rating of four or five. However, the average level of satisfaction with SCE marketing efforts remained static relative to 2005 levels. The average score in 2005 (3.6) was almost the same as the average score in 2008. In 2008, fewer respondents gave ratings of 3 or 5 relative to 2005, and more respondents gave ratings of 4. Thus, the proportion of satisfied contractors increased, but the average level of satisfaction remained static.

Contractor satisfaction with SCE's marketing efforts was related to how actively contractors promoted the Program. Most of the contractors (75%) who said they were highly active in promoting the Program (gave a 4 or 5 on a 5-point scale) were also satisfied (4 or 5 on the 5-point scale) with SCE's marketing efforts. In contrast, only 22 percent of the contractors who were not highly active in promoting the Program were satisfied with SCE's marketing efforts.

Figure 6-8
Satisfaction with MFEER Marketing Efforts
2008 SCE Participating Multifamily Contractors



Contractors who were less than satisfied cited a variety of reasons for dissatisfaction: the Program did a poor job of communicating details and Program changes, the Program was inconsistent and changes rules too often, general dissatisfaction, and that funding runs out too quickly. One contractor claimed that there are some disreputable contractors who customers do not like, but who are using up a lot of the funding. This contractor suggested some sort of penalty system to deal with these "problem" contractors.

KEMA asked the contractors for suggestions on how the marketing of the Program could be improved. Their suggestions included advertising on wider media such as television, getting more contractors involved, making fewer program changes and giving contractors better notice of Program changes, and sending postcards to property managers. One contractor suggested that the Program could set up and keep current a bulletin board of information for contractors.

KEMA asked the participating contractors how satisfied they were with the SCE Program website. Eighty percent of the contractors said they were satisfied with the website (4 or 5 on a 5-point satisfaction scale, Figure 6-9). This proportion is an improvement over the 2005 level (69% of contractors satisfied). Reasons for dissatisfaction with the website included that the website does not have enough information about the Program and that the website isn't updated often enough. One contractor said that he/she would prefer to see files in Excel™ format rather than Adobe™.

KEMA asked the contractors for suggestions on how to improve the website. Their suggestions mostly involved making it easier for contractors to get the information they need off the website. One contractor suggested emailing the relevant portions of the website to the contractors. Another contractor suggested a special contractor login that included an interactive way for contractors to input and retrieve information.

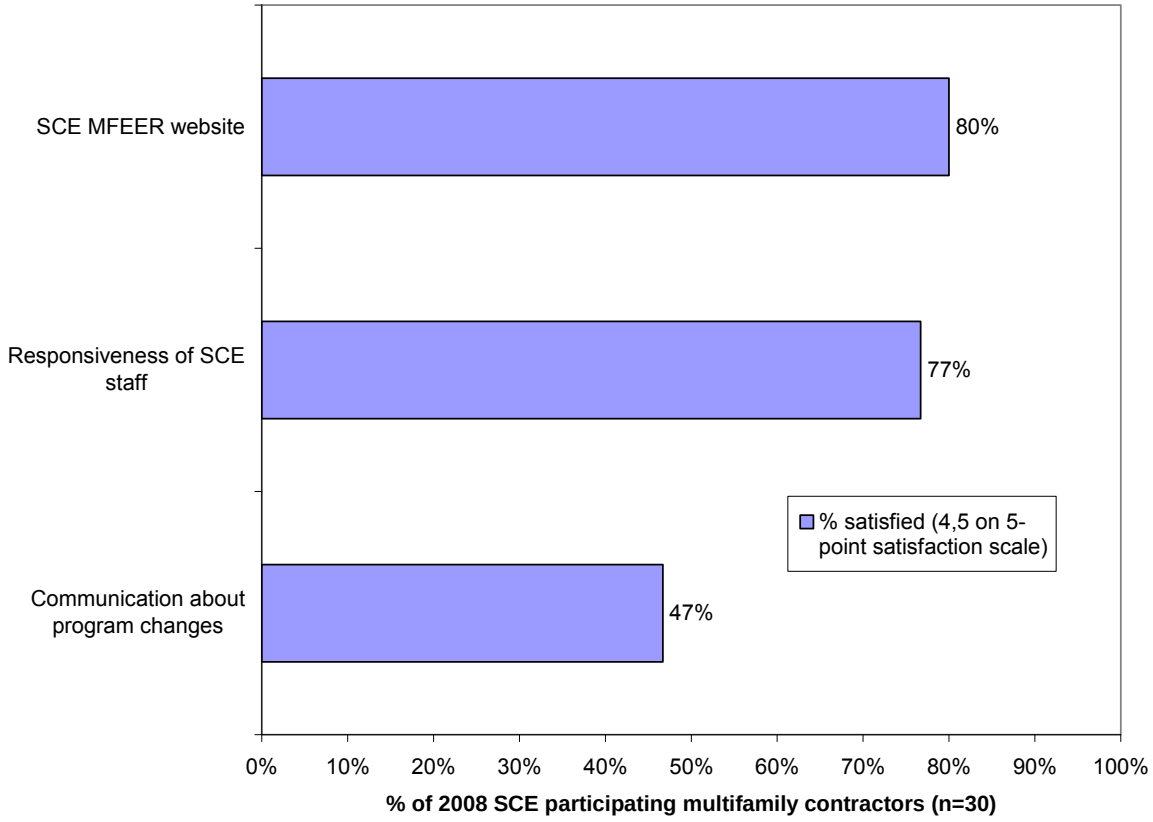
KEMA asked the participating contractors how satisfied they were with the responsiveness of SCE staff. Most of the contractors (77%) were satisfied with staff responsiveness (4 or 5 on a 5-point satisfaction scale, Figure 6-9). This is an improvement over 2005 levels (67% of contractors satisfied). Reasons for dissatisfaction included that it took a long time to get a response, that it was difficult to get things processed, and that the information received from different staff members was inconsistent.

KEMA asked the participating contractors how satisfied they were with the way that SCE staff kept them up-to-date with Program changes. Less than half (47%) of the contractors said they were satisfied (4 or 5 on a 5-point scale, Figure 6-9). The most-cited reason for dissatisfaction was that contractors did not receive communication from SCE staff at all. Other reasons included slow and/or confusing communication, too many Program changes, and general, unspecified dissatisfaction.

KEMA asked the contractors for suggestions on how Program staff could better communicate with participating contractors. Most of the contractors who made suggestions said that the Program should provide information in a timelier manner. Several contractors suggested that the Program should use more emails and more meetings to keep contractors informed. Several

contractors also suggested having specific staff members associated with individual contractors so that there would be a consistent person that they would regularly deal with.

Figure 6-9
Satisfaction with MFEER Website, Responsiveness of SCE Staff, and Communication about Program Changes
2008 SCE Participating Multifamily Contractors



KEMA asked participating contractors if it was difficult to find out what kinds of equipment are covered by the rebates. Four of the contractors (13%) said it was difficult to find out what equipment is covered. This level is slightly higher than in 2005, when only one contractor reported difficulty. KEMA also asked the participating contractors if there were any specific types of equipment were difficult to find rebate information on. These contractors said that it was difficult to find rebates for “CA250 lights” (1), lights (1), and miscellaneous equipment (1).

Participating contractors reported what information sources they typically use to learn about what types of equipment are rebated. The majority of contractors (57%) said that they use the

SCE website. The Energy Star website was also cited by some of the contractors (30%). Other sources of information about rebated equipment are found in Table 6-8.

Table 6-8
2008 SCE Participating Multifamily Contractor
Sources of Information about Rebated Equipment

Source of Information	% of Participating Contractors (n=30)
SCE website	57%
Energy Star website / list	30%
SCE mailings / brochures	13%
SCE phone call	13%
SCE email	10%
Word-of-mouth / Industry colleague	10%
Equipment manufacturer / retailer	7%
Rebate application forms	7%
SCE / California utility meeting	3%
Fax	3%
Vendors	3%
Don't know	7%

Note: Total exceeds 100% because multiple answers were allowed.

6.3.4 Satisfaction with Rebate Allocation and Levels

KEMA asked the contractors about the MFEER Program's system for reserving rebate funds. Eighty percent of the respondents said they were satisfied (4 or 5 on a 5-point satisfaction scale) with the rebate reservation process (Figure 6-10). Contractors who were less than satisfied with the rebate reservation process cited delays and the amount of paperwork as reasons for dissatisfaction. One contractor said that he/she would like to know exactly what the rebate will be before doing the installation. Another contractor stated that they would prefer email over faxes for communication.

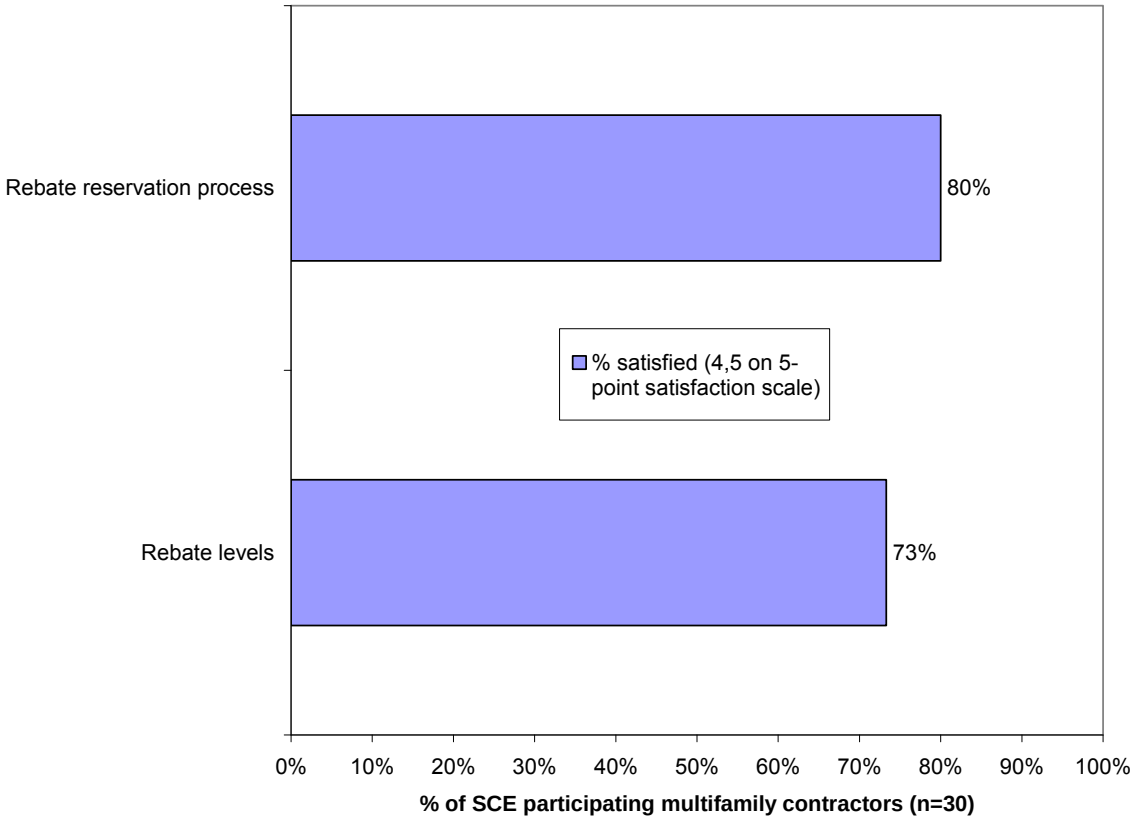
KEMA asked the contractors how the Program could improve the rebate reservation process. Responses fell into three categories: improve the speed of approvals and/or approve rebates

before the installations happen, streamline or computerize the paperwork, and improve communication in general.

KEMA asked the participating contractors how satisfied they were with the rebate levels. Most of the contractors (73%) said they were satisfied (4 or 5 on a 5-point scale satisfaction scale)) with the rebate levels. This level of satisfaction is equivalent to 2005 levels (75%). Those contractors who were less than satisfied with the rebate levels cited general dissatisfaction with rebate levels, said that some types of equipment (e.g. CFLs, non-lighting measures) need bigger rebates, and that people need more incentive to install EE measures as reasons for dissatisfaction with the rebate levels.

Satisfaction with rebate levels was also related to the type of measures that the contractors installed. Eighteen of the 21 (86%) contractors who installed only lighting measures said they were satisfied with the rebate levels. In contrast, only four of the eight (50%) of the contractors who installed lighting and other measures reported satisfaction with rebate levels.

Figure 6-10
Satisfaction with Rebate Reservation Process and Rebate Levels
2008 SCE Participating Multifamily Contractors



KEMA asked the participating contractors if there are any types of equipment for which the rebate levels are too low. Most of the respondents (70%) said that there are types of equipment for which the rebate levels are too low, which is an increase from 2005 levels (59%). When asked what types of equipment needed higher rebates, contractors most commonly cited exterior fixtures (43%). This was substantially higher than the number of contractors who said exterior fixtures needed higher rebates in 2005 (19%).Other measures were cited, as shown in Table 6-9.

Table 6-9
Measures for Which Participating Multifamily Contractors
Think Rebates are Too Low
2005 vs. 2008

Measures For Which Rebate is Too Low	% of Participating Contractors in 2005 (n = 27)	% of Participating Contractors in 2008 (n = 21)
None	41%	30%
Exterior fixtures	19%	43%
Interior fixtures		24%
T8s	19%	19%
All measures	7%	14%
CFLs		10%
Unspecified retrofitting		10%
Linear fixtures		5%
Solar		5%
Energy-efficient water		5%
Exit signs	7%	5%
Ceiling fans		5%
T12s		5%
Linear fluorescents		5%
Water equipment		5%
Other	15%	10%

Note: Total exceeds 100% because multiple responses were allowed.

KEMA also asked participating contractors whether there were any types of equipment for which rebates are not currently offered, but that should be. Ten (33%) of the contractors said that there were types of equipment that should be rebated. These contractors made a variety of suggestions about what equipment should receive rebates (Table 6-10). Though it is not a specific type of equipment, one contractor also suggested that hotels and motels should be added to the Program.

Table 6-10
2008 SCE Participating Multifamily Contractors
Suggestions for Equipment That Should Receive Rebates

Measures That Are Not Rebated but Should Be	% of Participating Contractors n = 10
High-wattage exterior fixtures	20%
Induction lighting	20%
Air conditioners	10%
Ceiling fans	10%
Duct sealings	10%
LED products	10%
Removing quartz halogens	10%
Solar panels	10%
Torchieres	10%
Upgrading T8s	10%

Note: Total exceeds 100% because multiple responses were allowed.

Only half of the participating contractors reported that they received their rebate payments in a timely manner. Contractors who predominantly worked with smaller properties (100 or fewer units) were more likely to report not receiving timely rebate payments than contractors who worked predominantly with larger properties (more than 100 units). Only four of the 16 (25%) contractors who worked with smaller properties said that they received their rebates in a timely manner. In contrast, seven of the 10 (70%) contractors who worked with larger properties reported that they received their rebates in a timely manner. There was no correlation between company size (based on number of employees) and the likelihood that contractors reported that they received their rebates in a timely manner. Thus, it could be that the rebate applications for the larger properties are processed faster than those for the smaller properties. On the other hand, contractors who work with larger properties may have lower expectations for how long it takes for the rebate payments to arrive.

KEMA asked the participating contractors several questions about the availability of the rebates. Almost all of the contractors (93%) said that making the rebates available year-round would increase contractor participation in the Program. Most of the contractors (53%) also reported

that concerns about the rebate funds running out made them reluctant to recommend EE equipment to some of their customers.

6.3.5 Suggestions for Improvement from Contractors

KEMA asked the participating contractors who installed only lighting measures why they did not install non-lighting measures. The plurality (42%) of these contractors answered that they are lighting only contractors. Other reasons given were that the rebates for non-lighting measures are too small (16%), that they cannot make money off of those measures (16%), and that they do not have the skills to install those measures (12%).

KEMA asked the participating contractors what the Program could do to encourage contractors to do more non-lighting measures. Many of the contractors (27%) did not have suggestions. The most common suggestion (57%) was to increase the rebate levels for non-lighting measures. The contractors also suggested increasing contractor awareness of the rebates for non-lighting measures (20%). Other recommendations included making the non-lighting measures free because that's what moves the lighting measures, making more items eligible, trying to get more contractors involved, and trying to get the bigger contractors to more aggressively market non-lighting measures.

KEMA asked the participating contractors for general suggestions on ways to improve the Program. Only seven (27%) of the contractors provided suggestions. This level of general suggestions is much decreased from 2005 levels (81%). This decrease may be due to higher levels of satisfaction with specific Program aspects in 2008 relative to 2005 (Table 1-2). A few of the suggestions in 2005 involved Program marketing, and satisfaction with Program marketing and the Program website increased in 2008. Some of the other suggestions in 2005 involved the rebate reservation process. Satisfaction with the rebate reservation process increased in 2008 and the 2008 survey asked for suggestions for improving the rebate reservation process in a separate question. The suggestions of the 2008 contractors included:

- The Program should focus less on paperwork and more on increasing EE measures in multifamily properties,
- Payments should be made quicker,
- Rebate levels should be increased,
- The Program should provide better communication and service from the Program Managers,

- The Program should decrease the level of detail in the spreadsheets and stop requiring contractors' purchase orders, and
- The Program needs more staff.

6.4 Market Characterization

KEMA asked the contractors who said that they install CFLs about the market potential for CFLs. KEMA asked these contractors to rate the market potential on a 10-point scale where 10 equals "unlimited opportunities," and 1 equals "no opportunities." The average rating given by contractors was 6.3, which is about the same as contractors reported in 2005 (6.2). Five of the 18 (28%) contractors surveyed in 2008 who install CFLs said that the market for CFLs had low potential (4 or less on the scale). These contractors cited market saturation as the main reason for the low potential. They also said that many multifamily managers do these replacements themselves and do not want to pay a contractor to do them. Two of the contractors said that it is common for tenants to steal the CFLs when they move out, so multifamily managers are reluctant to put them in.

KEMA also asked the contractors who installed T5s and/or T8s about the market potential for those technologies, using the same 10-point scale as for the CFLs. The average rating given by contractors was 5.7, which is lower than the levels reported in 2005 (7.9). In addition, in 2005, 19 of the 28 (69%) of the contractors installed T5s or T8s. In 2008, the portion of T5/T8 contractors had dropped to 11 out of 30 (37%). Three of the 11 (27%) contractors who installed T5s/T8s said the market had low potential (4 or less on the scale). These contractors also cited market saturation as the main reason for low potential. Some of these contractors also mentioned that T5s/T8s are less common in residential buildings than they are in commercial buildings, and one of the contractors said that property managers only purchase these technologies as parts of bigger jobs.

Finally, KEMA asked the contractors to speculate on why property owners do not install EE measures on their own. Half of the contractors suggested that the initial costs of the measures are too high. Almost half (43%) of the contractors also suggested that it is too much effort or hassle for property managers to install these measures, and some of the contractors (23%) suggested that the property managers do not have sufficient in-house labor to install these measures (Table 6-11). These perceptions are notably different than 2005 levels, when insufficient manpower was the most often cited reason (36%), followed by financial constraints

(21%), lack of awareness of energy efficiency measures (21%), and lack of awareness of rebates (18%).

Table 6-11
Reasons Why Property Managers Do Not Install EE Measures on Own
As Suggested by 2008 SCE Participating Multifamily Contractors

Reasons Contractors Think Property Owners/Managers Do Not Install EE Equipment On Their Own	% of Participating Contractors n=30
Too much upfront initial/upfront cost	50%
It's too much hassle	43%
Insufficient manpower/labor/time	23%
Not aware of rebates or rebate programs	17%
Not aware of energy efficiency measures	13%
They don't receive the full incentive/ contractor receives some of the incentive	13%
Other (don't trust contractor/product, communication, rebates too low, etc)	13%
Don't know	10%

Note: Total exceeds 100% because multiple responses were allowed.

7. Detailed Findings from the Survey of HVAC Contractors

7.1 Introduction

This section summarizes the goals and methodology of the HVAC contractor survey.

7.1.1 Background and Objectives

The primary goal of this survey was to understand how HVAC contractors view Southern California Edison's (SCE's) programs that offers rebates for measures such as Energy Star rated room air-conditioners, whole house fans, advanced ducted evaporative coolers, electric storage water heaters, and high efficiency packaged terminal air-conditioners (PTACs). Specifically it sought to determine how they became aware of the rebates, to what degree they promoted the rebates, how satisfied they were with various aspects of the program, what suggestions they had for program improvement, and how much of an impact they believed the incentives had on customer behavior and sales.

7.1.2 Methodology

Data collection for this study consisted of a telephone survey of HVAC contractors in SCE's service territory. The survey was fielded in February 2009.

7.1.2.1 Sampling Process

We developed the SCE HVAC contractor sample frame from two different data sources. We pulled the initial portion of the sample frame by querying the Selectory.com service offered by Dun & Bradstreet (D&B) Sales and Marketing Solutions. The query was limited to those businesses whose mailing addresses fell within the SCE service territory. The final Selectory list, after removal of duplicates, came to 800 companies.

Because we were concerned that some smaller HVAC companies might not be listed in Selectory, we decided to supplement the Selectory list with companies from an online yellow pages website: Superpages.com. We fed a random sample of zip codes from the SCE service territory into the Superpages search engine along with appropriate keywords. We then recorded the company name and phone number for each query result and placed them in a separate Superpages list. When five consecutive zip codes resulted in greater than 50 percent duplicates (when compared with the existing Superpages list) the process was stopped. We then merged

the Superpages and Selectory lists, removing any duplicates in the process. Superpages yielded an additional 136 contacts for a total sample frame of 936 contractors. Surveys were completed with 69 contractors from this list. The sample design specified that 25 of the completed surveys had to be conducted with contractors who did not sell ducted evaporative coolers.

7.1.2.2 Survey

The survey instrument, which can be found in the appendix, was designed to address contractors' awareness of the HVAC rebate programs, their participation in and promotion of the programs, their satisfaction and suggestions for improvement, and their estimation of how much the rebate programs affected customer behavior. The survey covered both single-family and multifamily rebates for the following energy efficiency measures:

- Energy Star rated room air-conditioners (RAC);
- Whole house fans;
- Electric storage water heaters;
- Ducted evaporative coolers (single-stage and two-stage, with and without pressure relief dampers);
- High efficiency central air-conditioning (CAC) units as replacements for old, inefficient CAC units;
- "Basic" and "advanced" tune-ups for CAC units; and
- High efficiency packaged terminal air-conditioners (PTACs) for multifamily buildings.

7.2 Findings

These detailed findings from the HVAC contractor survey contain the following sections:

- Description of surveyed businesses;
- Program awareness and participation;
- HVAC contractor feedback on the programs;
- Changes in satisfaction over time;

- Impact of rebates on sales of rebated measures; and
- Conclusions.

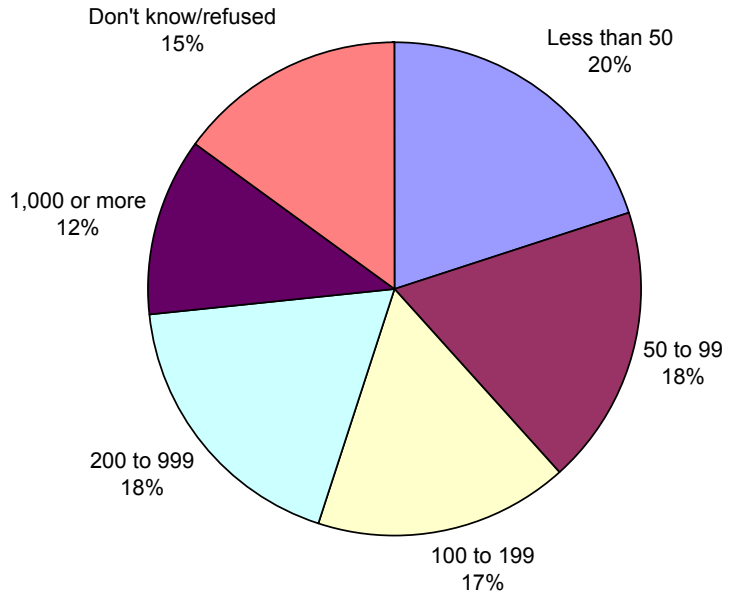
7.2.1 Description of Surveyed Businesses

A third (33%) of the HVAC contractors we surveyed were single-person operations and three-quarters (76%) had fewer than five employees at the sampled business establishment. Only three respondents had more than ten employees on-site. Thirteen percent reported that their firm had other locations in California, but the largest of these had only a dozen employees statewide.

Figure 7-1 shows how many HVAC jobs respondents' companies perform annually. Roughly half report doing fewer than 100 HVAC jobs a year, while 12 percent report doing 1,000 or more.

Figure 7-1
How Many HVAC Jobs Does Your Company Do Annually?
2008 SCE HVAC Contractors

(n = 60)



Two-thirds (66%) of these jobs were done in single-family homes; all respondents reported doing at least some work in the single-family residential segment. Smaller establishments (those with fewer than five employees) reported doing a larger percentage of their work in single-family homes than did larger contractors (73% of their jobs vs. 44% for those with five or more employees).[18]

Eighty-two percent of respondents identified the single-family residential segment as their primary market segment. The runner-up was the commercial/industrial segment, with 10 percent saying that was their primary market. Five percent identified multifamily residential as their

[18] All numerical differences cited in the body of the report are statistically significant at the 90% confidence interval.

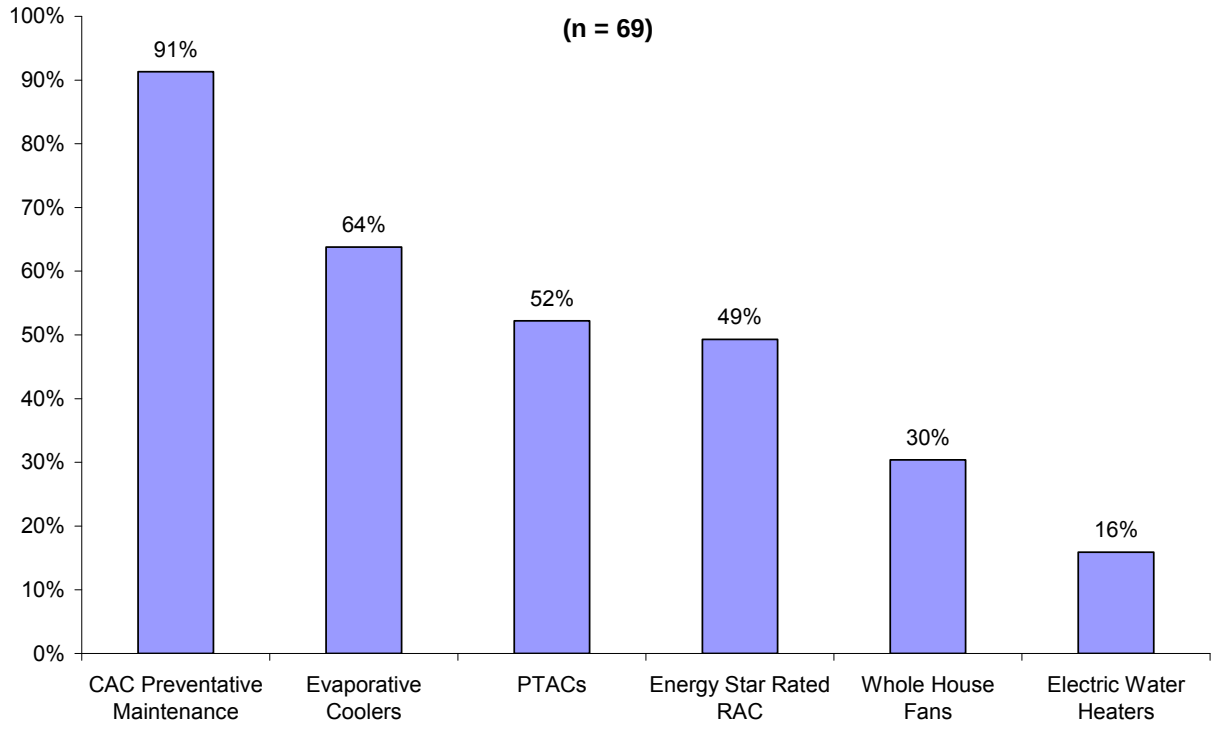
primary market, and the remaining three percent said that schools, government, and institutional buildings comprised their primary market.

Three-quarters of respondents (75%) did at least some work in the multifamily residential segment. On average these companies did 15 percent of their jobs in the multifamily segment. Those establishments with five or more employees did a larger portion of their jobs in the multifamily segment than smaller HVAC contractors (23% vs. 11%).

Figure 7-2 shows the percent of the surveyed HVAC contractors who reported selling each of the SCE-rebated HVAC measures. Virtually all respondents offered preventative maintenance services for HVAC equipment. Half sold packaged terminal air-conditioners (PTACs) and Energy Star rated room air-conditioners (RACs). Less than a third sold whole house fans, and less than one-in-six sold electric water heaters.[19]

[19] Although 64 percent of respondents reported selling advanced ducted evaporative coolers, this number is an artifact of the sample design (i.e., the sample was chosen to insure that roughly 64% of respondents sold evaporative coolers). No conclusions about how widely this technology is sold in the marketplace can be drawn from this number.

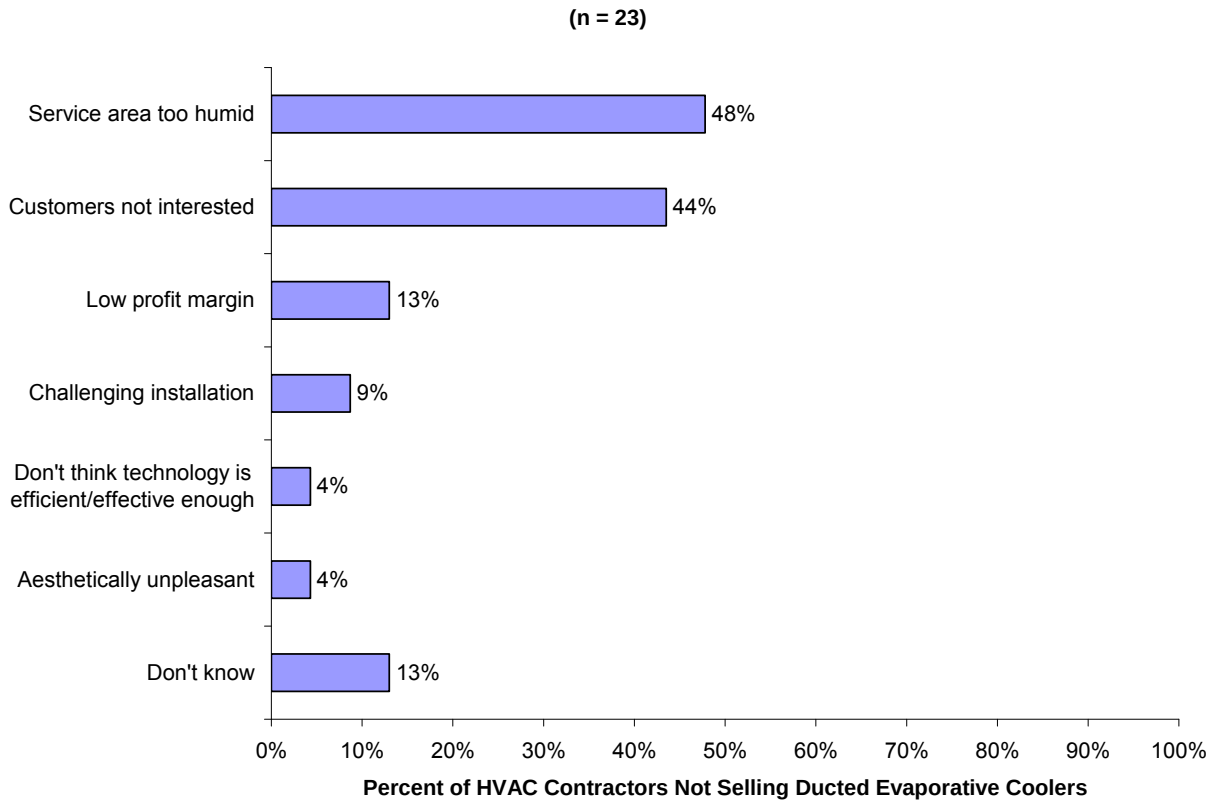
Figure 7-2
2008 SCE HVAC Contractors
Percent Selling Each Rebated Measure



As would be expected, sales of some measures were correlated with the market segments on which contractors focused. Contractors who sold PTACs did a larger percentage of their business in the multifamily segment (20% vs. 9% for those who did not sell PTACs) and a smaller percentage in the single-family segment (56% vs. 76% for those who did not sell PTACs). Those who sold Energy Star rated room air-conditioners also did more of their business in the multifamily segment than those who did not (19% vs. 10% for those who did not sell RACs). The opposite held for electric water heaters; those who sold them did a smaller percentage of their business in the multifamily segment than those who did not (4% vs. 17%).

Those contractors who did not sell advanced ducted evaporative coolers were asked why they did not sell this technology. Their responses are summarized in Figure 7-3. Most said either that their customers were not interested in the technology or that the service territory was too humid for the effective use of evaporative coolers.

Figure 7-3
Reasons for Not Selling Evaporative Coolers
2008 SCE HVAC Contractors



Note: Percents do not sum to 100% because multiple responses were allowed

7.2.2 Program Awareness and Participation

Almost three-quarters of respondents (73%) were aware of the SCE rebates on all of the rebated measures they sold. At the other extreme, 13 percent were not aware of any of the SCE rebates offered for measures they sold.

Figure 7-4 shows the percent of HVAC contractors who sold each measure that were aware that a SCE rebate was available for that measure. Rebate awareness ranged from a high of 100% for electric water heaters to a low of 86 percent for central air-conditioning (CAC) preventative maintenance rebates.

Figure 7-4
2008 SCE HVAC Contractors
Percent of Those Selling Measures Aware of Measure Rebates

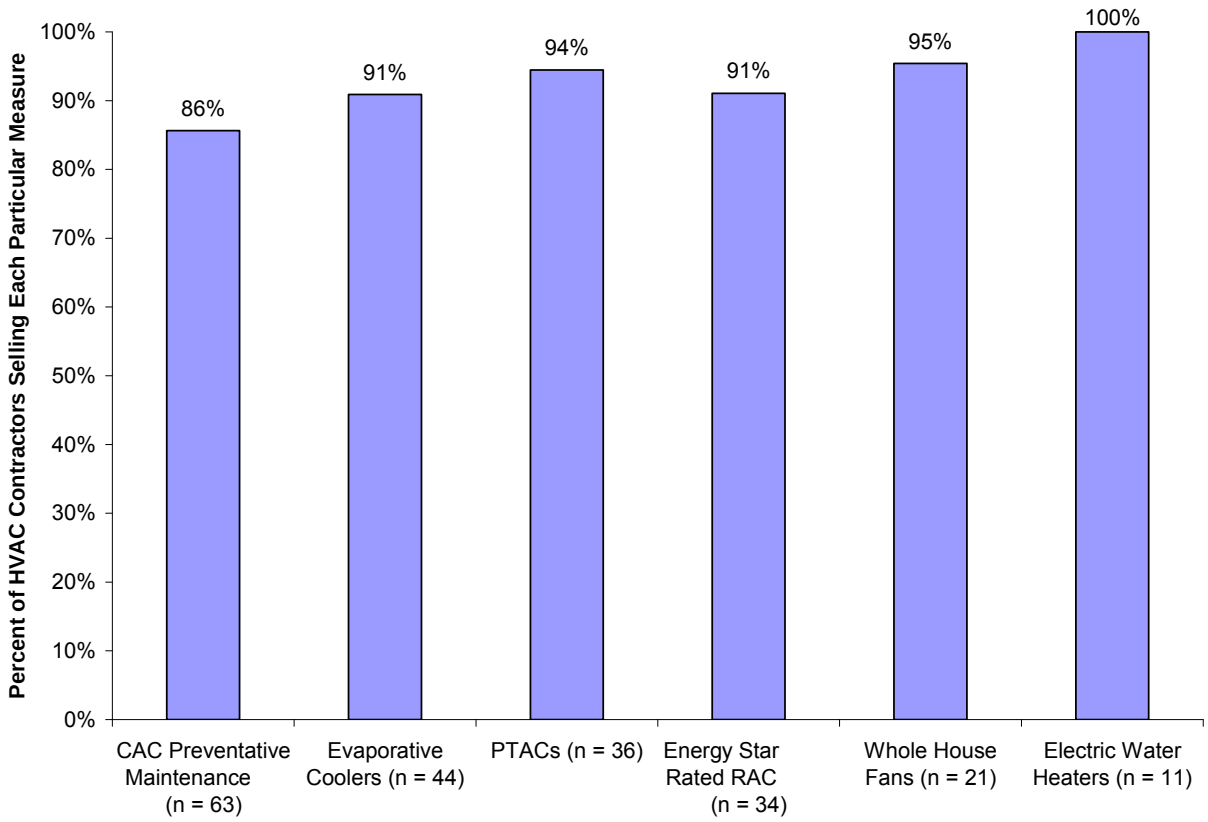
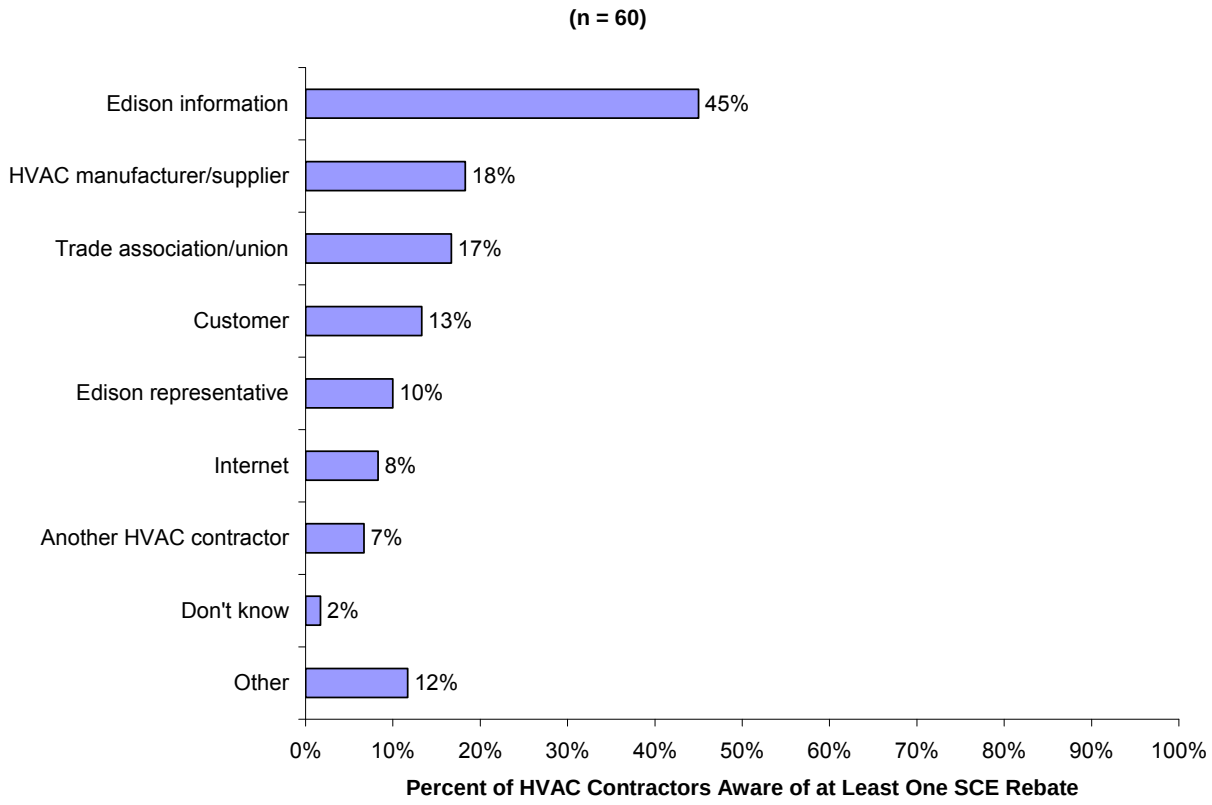


Figure 7-5 shows how respondents report having first become aware of the SCE HVAC rebate program. The most common response was that “information” from SCE brought the program to their attention. Significant minorities, however, said that they heard about it from an HVAC manufacturer or supplier, a trade association or union, or one of their customers. The “other” bar represents miscellaneous responses including “from friends,” “mail,” “tune-up program,” “television ads,” “Edison seminars,” and SCE mailings to them as residential customers.

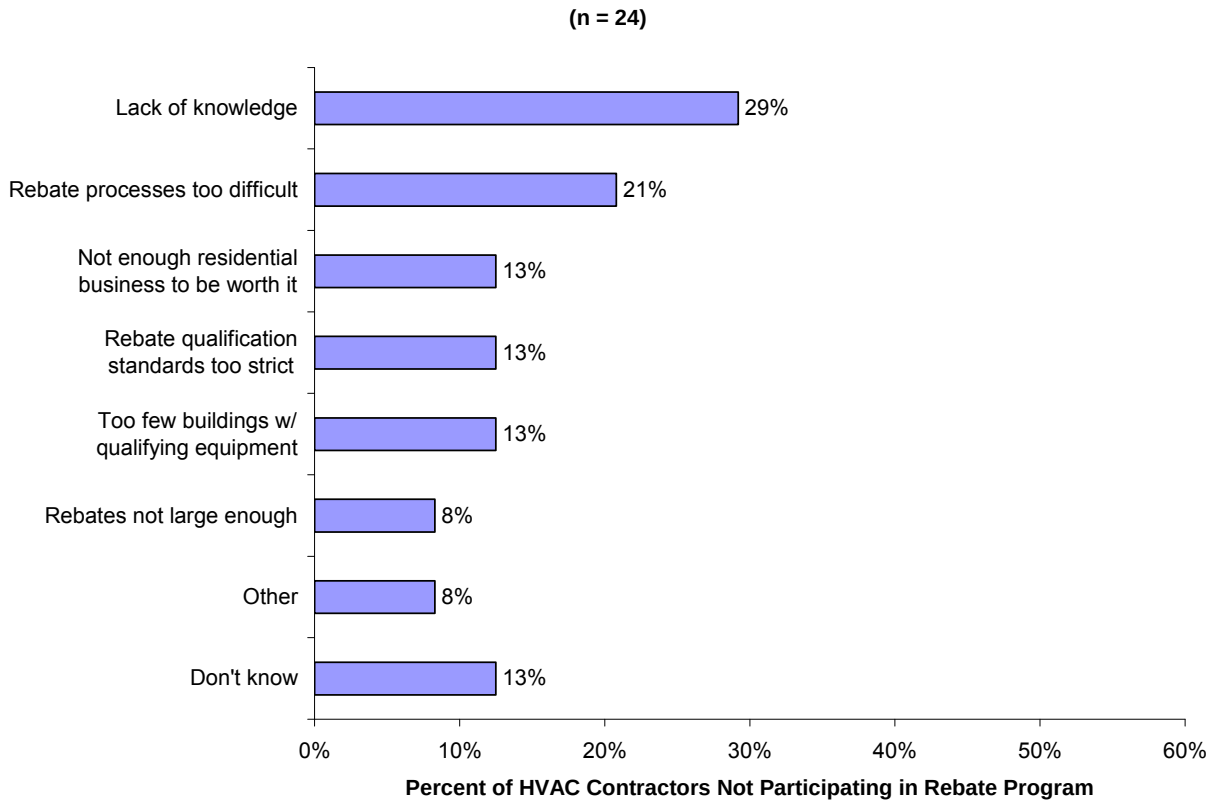
Figure 7-5
How Did You Hear About the Edison HVAC Rebate Program?
2008 SCE HVAC Contractors



Note: Percents do not sum to 100% because multiple responses were allowed.

Two-thirds (67%) of the contractors we interviewed said that they had installed HVAC equipment for which SCE rebates had been paid in either single-family or multifamily dwellings in the past three years. Those who had not participated in SCE's rebate programs in the past three years were asked why they had not participated. Their responses are summarized in Figure 7-6.

Figure 7-6
2008 SCE HVAC Contractors
Reasons for Not Participating in Rebate Program



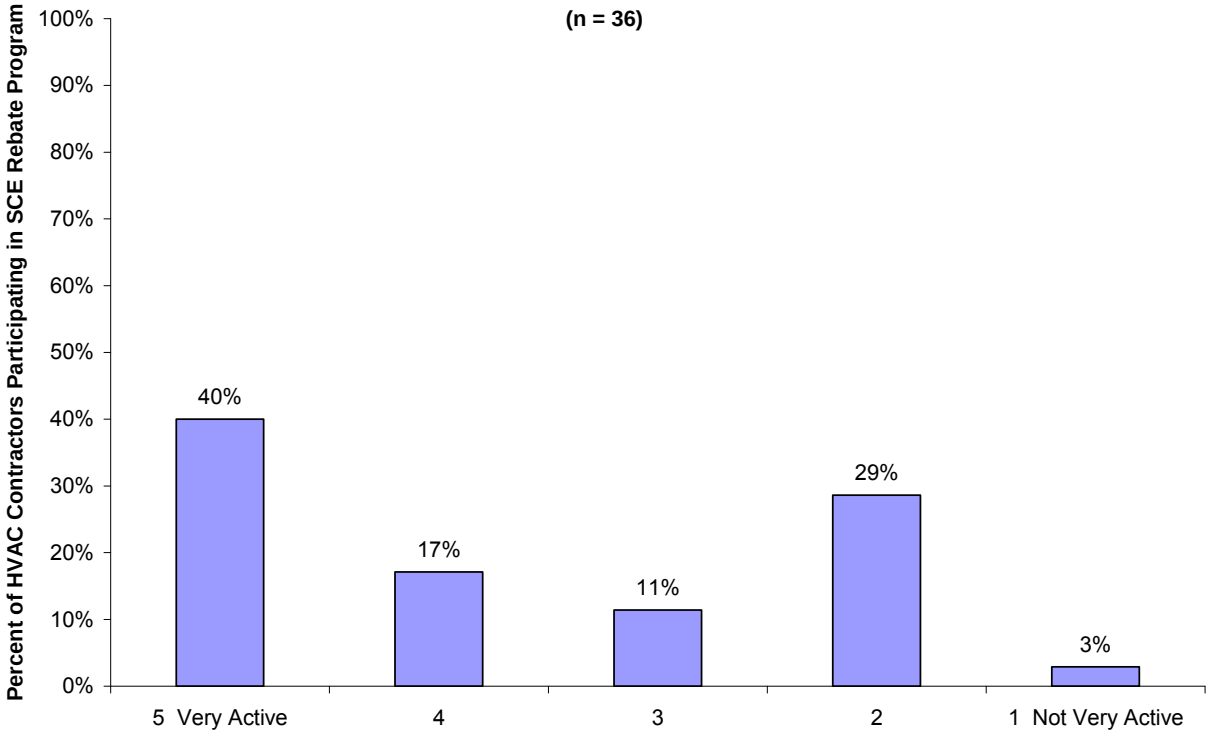
Note: Percents do not sum to 100% because multiple responses were allowed

The most common reasons cited for not participating were lack of knowledge about the availability of rebates or how to apply and the claim that the process of obtaining a rebate is too difficult. The miscellaneous "other" responses included "our company is not getting paid through SCE" and "no funds were available from Edison."

We asked those contractors who had participated in the rebate program in the past three years to rate how active they are in promoting HVAC rebates offered by SCE. As shown in Figure 7-7, there was a clear division between those who said they very actively promoted the rebates and those who said they did not. The average rating on a five-point scale where 5 meant "very active" and 1 meant "not very active" was 3.6, but most of the ratings were either 5's or 2's. Larger firms tended to be more active in promoting the rebates; those with five or more employees gave an average rating of 4.2 while those with fewer than five employees gave an

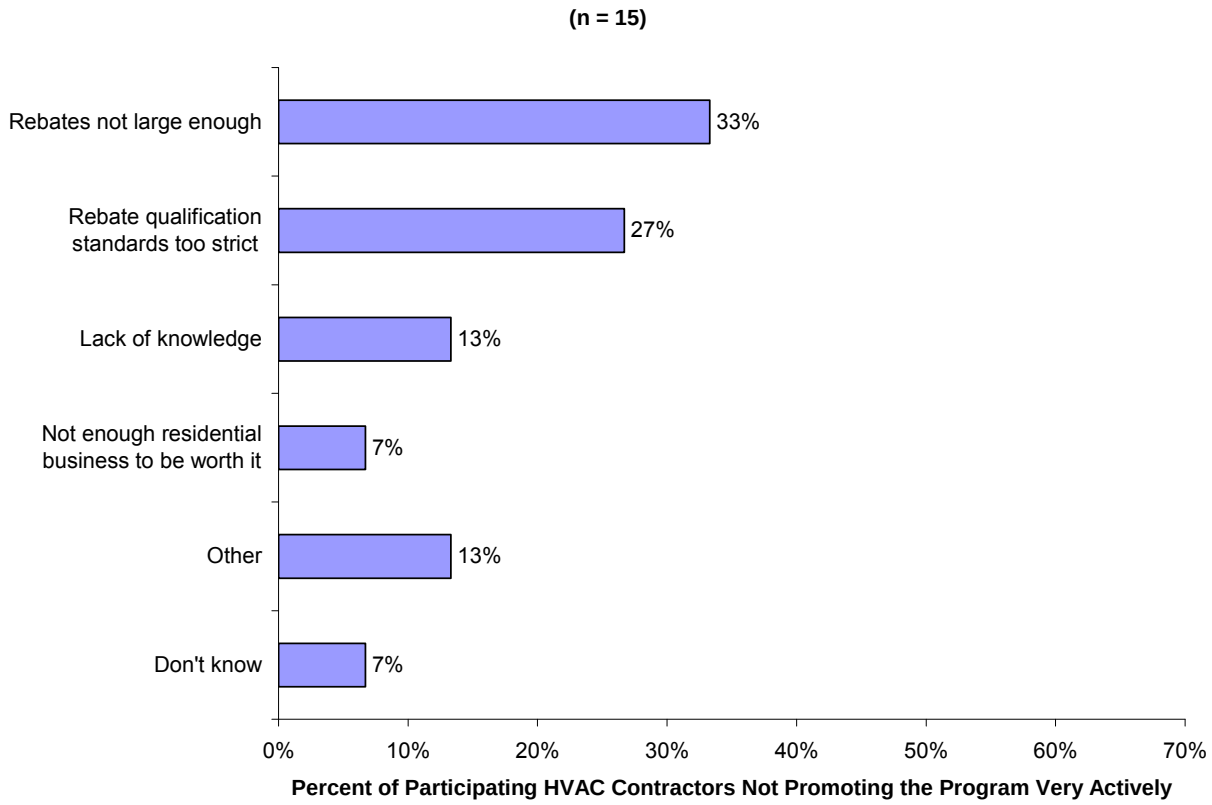
average rating of 3.4. One reason for this may be that smaller firms lack the administrative staff to handle the rebate process.

Figure 7-7
How Active Participating Contractors Have Been in Promoting SCE Rebates
2008 SCE HVAC Contractors



Those who gave a rating of 3 or lower in Figure 7-7 were asked why they did not promote these rebates more actively. Figure 7-8 summarizes their responses.

Figure 7-8
Reasons for Not Promoting Rebates More Actively
2008 SCE HVAC Contractors



Note: Percents do not sum to 100% because multiple responses were allowed.

Although lack of knowledge was mentioned as a reason for not promoting the rebates, it was not the most commonly-cited reason the way it was for those who had not participated at all. Instead those who participated but did not heavily promote the rebates claimed this was because the rebates were not large enough to overcome the price barrier for high efficiency equipment or because the qualification standards for measures were too strict. The "other" bar represents miscellaneous responses such as "we just had a bad year" and "I don't think there were any [rebates] for this quarter."

7.2.3 HVAC Contractor Feedback on the Programs

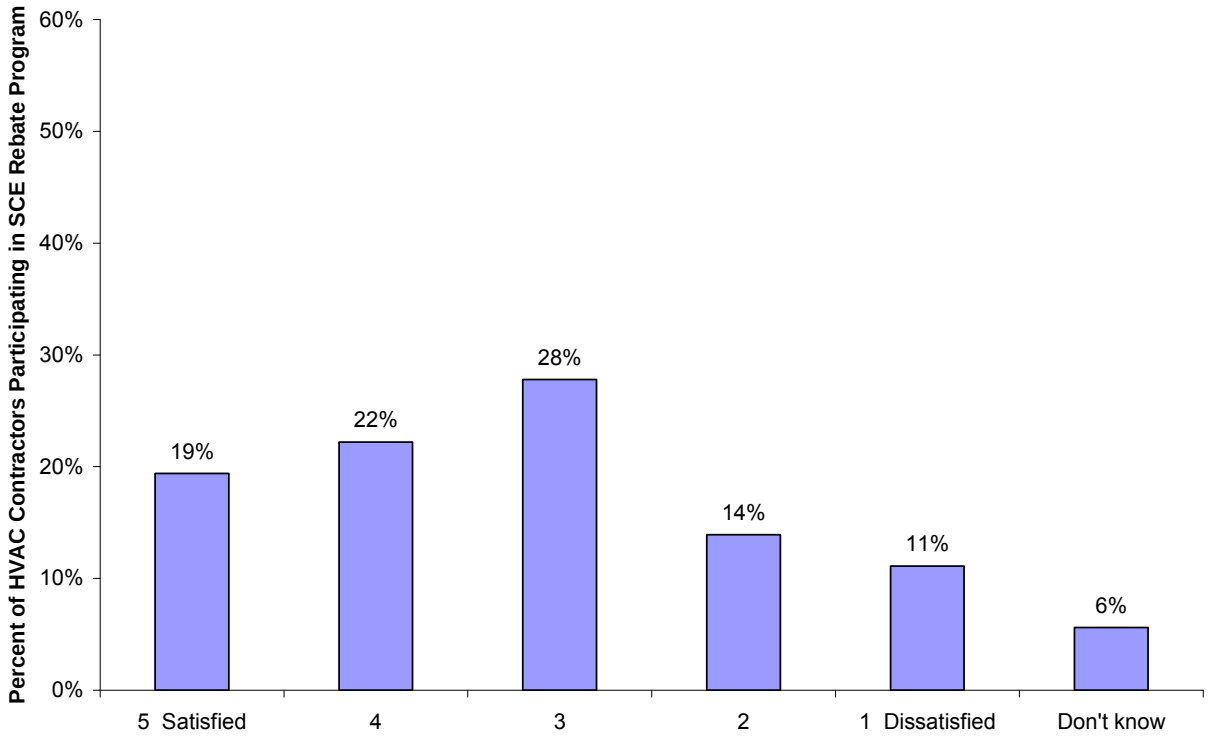
This section addresses HVAC contractor satisfaction with the SCE HVAC rebate programs in general, satisfaction with their marketing and promotion efforts, satisfaction with their administration and support functions, and satisfaction with the rebate application processes.

7.2.3.1 Overall Satisfaction and Suggestions for Improvement

We asked those contractors who had participated in the HVAC rebate program in the past three years to rate their satisfaction with the program overall as well as with specific aspects of the program. Figure 7-9 shows their satisfaction ratings for the program overall.

Figure 7-9
Overall Satisfaction with the HVAC Rebate Program
2008 SCE HVAC Contractors

(n = 36)



Satisfaction with the rebate program among HVAC contractors was not particularly high; the mean rating was 3.3 on a five-point scale. Larger contractors were more satisfied than smaller contractors; 36 percent of those with five or more employees rated their satisfaction a “5,”

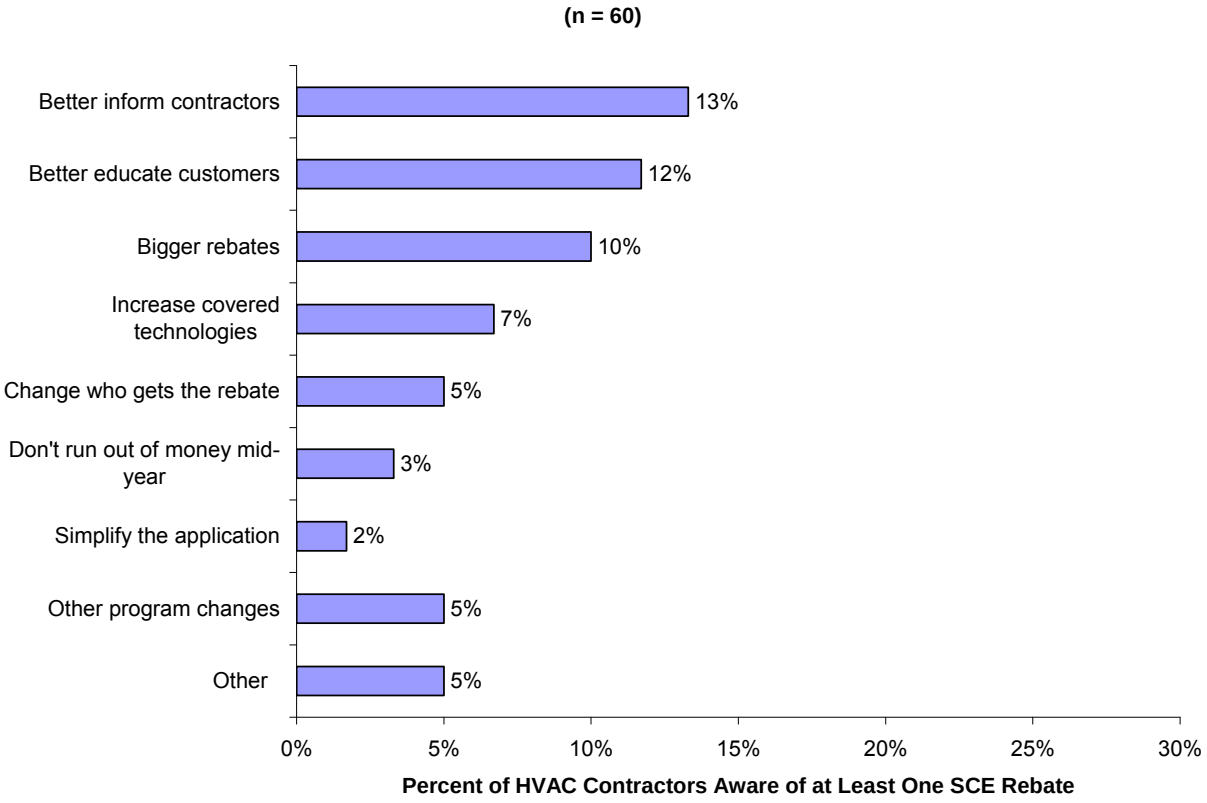
compared with only 10 percent of those with fewer than five employees. Contractors that sold PTACs were also more satisfied with the program than those who did not (mean rating of 3.7 vs. 2.8).

We asked those who rated their satisfaction a three or lower why they were dissatisfied with the program. Common responses were that they did not have sufficient information about the program (or that SCE provides inadequate and inconsistent information to contractors), that the rebate amounts were too low, that the program was too complicated/has too much red tape, or that SCE hasn't done enough to educate customers about the rebates. One respondent claimed that there were no rebates for equipment replacement. It is possible he was referring to replacing an existing high efficiency piece of equipment with the same type of equipment. Another cited the program "running out of money." And two respondents justified their dissatisfaction with claims that do not appear to be accurate. One said that the HVAC rebates only went to large companies, not smaller companies or "customers." Another said that there were no rebates for homeowners.

Several of these same issues arose when we asked dissatisfied respondents if there were any aspects of the program that were discouraging them from presenting the rebates as options to their customers. The claim that rebates only go to large companies was repeated, as was the statement that rebates are not available for equipment replacements. Others mentioned the prospect of having to tell customers that the program has run out of money, rebates that are too small, lack of information, and an application process that is not "user friendly."

Figure 7-10 shows the responses we received when asking contractors for suggestions on improving the program.

Figure 7-10
Percent Suggesting Program Changes
2008 SCE HVAC Contractors



Most of the suggestions to improve customer education or contractor information were vague, but a few contained concrete suggestions. Specific suggestions for keeping contractors better informed included a phone call at the beginning of the year with an update on the program, bill inserts, emails, and the ability to sign up for an email alert whenever anything about the program changes. The only specific suggestion for better reaching customers was more direct mail pieces.

One contractor suggested including rooftop air conditioners in the program. Most of the seven percent who wanted the program to cover more technologies, however, simply wanted SCE to offer rebates on less expensive, standard equipment in addition to high efficiency equipment.

Three contractors suggested changing who gets the rebate. One wanted the rebates to go to contractors rather than customers on the grounds that this would create an incentive for contractors to promote the program. The other two said that SCE should “go back” to giving rebates to the customers rather than large companies. Other suggested changes to the

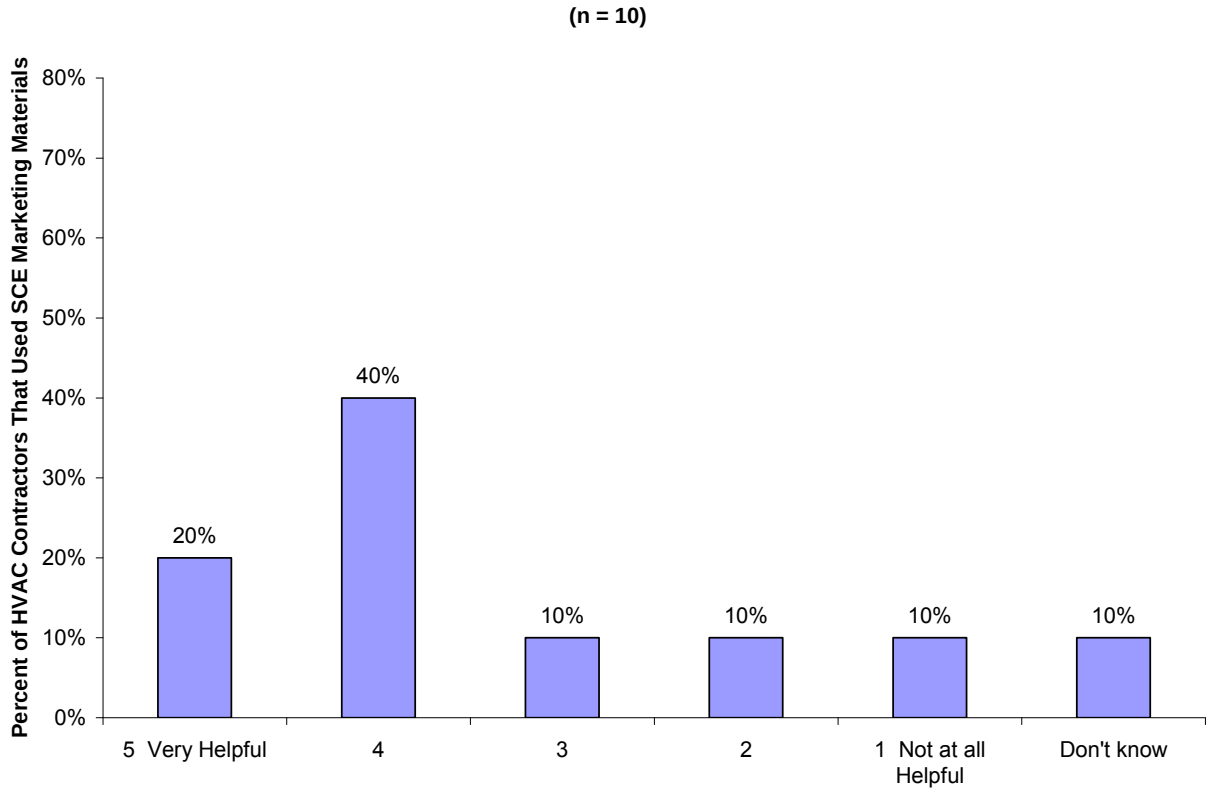
program's requirements included calculating the rebate on a per ton basis, basing qualification on SEER levels rather than Energy Star ratings, and requiring permits to receive rebates.

7.2.3.2 Marketing and Promotion

A little more than a quarter (28%) of HVAC contractors who had participated in the rebate program in the past three years reported using SCE marketing materials to promote the rebates. Ninety percent of those who reported using SCE marketing materials said they used brochures and pamphlets prepared by SCE, and 20 percent said they used in-shop signage from the utility. Single-mention responses included "graphics" and "go to the Internet." None of this varied by contractor size or the specific measures sold.

Figure 7-11 summarizes respondents' ratings of how helpful these materials were. The average rating was 3.6 on a five-point scale.

Figure 7-11
How Helpful Have Edison Marketing Materials and Support Staff Been in Promoting Your Products and Services?
2008 SCE HVAC Contractors



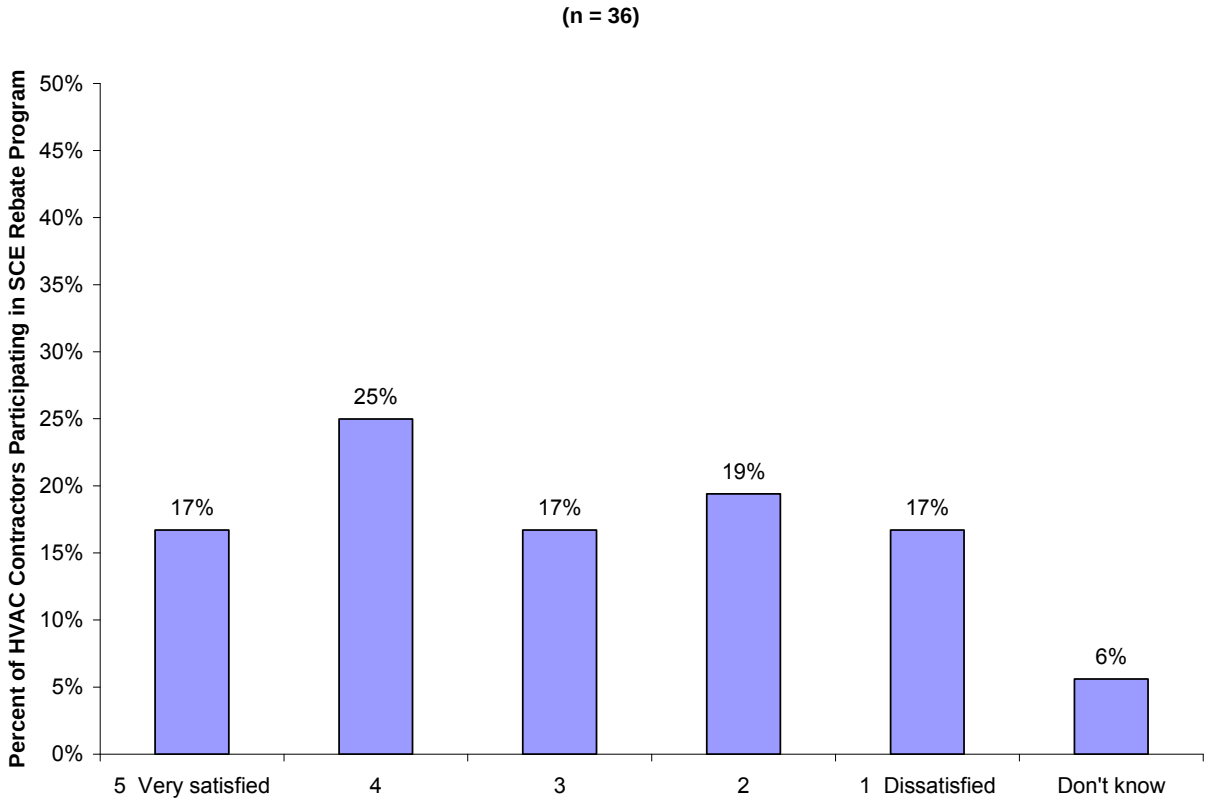
Those contractors who were more active in promoting SCE rebates were also more likely to say that SCE's materials and staff were helpful. Those who rated their own activity level in promoting rebates as a 4 or higher on a five point scale gave an average helpfulness rating for SCE's materials of 4.3 vs. 2.0 for less active contractors.

We asked those who rated the helpfulness of SCE's materials and staff as a three or lower why they weren't particularly helpful. None of them, however, could provide a reason other than that they had not done enough to pursue the information they needed. The only response we got when asking respondents how SCE's rebate materials could be improved was "email us changes and updates to make it easier to read and understand for our customers."

Figure 7-12 shows how satisfied participating contractors were with the way SCE promotes their rebates. Satisfaction ratings varied considerably, with a mean rating of 3.1 on a five-point scale.

Larger contractors (those with five or more employees) were more satisfied with SCE's promotional efforts than smaller contractors (mean rating of 3.9 vs. 2.8).

Figure 7-12
Satisfaction with How SCE Promotes Rebates
2008 SCE HVAC Contractors



Among those who were dissatisfied with how SCE promotes the rebate program, the primary complaints were a lack of information being made available to contractors and insufficient advertising to customers. One respondent cited an over-reliance on bill inserts to reach residential customers. Others repeated complaints that were unrelated to how the program is marketed, namely running out of money mid-year, rebates that are too small, and only giving rebates to large companies.

7.2.3.3 Administration and Support

Figure 7-13 shows the ease or difficulty that participating contractors reported in keeping up with changes in the rebate program. Among those reporting difficulty keeping up with program changes, most complained about lack of information from SCE. Other responses included a

complaint about the list of eligible air-conditioners being too long and complicated the assertion that there were “too many middlemen” in-between contractors and customers, and the claim that SCE had “taken away” simple mail-in rebates for customers.

Figure 7-13
How Easy Was It to Keep Up With Program Changes?
2008 SCE HVAC Contractors

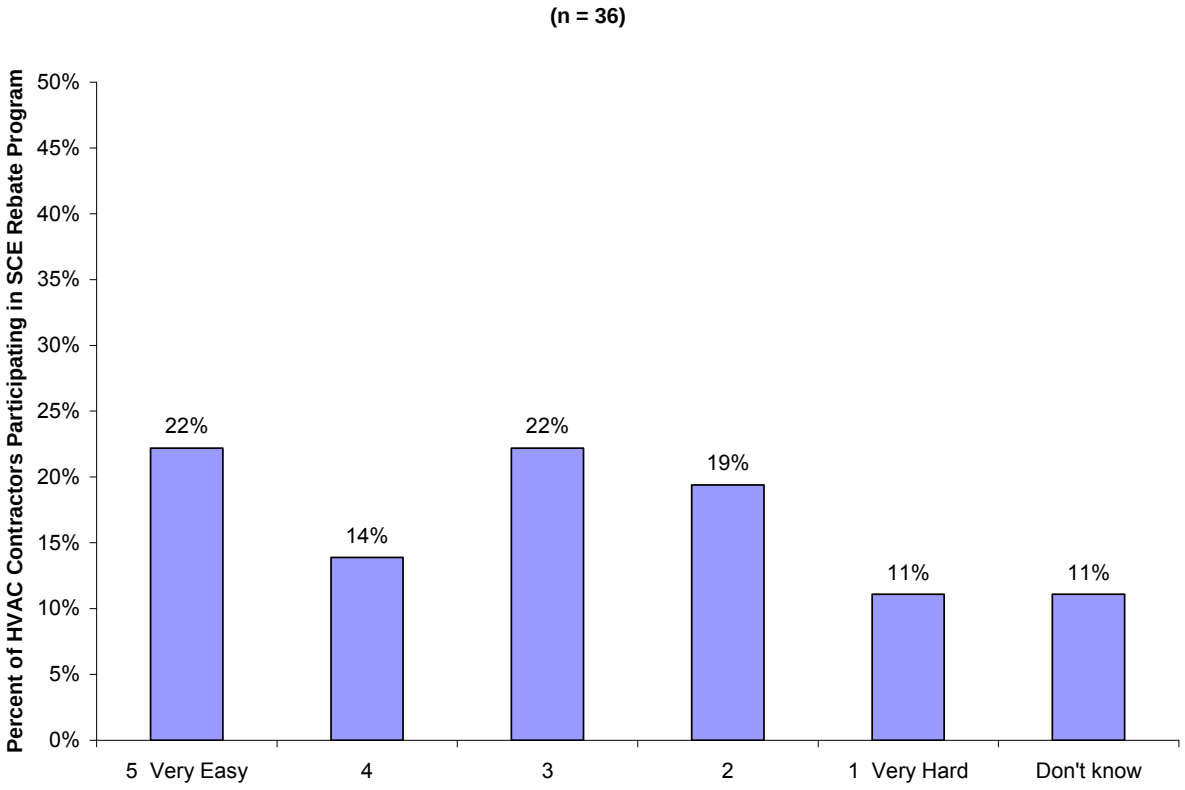
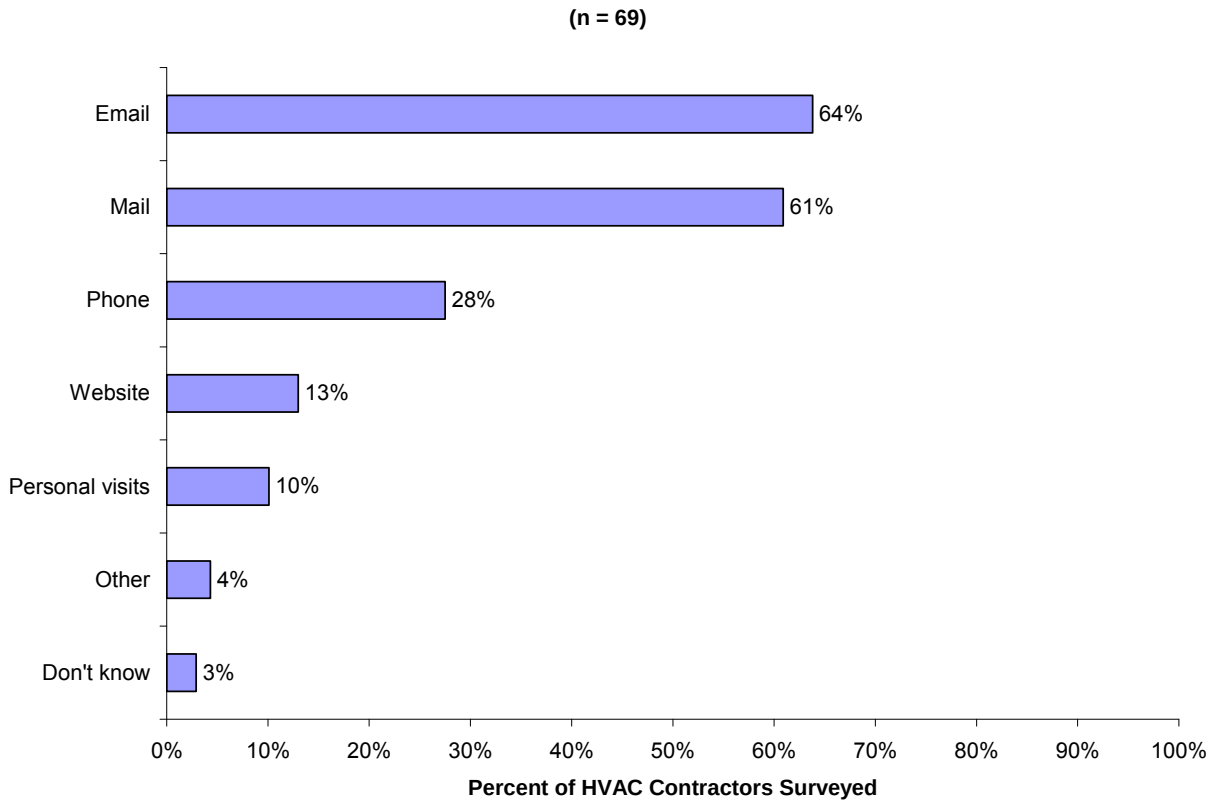


Figure 7-14 shows how contractors responded when asked what would be the best way for SCE to keep them informed of changes to the rebate program. Most said email or mail, with just over a quarter mentioning telephone calls. Larger contractors (those with five or more employees) were more likely to mention phone calls as a preferred method of contact than smaller contractors (43% vs. 19%), as were those who were more active in promoting SCE’s rebates (40% of whom mentioned phone vs. 13% of those who promoted the program less actively).

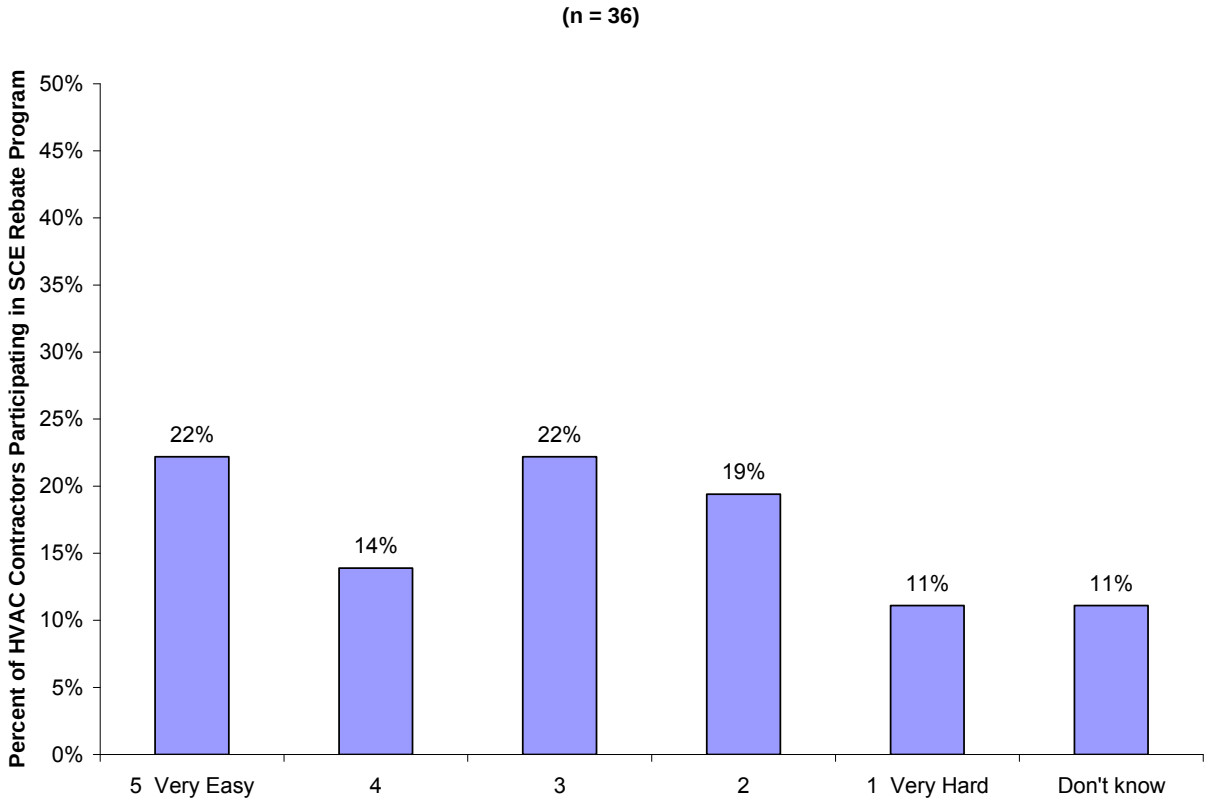
Figure 7-14
Best Way for SCE to Inform Contractors of Rebate Program Changes
2008 SCE HVAC Contractors



Percents do not sum to 100% because multiple responses were allowed

Another tool SCE provides for contractors is a website devoted to multifamily HVAC rebates. We asked those contractors who had participated in the multifamily rebates in the past three years how satisfied they were with this website. Figure 7-15 shows the results.

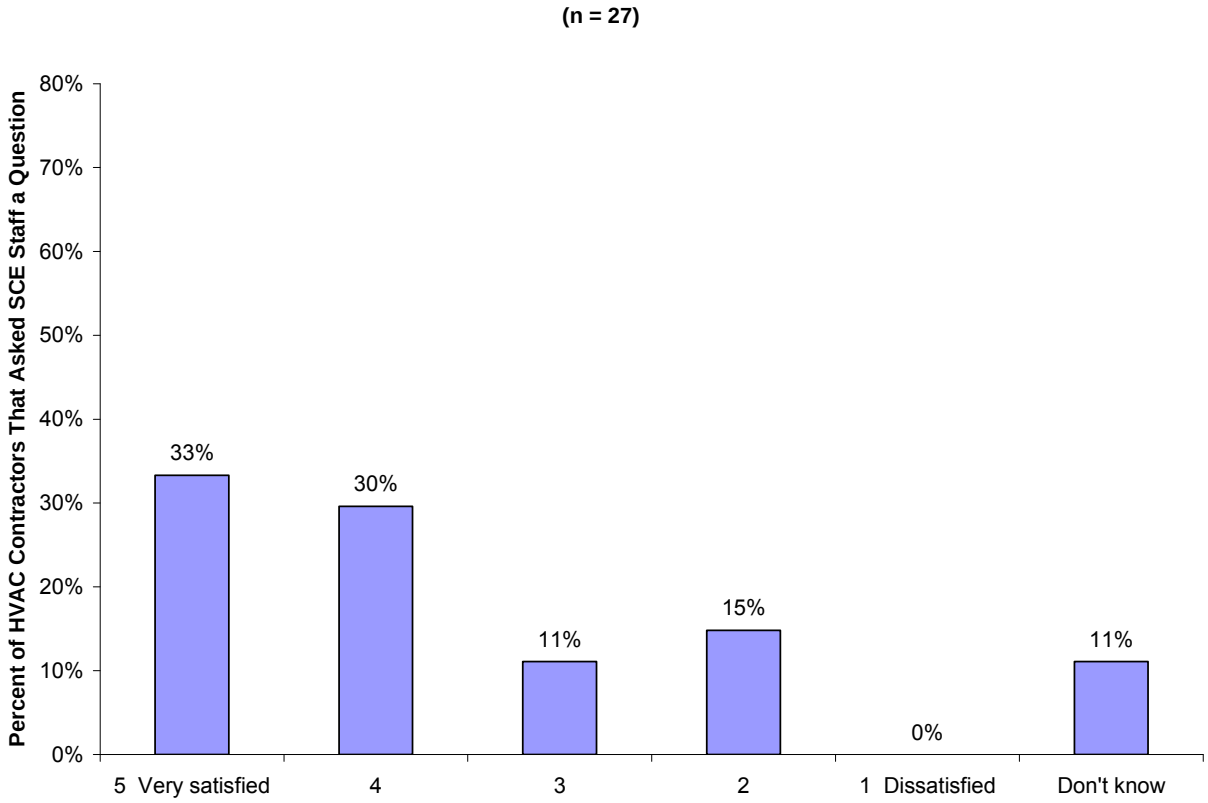
Figure 7-15
Satisfaction with Multifamily Rebate Website
2008 SCE HVAC Contractors



Among the two-thirds that had visited the website, satisfaction was not very high. The average rating on a five-point scale was 3.8. Those contractors who were more actively promoting the program were more satisfied with the website than those who were not (mean of 4.1 vs. 3.3). The respondents who were not satisfied with the website complained that it was difficult to find what they were looking for and that the website was not always up-to-date.

In similar fashion we asked participating contractors how satisfied they were with SCE's response to any questions they had asked about the program. Figure 7-16 summarizes the results.

Figure 7-16
Satisfaction with Response of SCE Staff to Inquiries
2008 SCE HVAC Contractors



Satisfaction was not very high among the 75 percent who had asked a question of SCE staff; the average rating on a five-point scale was 3.9. Satisfaction was higher among those who more actively promoted the program (mean of 4.3 vs. 3.3), those who sold ducted evaporative coolers (mean of 4.3 vs. 3.4), and those who provided preventative maintenance services for central air-conditioning (4.0 vs. 2.0). Why satisfaction with inquiry responses was higher for those selling these two measures is unclear. Perhaps rebates for these measures prompted more or different types of questions than did the other measures.

When we asked respondents why they were dissatisfied with SCE's response to their inquiries, the most common responses were that their questions were never answered, that it took too long, and that they got inconsistent information.

7.2.3.4 Application Process

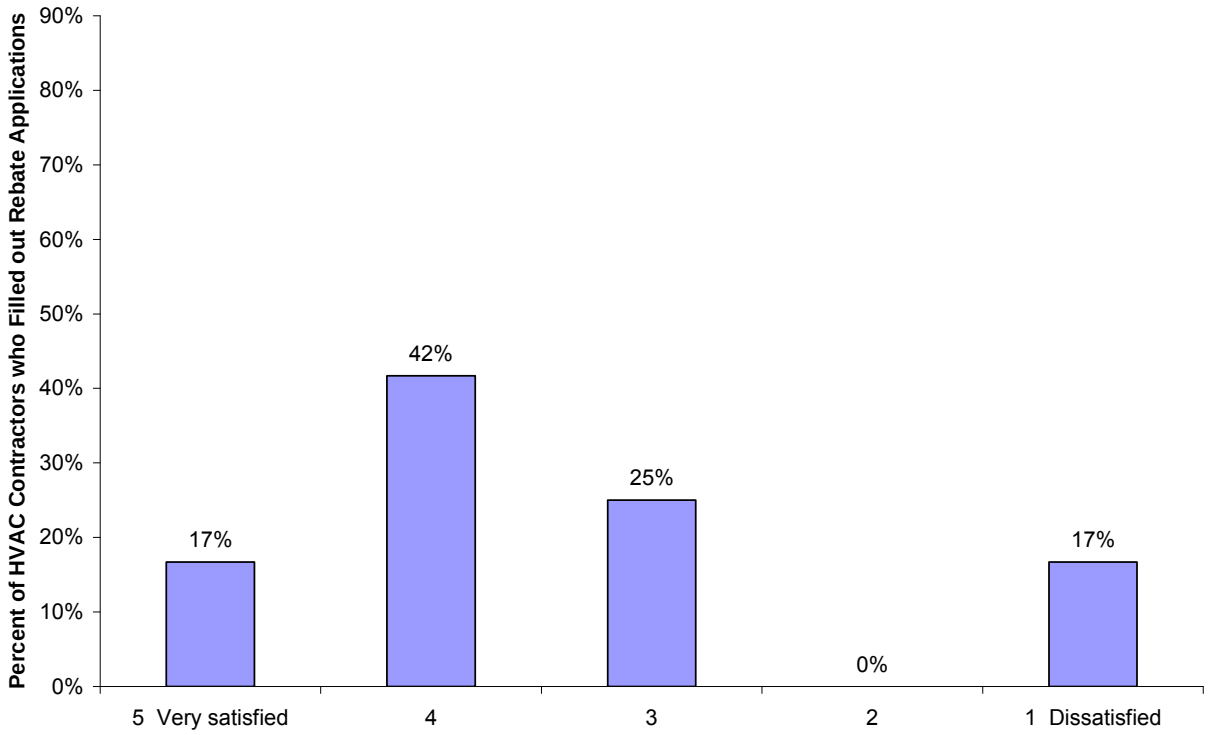
Two-thirds (63%) of respondents said that they had filled out one or more rebate applications on behalf of their residential customers in the past three years.[20] Contractors who sold whole house fans or PTACs were less likely to have filled out applications for their customers than those who did not sell these measures. Twenty-five percent of those selling whole house fans reported filling out applications versus 73 percent of those who did not sell whole house fans. For PTACs 43 percent of those selling the measure had filled out applications versus 75 percent of those who did not sell the measure. Perhaps ironically contractors who were less active in promoting SCE's rebates were more likely to end up filling out applications for their customers than more active rebate promoters (80% of those who rated their promotion activity as a 3 or lower on a five-point scale filled out applications vs. 44% of those who rated their promotional activity as a 4 or 5).

Figure 7-17 shows how dissatisfied HVAC contractors who had filled out applications were with the application process. Only 17 percent rated their satisfaction as a 5 ("Very satisfied") on a five-point scale and the average satisfaction rating was 3.4. Satisfaction did not vary by business size or measures sold.

[20] Due to a faulty survey skip instruction, this and a couple other questions about the application process were only asked of respondents who were dissatisfied with the rebate programs overall. Thus the results reported in section 3.3.4 are not representative of all participating HVAC contractors and are likely to overstate the amount of dissatisfaction with the application process.

Figure 7-17
Satisfaction with Application Process
2008 SCE HVAC Contractors

(n = 12)



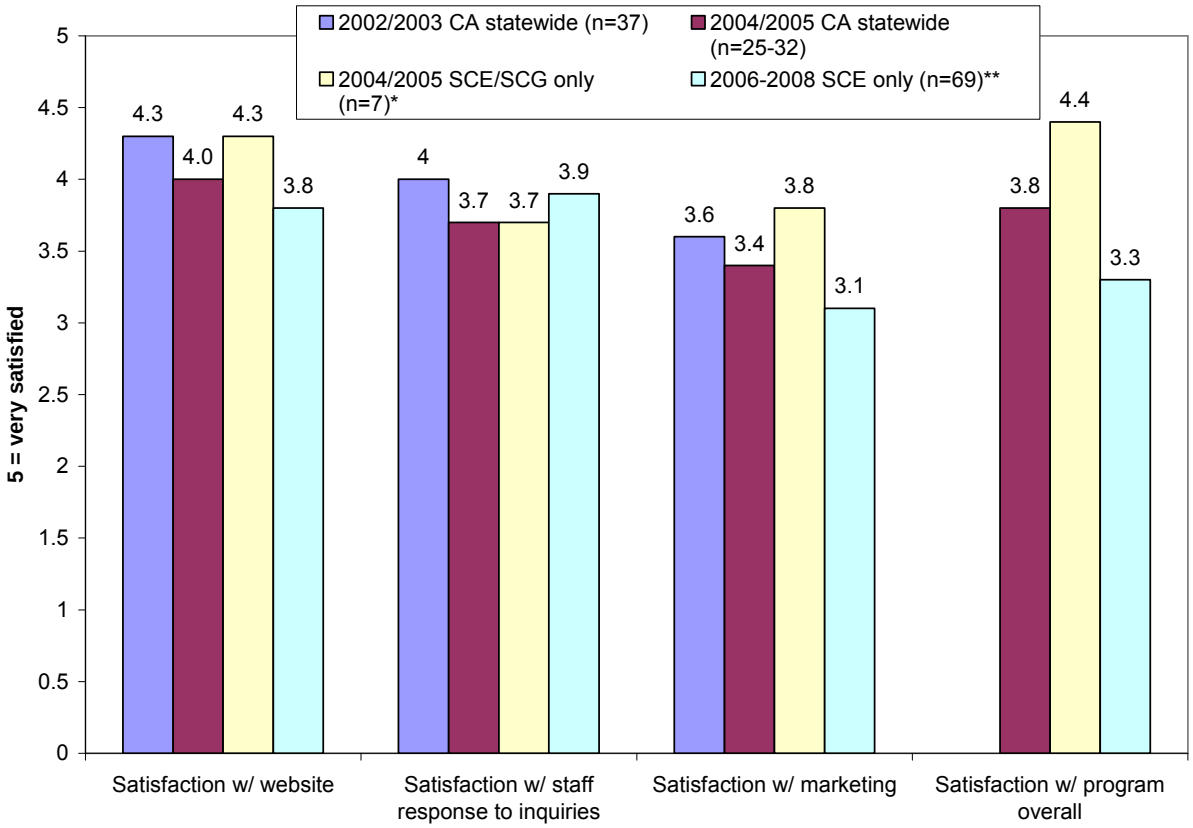
Three dissatisfied contractors supplied reasons when asked why they were dissatisfied with the application process. One was simply unhappy that they had to fill out the application rather than the customer doing it. Another complained that they had to re-submit the application because neither they nor the customer understood some of the questions on the form. The third said that they paid the customer the rebate then filed for reimbursement from SCE, but the program ran out of money before they got paid.

7.2.4 Changes in Satisfaction over Time

Figure 7-18 and Figure 7-19 compare satisfaction ratings from the current survey with equivalent satisfaction ratings from prior studies. Comparing HVAC contractor satisfaction levels from the current survey with prior studies reveals an apparent decline in satisfaction with how the program is marketed, the program website, and the program overall. Although the

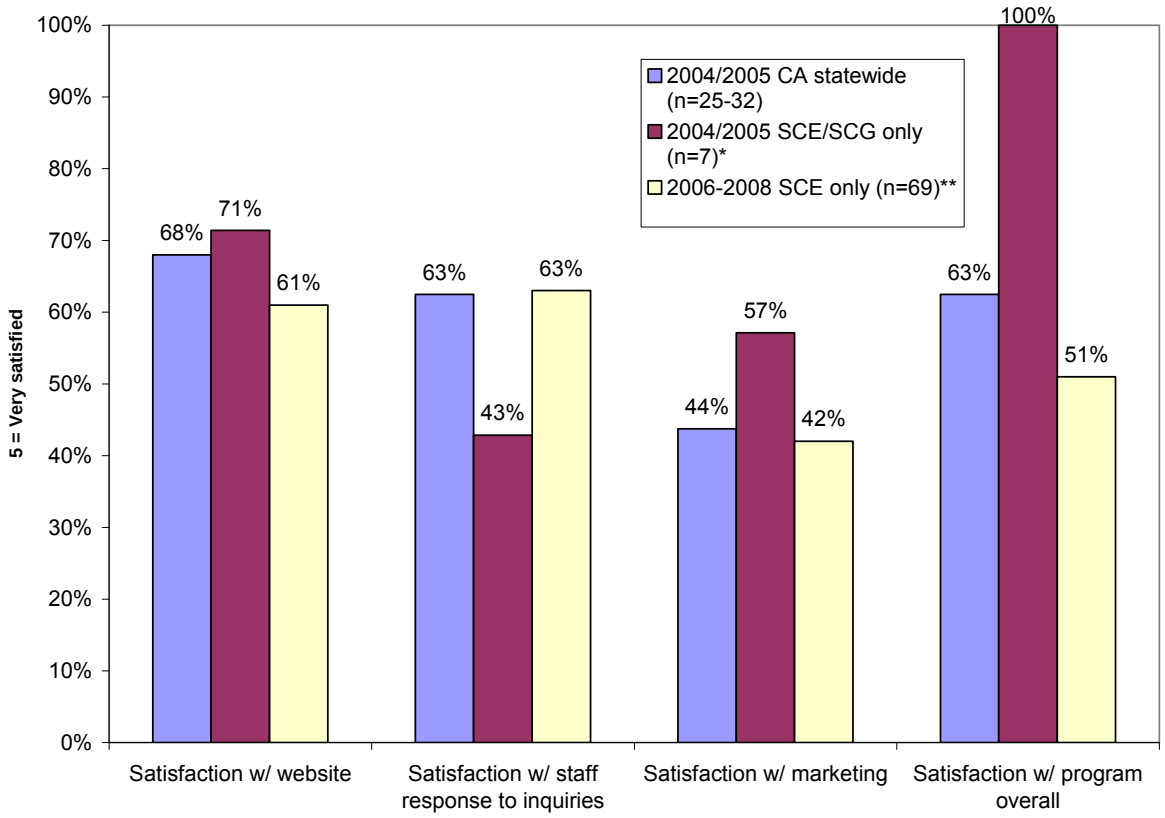
magnitude of the decline is difficult to judge given differences in sample size and populations between the studies, the general trend of declining satisfaction appears robust. Satisfaction with how well utility staff field questions from contractors is an exception, showing stable or even slightly increasing satisfaction over time.

Figure 7-18
Average Utility Rebate Program Satisfaction Ratings Over Time from HVAC Contractors 2002-2008



Note: *These Southern California HVAC contractors were asked about satisfaction with the statewide rebate program in general and were not asked to distinguish between the SCE and SCG programs. **Although these Southern California HVAC contractors likely participated in both the SCE and SCG rebate programs, they were only asked about their satisfaction with the SCE rebate program.

Figure 7-19
% of HVAC Contractors Satisfied with
Utility Rebate Programs 2004-2008



Note: The 2002-2003 rebate program ratings do not appear in this figure because they were only available in terms of average satisfaction ratings and not in the "percent satisfied format. *These Southern California HVAC contractors were asked about satisfaction with the statewide rebate program in general and were not asked to distinguish between the SCE and SCG programs. **Although these Southern California HVAC contractors likely participated in both the SCE and SCG rebate programs, they were only asked about their satisfaction with the SCE rebate program.

Although the small sample size for the 2004/2005 SCE data raises some questions about the apparent magnitude of the change (e.g., overall program satisfaction down by more than one scale point), two other pieces of evidence reinforce the conclusion that contractor satisfaction is declining. First, the current satisfaction means are not only lower than the SCE territory means from 2004/2005, they are lower than the statewide means from that year's evaluation which were based on a larger sample size (n = 32). Second, the apparent drop in satisfaction from 2004/2005 to 2008 continues a trend of declining HVAC contractor satisfaction that began with the 2002/2003 statewide data (n = 37).

The performance of utility staff in fielding contractors' questions appears to be an exception to the trend of declining satisfaction. Satisfaction with this aspect of the program shows a slight increase over the 2004/2005 results, returning to near the level of satisfaction recorded in the 2002/2003 study.

7.2.5 Incentive Levels

We informed each contractor who sold or installed a particular measure what the current incentive level provided by SCE was, and then asked them whether they thought that incentive level was adequate to motivate customers to purchase the high efficiency measure over a standard efficiency alternative. If a respondent said no, we asked them what level of incentive they thought would be sufficient.

Table 7-1 summarizes the result of these questions, along with the current incentive level and the number of respondents providing responses for each measure. Most of those who sold these technologies thought the current incentive levels were adequate for whole house fans, evaporative coolers, and air-conditioning tune-ups. Contractors were evenly split on whether the $50 rebate on Energy Star rated room air-conditioners was adequate. Those who thought $50 was inadequate provided values ranging from $75 to $500 when asked what incentive level would be sufficient; the average response was $156.

Only a third (33%) of those selling PTACs believed that a $100 rebate was adequate to motivate property managers to install PTACs that were 20 percent more efficient than required by Title 20 (the requirement to qualify for PTAC rebates from SCE) in multifamily housing. When asked what incentive level would be sufficient responses varied from $200 to $650, with an average response of $325.

Only a quarter (27%) of contractors that sold electric storage water heaters believed a $30 rebate was adequate to motivate customers to install these units. Suggested rebate amounts ranged from $50 to $150 with an average of $120.

Finally, only a quarter (27%) believed that guaranteed financing at 12 percent was an adequate incentive to motivate customers to replace old, inefficient central air-conditioning units. The remainder suggested financing rates ranging from 1 percent to 10 percent, with an average of 7.2 percent.

Table 7-1
Contractor Views on Incentive Levels
2008 SCE HVAC Contractors

Measure	Current Incentive	Sample Size*	Percent that Believe Incentive is Adequate	Average Suggested Incentive Level**
Energy Star rated RAC	$50 rebate	34	50%	$156
Whole house fan	$50 rebate	21	52%	$142
Electric storage water heater	$30 rebate	11	27%	$120
Single-stage ducted evaporative cooler (DEC)	$300 rebate	44	75%	$607
Single-stage DEC with pressure relief dampers	$400 rebate	44	75%	$800
Two-stage DEC	$500 rebate	44	66%	$700
Two-state DEC with pressure relief dampers	$600 rebate	44	66%	$800
High efficiency central air conditioner replacing older unit	12% financing	63	27%	7.2%
“Basic tune-up” for central air conditioners	$50 rebate	63	70%	$99
“Advanced tune-up” for central air conditioners	$150 rebate	63	60%	$288
High efficiency PTAC	$100 rebate	36	33%	$325

Note: *Number of contractors who sold this measure **Mean response from contractors who did not think the current incentive level was adequate

7.2.6 Impact of Rebates on Sales of Rebated Measures

We asked those contractors who sold each measure and who were aware of the applicable SCE rebates before taking the survey whether their sales would have been lower if these rebates were not available. Those who said yes were then asked how much lower they believed their sales would have been without the rebates, on a percentage basis. Table 7-2 summarizes the result of these questions along with the number of respondents who answered for each measure.

With the exception of the $50 rebate for a “basic” central air-conditioning tune-up, most contractors believed their sales would not have been any lower in the absence of SCE’s rebates. No respondents thought their sales of whole house fans or electric storage water heaters were affected by the rebates, and less than a quarter thought their sales of Energy Star rated room air-conditioners, or advanced CAC tune-ups were affected by the rebates.

The percent of contractors who believed that SCE rebates increased their sales of high efficiency PTACs or ducted evaporative coolers without pressure relief dampers (whether single-state or two-stage) ranged from a quarter to a third. Slightly more than a third of those who sold ducted evaporative coolers with pressure relief dampers or replacements for older, inefficient central air-conditioners believed the incentives for these measures affected their sales.

Respondents who did believe their sales would have been lower without these incentives, however, thought that they would have been substantially lower. The average response when asked by what percentage their sales would have been lower in the absence of rebates ranged from 13% for two-stage ducted evaporative coolers with pressure relief dampers to 46% for advanced CAC tune-ups.

These estimates of free ridership are only designed to inform SCE program planning activities. The official estimates of free ridership for the HEER program are being developed as part of the California Public Utilities Commission’s Residential Retrofit Impact Evaluation. For this reason, in this report we present these estimates as straight averages, rather than weighting them by the number of annual installations reported by the HVAC contractors.

Table 7-2
Contractors Views on How Incentives Affect Sales
2008 SCE HVAC Contractors

Measure	Sample Size*	Percent that Believe Sales Would Have Been Lower w/o Incentive	How Much Lower Would Sales Have Been w/o Incentive**
Energy Star rated room air conditioner	17	24%	32%
Whole house fan	9	0%	n/a
Electric storage water heater	5	0%	n/a
Single-stage ducted evaporative cooler (DEC)	15	27%	18%
Single-stage DEC with pressure relief dampers	13	38%	16%
Two-stage DEC	12	25%	15%
Two-state DEC with pressure relief dampers	11	36%	13%
High efficiency central air conditioners (CAC) replacing older unit	23	39%	40%
“Basic tune-up” for CAC	22	59%	25%
“Advanced tune-up” for CAC	18	22%	46%
High efficiency packaged terminal air conditioners (PTACs)	18	33%	21%

Note: *Number of contractors who sold this measure and were aware of the incentive
**Mean response from contractors who thought their sales would have been lower without the incentive

7.2.7 Conclusions

Contractor satisfaction with SCE's HVAC rebates is fairly low and on the decline from prior years' studies. Program awareness among contractors is high, but participation rates, program knowledge, and program satisfaction all show room for improvement, especially among smaller contractors. These issues are linked, as increasing participation will likely require SCE to better educate non-participating contractors and address some of the complaints made by participants.

On the contractor education front, contractors need a better understanding of when program requirements are changing. There appears to be substantial confusion among HVAC contractors as to what rebates are available and who is eligible to receive them. More than one respondent complained about "inconsistent" information from SCE. A likely explanation is that contractors are recalling older information that is no longer valid. Future outreach efforts should focus on "setting the record straight" on rebate eligibility.

The other contractor complaint that could be addressed is insufficient marketing to customers. It is possible that this is merely a perception issue (i.e., perhaps contractors simply need to be made more aware of the marketing SCE is already doing). If SCE chooses to step up their actual marketing efforts to residential customers in an effort to reach residential non-participants, these efforts should obviously be highlighted for contractors as well.

The good news is that only a minority of contractors feel current incentive levels are too low to be effective, at least for most measures. It might make sense to re-evaluate the incentives for electric storage water heaters, PTACs, and CAC financing in light of contractor feedback. Any decision to increase the size of these rebates, however, should be based on more than just contractor surveys (e.g., compelling evidence from customer surveys or the impact evaluation that the current incentives are ineffective). Even then Total Resource Cost (TRC) constraints might prevent any increases.

8. Appendices

8.1 The Multifamily Property Manager/Owner Survey Instrument

Finding the Decision Maker

I1. Hello, may I please speak with [USE CONTACT NAME, IF AVAILABLE]?

Contact available.....[SKIP TO l2] 1
Contact currently unavailable .....[ARRANGE CALL BACK] 2
No contact 3

I1A. I'd like to speak with the person responsible for managing property improvements

[RECORD NAME]_____
Person responsible available 1
Person responsible currently unavailable.....
.....[ARRANGE CALL BACK] 2
No person responsible for property management or maintenance.....[SKIP TO I7] 3
Don't know .....[SKIP TO I7] -97
Refused .....[SKIP TO I7] -98

I2. Hello I am _____ from _____. I am calling on behalf of Southern California Edison. According to our records, sometime in <INSTALLATION YEAR> your organization had some energy efficiency improvements made at your property at <INSTALLATION ADDRESS>. These improvements were partially paid for by rebates from Southern California Edison's multifamily rebate program. Southern California Edison is trying to improve this program and I was hoping you could help us out by answering a few questions.

[PROVIDE UTILITY CONTACT NAMES IF NEEDED TO VERIFY STUDY]
SCE – Kristina Wong 626-633-3075

I4. According to our records, sometime in <INSTALLATION YEAR> you had some energy efficiency improvements made at your property at <INSTALLATION ADDRESS> including <MEASURE TYPES > Are you familiar with these energy efficiency improvements?

Yes (all or some).....1
No.....2
Don't know .....–97
Refused .....–98

I4a. Were you involved in the decision to install these energy efficiency improvements?

Yes (all or some) [RECORD NAME BELOW THEN SKIP TO NEXT SECTION] 1
RESPONDENT NAME //i4r//:_____
No 2
Don't know ..... –97
Refused ..... –98

I6. Do you know who is likely to be familiar with your company's decision to make these energy efficiency improvements?

Yes [RECORD NAME BELOW THEN START OVER AGAIN WITH I1] 1

_____

_____

_____

No 2
Don't know ..... -97
Refused ..... -98

I6b. [CHECK TO MAKE SURE ALL CONTACTS HAVE BEEN TRIED.]

Not all contacts have been tried [START OVER AGAIN WITH I1] 1
All contacts have been tried 2

I7. Thank you very much for your time today. Those are all the questions I have.

[END INTERVIEW. RECORD "NO DECISIONMAKER CONTACT AVAILABLE"]

Information About Respondent and Property

First I would like to get some background information about you and the multifamily property at <INSTALLATION ADDRESS>.

R1. What is your position or job title at <INSTALLATION ADDRESS> or with the company that manages this property?

Owner of property 1
Property/leasing manager/associate 2
Senior property manager 3
Maintenance supervisor 4
Senior/regional maintenance supervisor 5
Purchasing manager 6

Other (PLEASE SPECIFY) _____ ..... -96
Don't Know ..... -97
Refused ..... -98

R3. How many years have you been in the business of owning, managing, or maintaining multifamily properties?

_____(RECORD # YEARS)

Don't Know ..... -97
Refused ..... -98

R5. About how many apartment units are located in the building or buildings at <INSTALLATION ADDRESS>? [RECORD # UNITS]

_____

Don't know ..... -97
Refused ..... -98

R5A. Do you have a central system in the building at <INSTALLATION ADDRESS> that provides **heating** to all tenant units?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

R5B. Do you have a central system in this building that provides **cooling** to all units?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

R5C. Do you have a central system in this building that provides **hot water** to all units?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

R5D. Are the tenants at <INSTALLATION ADDRESS> responsible for paying their own utility bills, or are utilities included in the rent?

Tenants pay their own bills 1
Utilities included in the rent 2
Tenants pay some utilities while others are included in rent 3
Other [SPECIFY] ..... -96
Don't know ..... -97
Refused ..... -98

R5E. Is the **electricity** for the tenant units in this building individually metered or master-metered?

Individually metered 1
Master metered 2
Other [SPECIFY] ..... -96
Don't know ..... -97
Refused ..... -98

R5F. Is the **natural gas** for the tenant units in this building individually metered or master-metered?

Individually metered 1
Master metered 2
Other [SPECIFY] ..... -96
Don't know ..... -97
Refused ..... -98

R5G. Is the **water** for the tenant units in this building individually metered or master-metered?

Individually metered 1
Master metered 2
Other [SPECIFY] ..... -96
Don't know ..... -97
Refused ..... -98

R6. Do you or your firm, own the property at <INSTALLATION ADDRESS>, do you manage it, or do you both own and manage it? [ACCEPT ONLY ONE ANSWER]

Own it only 1
Manage it only 2
Both own and manage it 3
Don't know ..... -97
Refused ..... -98

Participation Information and Drivers

P1. Are you aware that Southern California Edison offers rebates for making energy efficiency improvements to apartment complexes such as yours?

Yes 1
No 2
Don't know ..... -97
Refused ..... –98

P2. If you wanted to get information about Southern California Edison's energy efficiency rebate programs for apartment complexes, what would be your preferred means of getting this information? [DO NOT READ LIST. ACCEPT MULTIPLE RESPONSES]

Utility website 1
Bill inserts/ stuffers 2
Other direct mail from the utility 3
Newspaper ads 4
Radio ads 5
Television ads 6
Email or fax 7
Installation contractors or other vendors 8
Apartment/trade associations 9
Utility training centers 10
Not interested in information 11
Other [PLEASE SPECIFY] _____ ..... -96
Don't Know ..... -97
Refused ..... -98

P5. [IF P1 ≠ 1 THEN SKIP TO P8] Are you aware that in <INSTALLATION YEAR> Southern California Edison's multifamily rebate program paid rebates to either your company or the installation contractor to help reduce the cost of <MEASURE TYPES> at <INSTALLATION ADDRESS>?

Yes 1
No ..... [SKIP TO P8] 2
Don't know ..... [SKIP TO P8] -97
Refused ..... [SKIP TO P8] -98

P5A. [IF <MEASURE DIVERSITY = 0> ELSE SKIP TO P6] You installed <MEASURE TYPES> through Southern California Edison's multifamily rebate program. Before now were you aware that this program also provides rebates for other types of energy-efficient measures for apartment buildings?

Yes 1
No ..... [SKIP TO P6] 2
Don't know ..... [SKIP TO P6] -97
Refused ..... [SKIP TO P6] -98

P5B. What other types of energy-efficient measures were you aware of that qualify for rebates from this program? [ALLOW MULTIPLE RESPONSES]

Compact fluorescent light bulbs (CFLs) 1
Energy Star *interior* fluorescent fixtures 2
Energy Star *exterior* fluorescent fixtures 3
T5/T8 fluorescent lamps 4
Energy Star exit signs 5
Lighting occupancy sensors/photocells 6
Energy Star refrigerators 7
High performance dual-pane windows 8
Attic/wall insulation 9
Energy star room air conditioners 10
Heat pumps 11
Package terminal air conditioners (PTACs) 12
Energy-efficient pool pumps 13
Other [PLEASE SPECIFY] _____ ..... -96
Don't Know ..... -97
Refused ..... -98

P5C. How come you haven't chosen to take advantage of these rebates? [ALLOW MULTIPLE RESPONSES]

Existing equipment worked fine/had useful life left 1
Unaware of/unable to identify which existing equipment was inefficient/need replacement 2
Tenants pay their own utility bills 3
Lack maintenance staff to install measures 4
Lack of time/not a priority 5
Financial limitations 6
Lack of information on energy savings or costs 7

Question reliability of energy efficient equipment 8
Energy savings estimates for equipment are unreliable 9
Fuel prices were low 10
New to building 11
Timing 12
Technology unavailable 13
Replacing on an as-needed basis 14
It was unnecessary 15
Other [SPECIFY] ..... -96
Don't know ..... -97
Refused ..... –98

P6. From where did you first learn about the Southern California Edison multifamily rebate program? [DO NOT READ LIST.ACCEPT MULTIPLE RESPONSES]

Installation contractor offering services 1
Previous participation in program 2
Utility website 3
Apartment/trade association presentation 4
Apartment/trade association journal/newsletter 5
Utility bill insert 6
Other utility direct mail piece 7
Other [PLEASE SPECIFY] _____ ..... -96
Don't Know ..... -97
Refused ..... -98

P7. What was your primary reason for participating in the program? [ONLY SELECT ONE OPTION]

To make property improvements in the tenant units 1
To make property improvements in the common areas 2
To save energy 3
To take advantage of the rebate/ The rebate made the project cost effective 4
To replace broken equipment 5
Other [PLEASE SPECIFY] _____ ..... -96
Don't Know ..... -97
Refused ..... -98

P8. When purchasing or replacing energy-using equipment in your common areas or tenant units, what sources of information do you use to help you make a decision? [DO NOT READ. ACCEPT MULTIPLE RESPONSES]

- Internal maintenance staff 1
- Our regular installation contractor 2
- An outside installation contractor we may hire or consult with occasionally 3
- Equipment distributors/ wholesalers 4
- Equipment manufacturers 5
- Equipment dealers/ retailers 6
- Apartment/trade associations (presentations and newsletters) 7
- Our electric or gas utility representative 8
- Our electric or gas utility website 9
- Our own research on the Internet 10
- Other [PLEASE SPECIFY] _____ ..... -96
- Don't Know ..... -97
- Refused ..... -98

P9. Were the energy efficient improvements made at <INSTALLATION ADDRESS> installed in the common areas only, in the tenant units only, or in both?

- Only the common areas 1
- Only the tenant units 2
- In both the common areas and the tenant units 3
- Don't know ..... -97
- Refused ..... -98

P10. Who installed the energy efficiency improvements? Was it the contractor, your own internal staff, or a combination of both?

- Only the installation contractor 1
- Only the internal staff 2
- A combination of both 3
- Don't know ..... -97
- Refused ..... -98

P11. Who came up with the idea for the energy efficiency improvements at <INSTALLATION ADDRESS>? Was it mainly your idea, mainly the contractor's idea, or a combination of both?

- Mainly my idea 1
- Mainly the contractor's idea 2

Mainly someone else's idea [SPECIFY PERSON]_____ 3
The idea came from multiple sources 4
Don't know -97
Refused -98

Influence of Program on Property Manager Decision-Making

[REPEAT QUESTIONS IN1-IN4 FOR INSTALLATION_MEASURE_2 AND INSTALLATION_YEAR_2 IF THE INSTALLATION_MEASURE_2 FIELD IS POPULATED ELSE SKIP TO I5.]

IN1. Were you aware of the <INSTALLATION MEASURE> technology before you had it installed at <INSTALLATION ADDRESS>?

Yes 1
No 2
Don't know -97
Refused -98

IN2. Before you installed the < INSTALLATION MEASURE> at <INSTALLATION ADDRESS> in <PROJECT YEAR> , had you installed the < INSTALLATION MEASURE> technology at this location or any of the other properties that your company manages or owns?

Yes 1
No 2
Don't know -97
Refused -98

IN3. Did your previous installations of the < INSTALLATION MEASURE> technology use rebates provided by Southern California Edison?

Yes 1
No 2
Don't know -97
Refused –98

IN4. Why hadn't your company installed the < INSTALLATION MEASURE> on its own before participating in the Southern California Edison multifamily rebate program? [ALLOW MULTIPLE RESPONSES]

Already did all cost-effective energy efficient improvements 1

Unaware of/unable to identify measures 2
Tenants pay their own utility bills 3
Lack maintenance staff to install measures 4
Lack of time/not a priority 5
Financial limitations 6
Lack of information on energy savings or costs 7
Question reliability of energy efficient equipment 8
Energy savings estimates for equipment are unreliable 9
Fuel prices were low 10
New to building 11
Timing 12
Technology unavailable 13
Replacing on an as-needed basis 14
It was unnecessary 15
Other [SPECIFY] ..... -96
Don't know ..... -97
Refused ..... –98

IN5. [IF R5D ≠ 1 THEN SKIP TO AKA1]

Earlier you said that your tenants pay their own utility bills. Using a scale of 1 to 5, with 1 meaning "not important at all" and 5 meaning "extremely important," how important was this as a reason why you did not make these energy efficiency improvements earlier?

1 Not at all important 1
2 2
3 3
4 4
5 Extremely important 5
Don't know ..... -97
Refused ..... -98

IN6. Since your tenants pay their own utility bills, why did you decide to install energy-efficient equipment in the tenant units? [ALLOW MULTIPLE RESPONSES. IF NEEDED, EXPLAIN THAT INSTALLING ENERGY EFFICIENT EQUIPMENT WOULD REDUCE THE TENANT'S ENERGY BILLS, NOT THE PROPERTY MANAGER'S, EVEN THOUGH THE PROPERTY MANAGER IS PAYING FOR THE IMPROVEMENTS]

To improve the comfort/satisfaction of current tenants 1
The tenant units needed new equipment/fixtures 2

To make the units more attractive for future tenants 3
To reduce the energy costs of current tenants/Allow tenants more $ for rent 4
Wanted to take advantage of the rebates while they were available 5
Other_____
6
Don't know ..... -97
Refused ..... -98

Generic Awareness, Knowledge, and Attitude Questions

AKA1. I'm going to read a number of statements about the possible effects of this <MEASURE TYPES > project on your knowledge and attitudes concerning energy efficiency. For each statement indicate your level of agreement with a 5-point scale where 5 equals "Strongly agree" and 1 equals "Strongly disagree." [REMIND RESPONDENT OF PROJECT TYPE IF NECESSARY]

A. This project has made our company more aware of energy efficiency opportunities at the properties that my company manages.

B. This project has made our company more aware of possible energy efficiency projects at our properties that we can implement on our own without the help of an outside contractor.

C. This project has persuaded our company that energy efficiency projects can reduce energy costs.

D. This project has persuaded our company that energy efficiency projects can increase tenant comfort.

E. This project has increased our company's confidence in the performance of energy efficient equipment.

F. [IF R5D = 1 OR R5D = 3 ELSE SKIP TO BO] Since our tenants pay their own energy bills, there is no reason for our company to install energy-efficient equipment in the tenant units.

Plans and Barriers To Future Energy Efficiency Implementation

B0. Is your organization considering making similar energy efficiency improvements over the next three years at the same or another multifamily complex?

Yes 1
No ..... [SKIP TO B2] 2
Don't know ..... [SKIP TO S1] -97
Refused ..... [SKIP TO S1] –98

B1. What types of energy-efficient equipment are you now considering? [DO NOT READ. ALLOW MULTIPLE RESPONSES]

Compact Fluorescent Lamps 1
Other energy efficient lighting 2
High efficiency windows 3
High efficiency clothes washers 4
High efficiency dishwashers 5
High efficiency refrigerators 6
Programmable thermostats 7
High efficiency furnaces 8
High efficiency central boilers 9
High efficiency water heaters 10
Other [SPECIFY] _____ ..... -96
Don't know ..... -97
Refused ..... –98

B1B. Would your organization consider making these improvements in the future without rebates or assistance in installation from the Southern California Edison multifamily rebate program?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

B2. [IF B0 = 1 THEN SKIP TO S1] Why don't you have plans for making similar energy efficiency improvements over the next three years? [ALLOW MULTIPLE RESPONSES]

Already did all cost-effective energy efficient improvements 1
Unaware of/unable to identify measures 2
Tenants pay their own utility bills 3
Lack maintenance staff to install measures 4
Lack of time/not a priority 5
Financial limitations 6

Lack of information on energy savings or costs 7
Question reliability of energy efficient equipment 8
Energy savings estimates for equipment are unreliable 9
Fuel prices were low 10
New to building 11
Timing 12
Technology unavailable 13
Replacing on an as-needed basis 14
It was unnecessary 15
Other [SPECIFY] ..... -96
Don't know ..... -97
Refused ..... –98

Participant Satisfaction

Common area improvements

IF P9 = 2 SKIP TO S5

S1. Now I am going to ask you about your satisfaction with the work done in the common areas. On a scale of 1 to 5, with 1 meaning "not at all satisfied" and 5 meaning "extremely satisfied," how satisfied are you with the *overall quality of the work performed by the contractor* for the energy efficiency improvements in the *common areas* at <INSTALLATION ADDRESS>? [EMPHASIZE WORDS IN ITALICS SINCE QUESTIONS S1, S3, S5, AND S7 ARE ALL VERY SIMILAR]

1 Not at all satisfied 1
2 2
3 3
4 ..... [SKIP TO S2A] 4
5 Extremely satisfied ..... [SKIP TO S2A] 5
Don't know ..... [SKIP TO S2A] -97
Refused ..... [SKIP TO S2A] -98

S2. Why were you less than satisfied with the quality of the contractor's work in the common areas? [ALLOW MULTIPLE RESPONSES]

The equipment broke down/ malfunctioned 1
The quality of the equipment was not up to our standards 2

The quality of the installation was not up to our standards 3
We did not like the way the product looked 4
The installers did not meet our standards 5
The job took too long 6
The installers were too disruptive, or messy 7
Other [SPECIFY] _____ ..... -96
Don't know ..... -97
Refused ..... -98

S2A. Did the contractors who installed this equipment in the common areas provide you with any information about Southern California Edison's other energy efficiency programs or about rebates for other energy-efficient products?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

S3. On a scale of 1 to 5, with 1 meaning "not at all satisfied" and 5 being "extremely satisfied," how satisfied are you with the *performance* of the equipment installed by the contractor in the *common areas* at <INSTALLATION ADDRESS>? [EMPHASIZE WORDS IN ITALICS SINCE QUESTIONS S1, S3, S5, AND S7 ARE ALL VERY SIMILAR]

1 Not at all satisfied 1
2 2
3 3
4 ..... [IF P9 = 1 SKIP TO S8C ELSE SKIP TO S5] 4
5 Extremely satisfied ..... [IF P9 = 1 SKIP TO S8C ELSE SKIP TO S5] 5
Don't know ..... [IF P9 = 1 SKIP TO S8C ELSE SKIP TO S5] -97
Refused ..... [IF PD = 1 SKIP TO S8C ELSE SKIP TO S5] -98

S4. Why were you less than satisfied with the performance of the equipment in the common areas? [ACCEPT MULTIPLE RESPONSES]

The equipment broke down/ malfunctioned 1
The quality of the equipment was not up to our standards 2
The quality of the installation was not up to our standards 3
We did not like the way the product looked 4
The installers did not meet our standards 5
The job took too long 6

The installers were too disruptive, or messy 7
Other [SPECIFY] _____ ..... -96
Don't know ..... -97
Refused ..... -98

Tenant area improvements

S5. [IF P9 = 1 SKIP TO S8C] Now I am going to ask you about your satisfaction with the work done in the tenant units. On a scale of 1 to 5, with 1 meaning "not at all satisfied" and 5 meaning "extremely satisfied," how satisfied are you with the *overall quality of the work performed by the contractor* for the energy efficiency improvements in the *tenant units* at <INSTALLATION ADDRESS>? [EMPHASIZE WORDS IN ITALICS SINCE QUESTIONS S1, S3, S5, AND S7 ARE ALL VERY SIMILAR]

1 Not at all satisfied 1
2 2
3 3
4 ..... [SKIP TO S7] 4
5 Extremely satisfied ..... [SKIP TO S7] 5
Don't know ..... [SKIP TO S7] -97
Refused ..... [SKIP TO S7] -98

S6. Why were you less than satisfied with the quality of the contractor's work in the tenant areas? [ALLOW MULTIPLE RESPONSES]

The equipment broke down/ malfunctioned 1
The quality of the equipment was not up to our standards 2
The quality of the installation was not up to our standards 3
We did not like the way the product looked 4
The installers did not meet our standards 5
The job took too long 6
The installers were too disruptive, or messy 7
Other [SPECIFY] _____ ..... -96
Don't know ..... -97
Refused ..... -98

S6A. Did the contractors who installed this equipment in the tenant units provide you with any information about Southern California Edison's other energy efficiency programs or about rebates for other energy-efficient products?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

S7. On a scale of 1 to 5, with 1 meaning "not at all satisfied" and 5 being "extremely satisfied," how satisfied are you with the *performance* of the equipment installed by the contractor in the *tenant units* at <INSTALLATION ADDRESS>? [EMPHASIZE WORDS IN ITALICS SINCE QUESTIONS S1, S3, S5, AND S7 ARE ALL VERY SIMILAR]

1 Not at all satisfied 1
2 2
3 3
4 ..... [SKIP TO S8C] 4
5 Extremely satisfied ..... [SKIP TO S8C] 5
Don't know ..... [SKIP TO S8C] -97
Refused ..... [SKIP TO S8C] -98

S8. Why were you less than satisfied with the performance of the equipment in the tenant units? [ALLOW MULTIPLE RESPONSES]

The equipment broke down/ malfunctioned 1
The quality of the equipment was not up to our standards 2
The quality of the installation was not up to our standards 3
We did not like the way the product looked 4
The installers did not meet our standards 5
The job took too long 6
The installers were too disruptive, or messy 7
Other [SPECIFY] _____ ..... -96
Don't know ..... -97
Refused ..... -98

S8C. Did the contractors who installed or managed the energy efficiency improvements provide any performance guarantees for the installed equipment?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

S8D. Did these contractors provide any information on manufacturer warranties for the installed equipment?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

S8E. Were these contractors responsive to any questions or complaints that you had?

Yes 1
No 2
I didn't have any questions or complaints 3
Don't know ..... -97
Refused ..... -98

Satisfaction with Rebates and Rebate Forms

S8F. Did you receive a rebate check from the <INSTALLATION YEAR> Southern California Edison multifamily rebate program for the energy efficiency measures installed at <INSTALLATION ADDRESS>

Yes 1
No ..... [SKIP TO s11] 2
Don't know ..... [SKIP TO s11] -97
Refused ..... [SKIP TO s11] -98

S8G. Did the amount of the rebate check meet your expectations?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

S9. Did you fill out any rebate application forms for the <INSTALLATION YEAR> Southern California Edison multifamily rebate program?

Yes 1
No ..... [SKIP TO s11] 2
Don't know ..... [SKIP TO s11] -97
Refused ..... [SKIP TO s11] -98

S10. Did you find the rebate application forms to be reasonable in terms of length and level of detail?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

S10A. After the rebate application was submitted, did the rebate check arrive in a reasonable amount of time?

Yes 1
No 2
Don't know ..... -97
Refused ..... -98

S10B. About how many weeks after you submitted the rebate application did the rebate check arrive?

_____ [RECORD # of WEEKS]
Don't know ..... -97
Refused ..... -98

S11. Did you interact with the Southern California Edison multifamily rebate program staff during the energy efficiency improvements at <INSTALLATION ADDRESS>?

Yes 1
No ..... [SKIP TO S13] 2
Don't know ..... [SKIP TO S13] -97
Refused ..... [SKIP TO S13] –98

S12. Using a scale of 1 to 5 where 1 = "not at all satisfied" and 5 = "extremely satisfied," how satisfied have you been with the way that the Southern California Edison staff has responded to any questions you had about the energy efficiency improvements at <INSTALLATION ADDRESS>?

1 Not at all satisfied 1
2 2
3 3
4 ..... [SKIP TO S13] 4
5 Extremely satisfied ..... [SKIP TO S13] 5
Don't know ..... [SKIP TO S13] –97

Refused ..... [SKIP TO S13] –98

S12A. Why were you less than satisfied with the utility staff? [RECORD RESPONSE]

_____

-96

Don't know ..... –97

Refused ..... –98

S12B. [IF <RECENT INSPECTION> = 1 ELSE SKIP TO S13] Our records indicate that your property was visited by an inspector in the past year to inspect the equipment that Southern California Edison provided rebates for. Do you recall this inspection?

Yes 1

No ..... 2 [SKIP TO S13]

Don't know ..... -97 [SKIP TO S13]

Refused ..... -98 [SKIP TO S13]

S12C. Using a scale of 1 to 5 where 1 = "not at all satisfied" and 5 = "extremely satisfied," how satisfied were you with the ways this inspection was conducted?

1 Not at all satisfied 1

2 2

3 3

4 ..... [SKIP TO S13] 4

5 Extremely satisfied ..... [SKIP TO S13] 5

Don't know ..... [SKIP TO S13] –97

Refused ..... [SKIP TO S13] –98

S12D. Why were you less than satisfied with this inspection process? [RECORD RESPONSE]

_____

-96

Don't know ..... –97

Refused ..... –98

S13. Using a scale of 1 to 5 where 1 = "not at all satisfied" and 5 = "extremely satisfied," how satisfied have you been with the <INSTALLATION YEAR> Southern California Edison multifamily rebate program as a whole?

1 Not at all satisfied 1

2 2

3 3
4 ..... [SKIP TO S14] 4
5 Extremely satisfied ..... [SKIP TO S14] 5
Don't know ..... [SKIP TO S14] –97
Refused ..... [SKIP TO S14] –98

S13A. Why were you less than satisfied with this program? [RECORD RESPONSE]

_____

-96
Don't know ..... –97
Refused ..... –98

S14. Would you recommend this program to the property manager at another facility?

Yes ..... [SKIP TO S16] 1
No 2
Don't know ..... [SKIP TO S16] -97
Refused ..... [SKIP TO S16] –98

S15. Why not?
[RECORD RESPONSE]

_____

-96
Don't know ..... –97
Refused ..... –98

S16. Do you have any suggestions as to how the Southern California Edison multifamily rebate program could be improved? [RECORD RESPONSE]

_____
__

_____
__ -96

Don't know ..... -97

Refused ..... -98

Size of Company

We're almost done, just a few more questions....

C1. About how many multifamily residential properties in California do you or your company:
a. Own and manage?
_____ (RECORD #)
-96
Don't know....-97
Refused....-98
b. Own but do not manage?
_____ (RECORD #)
-96
Don't know....-97
Refused....-98
c. Manage but do not own?
_____ (RECORD #)
-96
Don't know....-97
Refused....-98

C2. Would you like to have Southern California Edison send you information about energy efficiency programs currently available to Multifamily Property Managers? [IF YES, VERIFY NAME AND ADDRESS FOR MAILING.]
Yes....1
No....2
Don't know....-97
Refused....-98

Thank you very much for participating in this survey.

8.2 Multifamily Contractor Survey Instrument

Finding the Decision Maker

L1a. Hello, may I please speak with [USE CONTACT NAME, IF AVAILABLE]?
L1b. I'd like to speak with the person responsible for managing installations in multifamily properties

[RECORD NAME]_____
Person responsible available 1
Person responsible currently unavailable.....[ARRANGE CALL BACK] 2
No person responsible for managing installations in multifamily properties.....
..... [SKIP TO L7] 3
Don't know ..... [SKIP TO L7] 97
Refused ..... [SKIP TO L7] 98

L2. Hello I am _____ from KEMA Consulting. I am calling on behalf of Southern California Edison.

[PROVIDE UTILITY CONTACT NAMES IF NEEDED TO VERIFY STUDY:
SCE – Caroline Chen 619-423-1512]

I am interviewing contractors who participated in the Southern California Edison multifamily rebate program. This program provides rebates for the installation of energy-efficient lighting and other energy-saving technologies in apartment buildings. Your input will help Southern California Edison improve the program.

L4. According to our records, in recent years your company managed or performed installations of energy-efficient equipment in multifamily properties. Are you familiar with these activities?

Yes (all or some)..... [RECORD NAME BELOW THEN SKIP TO NEXT SECTION] 1
RESPONDENT NAME //i4r//:_____
No..... 2
Don't know ..... –97
Refused ..... –98

L6. Do you know who is likely to be familiar with your organization's decision to make this energy efficiency improvement?

Yes ..... [RECORD NAME BELOW THEN ASK TO BE TRANSFERRED TO THAT PERSON, THEN START OVER AGAIN WITH L2] 1

_____
_____
_____

No..... 2
Don't know 97

Refused 98

L6b. [CHECK TO MAKE SURE ALL CONTACTS HAVE BEEN TRIED.]

Not all contacts have been tried.....[START OVER AGAIN WITH L1a] 1

All contacts have been tried 2

L7. Thank you very much for your time today. Those are all the questions I have.
[END INTERVIEW]

Contractor Firmographics and Market Characterization

First I would like to get some background information about you and your company.

C1. What is your job title? _____

C2. Approximately how many employees work for your company? _____

Don't know 999997

Refused 999998

C3. What electric utility serves most of your customers? _____

Don't know 97

Refused 98

C4. What natural gas utility serves most of your customers? _____

Don't know 97

Refused 98

C5. Is your company headquartered in California or outside the state?

In California 1

Outside the state 2

Don't know 97

Refused 98

[For C6 – C9, the caller can read off the available choices first, so the respondent knows what the choices are to divide 100% between. After the choices are read, the caller can guide respondent through filling in the %s.]

C6. Please provide a rough estimate of what % of your energy efficiency installation business is in the following sectors.

Sector	% of Total Installations	DK	Refused
a. Residential single-family	_____%	997	998
b. Residential multifamily	_____%	997	998
c. Commercial	_____%	997	998
d. Institutional/ educational	_____%	997	998
e. Industrial	_____%	997	998

C7. About how many energy-efficiency installation projects does your company do in multifamily buildings in a typical year? ___

Don't know 999997
Refused 999998
[TERMINATE SURVEY if Answer = 0, don't know, or refused]

C8. About what % of your energy-efficiency installation projects in the residential multifamily sector fall into the following categories:

a. Installations in tenant units only ___%
Don't know 997
Refused 998

b. Installation in common areas only___%
Don't know 997
Refused 998

c. Installations in both tenant units and common areas___%
Don't know 997
Refused 998

C9. About what % of your energy-efficiency installation projects in the residential multifamily sector fall into the following categories:

a. Projects in buildings with 20 units or less ___%
Don't know 997
Refused 998

b. Projects in buildings with greater than 20 units and less than 100 units ___%

Don't know 997
Refused 998

c. Projects in buildings with 100 units and less than 250 units___%
Don't know 997
Refused 998

d. Projects in buildings with 250 units or greater___%
Don't know 997
Refused 998

C10. About what % of your projects in the residential multifamily sector is with public housing or other government-subsidized housing? ___%

Don't know
..... 997
Refused 998

[FOR C11, DWELLINGS JUST MEANS PROPERTIES. IT'S OK TO READ OFF SEVERAL EXAMPLE ITEMS IF RESPONDENT IS CONFUSED ABOUT WHAT WE MEAN BY THIS QUESTION. HOWEVER, IF POSSIBLE, PLEASE RANDOMIZE WHICH MEASURES ARE READ OFF AS EXAMPLES. IF THE RESPONDENT SAYS "LIGHTING" OR IS NON-SPECIFIC ABOUT LIGHTING, TRY TO GET THEM TO BE MORE SPECIFIC. IF NECESSARY, READ OFF A COUPLE OF THE LIGHTING EXAMPLES (1 THROUGH 5, 15 AND 16). WE ESPECIALLY WANT TO KNOW CFL VS. T5/T8 AND INTERIOR VS. EXTERIOR.]

C11. What types of energy-efficient measures does your company install in multifamily dwellings? [DO NOT READ LIST, ALLOW MULTIPLE RESPONSES

[CFL / Compact Fluorescents] 1
[T5 or T8 lamps with electronic ballasts] 2
[Hardwired fluorescent fixtures].....3
[Exit signs (LED or electroluminescent)] 4
[Lighting controls (occupancy sensors, photocells)].....5
[Energy Star ceiling fans] 6
[High-performance dual-pane windows].....7
[Energy-efficient electric storage water heaters] 8
[Attic or wall insulation].....9
[Energy Star Room air conditioner] 10
[Package terminal air conditioners (PTACs)] 11

[Energy Star refrigerators].....12
[High efficiency pool pumps]. 13
[Other] [SPECIFY_____].....14
[Internal / Interior Lighting] 15
[External / Exterior Lighting].....16
[Don't Know].....97
[Refused].....98

Level of Program Awareness and Involvement

Now I would like to ask you about your awareness of and activity in the Southern California Edison multifamily rebate program

A1. SCE multifamily rebate program offers rebates for energy efficient equipment installed in multifamily properties. Before now, were you aware of this program?

Yes.....1
No .....2 [SKIP TO A7]
Don't Know.....97 [SKIP TO A7]
Refused.....98 [SKIP TO A7]

A2. On a scale of 1 to 5 where 5 indicates very active and 1 indicates not very active, how actively has your company promoted rebates offered by this multifamily program? ____ [RECORD ACTIVITY LEVEL] ___

Don't Know.....97 [SKIP TO A4]
Refused.....98 [SKIP TO A4]

A3. [IF A2 = 1, 2, OR 3 ELSE SKIP TO A4] Why haven't you been more active in promoting the rebate program?

A4. Roughly what percentage of your annual installations use rebates from the SCE multifamily rebate program? ___%

Don't know 97
Refused 98

A5. [SKIP IF C11 = don't know, refused, or no answers] You said earlier that your company installs [READ MEASURES IDENTIFIED IN C11] in multifamily dwellings. Do you also install all these measures through the SCE multifamily rebate program?

Yes.....1 [SKIP TO A6]

No 2
Don't Know.....97 [SKIP TO A6]
Refused.....98 [SKIP TO A6]

A5A. Which of these measures do you *not* install through the SCE program? [DO NOT READ. ALLOW MULTIPLE RESPONSES]

[CFL / Compact Fluorescents] 1
[T5 or T8 lamps with electronic ballasts] 2
[Hardwired fluorescent fixtures].....3
[Exit signs (LED or electroluminescent)] 4
[Lighting controls (occupancy sensors, photocells)].....5
[Energy Star ceiling fans] 6
[High-performance dual-pane windows].....7
[Energy-efficient electric storage water heaters] 8
[Attic or wall insulation].....9
[Energy Star Room air conditioner] 10
[Package terminal air conditioners (PTACs)] 11
[Energy Star refrigerators].....12
[High efficiency pool pumps]. 13
[Other] [SPECIFY_____].....14
[Internal / Interior Lighting] 15
[External / Exterior Lighting] 16
[Don't Know].....[SKIP TO A6] 97
[Refused].....[SKIP TO A6] 98

A5B. Why don't you install [MEASURES IDENTIFED IN A5A] through the SCE program? [DO NOT READ. ALLOW MULTIPLE RESPONSES]

[I was not aware of the rebates] 1
[The rebates were not large enough] 2
[Too much paperwork/hassle] 3
[Other] [SPECIFY].....4
[Don't Know].....97
[Refused].....98

A6. [IF C11 ≠ 6 AND C11 ≠ 7 AND C11 ≠ 8 AND C11 ≠ 9 AND C11 ≠ 10 AND C11 ≠ 11 AND C11 ≠ 12 AND C11 ≠ 13AND C11 ≠ 97 AND C11≠ 98] Southern California Edison offers rebates on energy-efficient refrigerators, air conditioners, water heaters, windows, insulation, ceiling

fans, and pool pumps that are installed in multifamily dwellings. Earlier you told me that your company currently does not install these types of measures in multifamily dwellings. Why doesn't your company install these measures? [DO NOT READ. ALLOW MULTIPLE RESPONSES]

[We're only a lighting contractor] 1
[We want to limit/focus on certain measures] 2
[We don't have the skills/qualifications to install these measures] 3
[We don't know enough about these measures] 4
[The program rebates are not large enough for these measures] 5
[We can't make enough money off these measures] 6
[It takes too long to install these measures] 7
[Other] [SPECIFY] _____ 8
[Don't know] 97
[Refused] 98

[FOR A7, IF RESPONDENT TELLS YOU UTILITIES (THINGS LIKE "PG&E", "SDG&E", "SOUTHERN GAS AND ELECTRIC", "SMUD", ETC) THAT IS OK – PUT IT DOWN IN THE OTHER CATEGORY. ALSO, TRY TO GET THEM TO BE MORE SPECIFIC ABOUT WHAT KIND OF ENERGY EFFICIENCY MEASURES THEY DO FOR THOSE UTILITIES (THINGS LIKE THE LIST IN A5A – CFLS, T5/T8S, INTERIOR LIGHTING, EXTERIOR LIGHTING, REFRIGERATORS, AIR CONDITIONERS, ETC.)]

A7. Are there any other California energy efficiency programs that you participate in? Which ones? [DO NOT READ. ALLOW MULTIPLE RESPONSES]

[No, I don't participate in other California EE programs] 1
[Single Family Rebate Program] 2
[Low Income Energy Efficiency Program] 3
[Express Efficiency Program] 4
[Standard Performance Contract Program] 5
[Designed for Comfort – Efficient Affordable Housing Program] 6
[Other] [SPECIFY] _____ 7
[Don't know] 97
[Refused] 98

Program Marketing and Contractor Relations and Communications

Now I would like you to assess how the Multifamily Rebate program is doing in terms of marketing and contractor communications.

MA1. Using a scale of 1 to 5 where 5 = very satisfied and 1 = very dissatisfied, how satisfied have you been with the way that SCE markets the multifamily program and its rebates? ____

Don't know 97
Refused 98

MA2. [ASK ONLY IF MA1 = 3, 2, OR 1] Why do you say that?

[RECORD RESPONSE]_____
Don't know 97
Refused 98

MA3. Do you have any suggestions on how the program could be better marketed?

Yes.....[RECORD Suggestions] 1
No 2
Don't Know.....97
Refused.....98

MA5. Using this same 5-point satisfaction scale, where 5 = very satisfied and 1 = very dissatisfied, how satisfied have you been with the way that the SCE staff has kept you up-to-date with any changes in the multifamily rebate program? ____

Don't know 97
Refused 98

MA6. [ASK ONLY IF MA5 = 3 , 2, OR 1] Why do you say that?

[RECORD RESPONSE]_____
Don't know 97
Refused 98

MA7. Using this same 5-point satisfaction scale, how satisfied have you been with the responsiveness of the SCE program staff has responded to any questions or suggestions you have about the multifamily program and its rebates? ____

Don't know 97
Refused 98

MA8. [ASK ONLY IF MA7 = 3, 2, OR 1] Why do you say that?

[RECORD RESPONSE]_____
Don't know 97
Refused 98

MA9. Do you have any suggestions on how the program staff could communicate better with installation contractors?
Yes.....[RECORD Suggestions] 1
No 2
Don't Know.....97
Refused.....98

MA10. Using this same 5-point satisfaction scale, how satisfied have you been with the SCE website for the multifamily rebate program? ____
Don't know 97
Refused 98

MA11. [ASK ONLY IF MA10 = 3 , 2, OR 1] Why do you say that?
[RECORD RESPONSE]_____
Don't know 97
Refused 98

MA12. Do you have any suggestion on how SCE could improve its website for the multifamily rebate program?
Yes.....[RECORD Suggestions] 1
No 2
Don't Know.....97
Refused.....98

Program Rebates and Paperwork

Now I would like to get your thoughts on program rebates and paperwork.

R1. The Southern California Edison multifamily rebate program requires retailers to reserve rebate funds ahead of time. Using a scale of 1 to 5 where 5 = very satisfied and 1 = very dissatisfied, how satisfied have you been with this rebate reservation process?

____
Don't know 97

Refused 98

R1A. [ASK ONLY IF R1 = 3 , 2, OR 1] Why do you say that?

[RECORD RESPONSE]_____

Don't know 97

Refused 98

R1B. Do you have any suggestions on how this rebate reservation process might be improved?

Yes.....[RECORD Suggestions] 1

No 2

Don't Know.....97

Refused.....98

R2. Using a scale of 1 to 5 where 5 = very satisfied and 1 = very dissatisfied, how satisfied have you been with the rebate levels offered by the multifamily program? ____

Don't know 97

Refused 98

R3. [ASK ONLY IF R1 = 3 , 2, OR 1] Why do you say that?

[RECORD RESPONSE]_____

Don't know 97

Refused 98

R4. Are any of the rebates offered by Edison's program too low?

Yes.....1

No .....2 [SKIP TO R5]

Don't Know.....97 [SKIP TO R5]

Refused.....98 [SKIP TO R5]

R4A. For which energy-efficient measures?

[RECORD RESPONSE]_____

Don't know 97

Refused 98

R5. Are there energy-efficient measures that the SCE Multifamily Rebate Program is not offering rebates for, that you think should be offering rebates for?

Yes.....1

No ..... 2 [SKIP TO R6]
Don't Know ..... 97 [SKIP TO R6]
Refused ..... 98 [SKIP TO R6]

R5A. For which energy-efficient measures?

[RECORD RESPONSE]_____
Don't know 97
Refused 98

R6. In past years the Edison multifamily program has sometimes run out of rebates funds before the end of the year. If these rebates were available all year round, do you think it would increase program participation by installation contractors?

Yes 1
No 2
Don't Know 97
Refused 98

R7. Have concerns about rebate funds running out before the year made you reluctant to recommend energy-efficient equipment to your residential customers?

Yes 1
No 2
Don't Know 97
Refused 98

R8. Did your company fill out any rebate applications on behalf of multifamily property owner and managers?

Yes 1
No ..... 2 [SKIP TO R11]
Don't Know ..... 97 [SKIP TO R11]
Refused ..... 98 [SKIP TO R11]

R9. [IF YES] Using a scale of 1 to 5 where 5 = very satisfied and 1 = very dissatisfied, how satisfied have you been with the *rebate application forms*? ____

Don't know 97
Refused 98

R10. [ASK ONLY IF R9 = 3 , 2, OR 1] Why do you say that?

[RECORD RESPONSE]_____
Don't know 97
Refused 98

R11. Using a scale of 1 to 5 where 5 = very satisfied and 1 = very dissatisfied, how satisfied have you been with the *application process as a whole*? ____
Don't know 97
Refused 98

R12. [ASK ONLY IF R11 = 3, 2, OR 1] Why do you say that?
[RECORD RESPONSE]_____
Don't know 97
Refused 98

R13. [IF R8 = 1 (yes), ELSE SKIP R14] Were any of the rebate applications that you filled out for owners or property managers rejected by SCE?

Yes	1	
No	2	[SKIP TO R14]
Don't Know	97	[SKIP TO R14]
Refused	98	[SKIP TO R14]

R13A. About what percent of these applications were rejected?
[RECORD %]_____
Don't know 97
Refused 98

R13B. What was the most common reason why they were rejected?
[RECORD RESPONSE]_____
Don't know 97
Refused 98

R13C. Rebates for what types of measures were most often rejected?
[RECORD RESPONSE]_____
Don't know 97
Refused 98

R14. Is it hard to find out what types of energy equipment are eligible for rebates?

Yes 1
No ..... 2 [SKIP TO R15]
Don't Know ..... 97 [SKIP TO R15]
Refused ..... 98 [SKIP TO R15]

A. If so, for what kinds of equipment?
[RECORD RESPONSE]_____
Don't know 97
Refused 98

R15. How do you normally find out what types of equipment are eligible for the SCE rebates? [DO NOT READ, ALLOW MULTIPLE RESPONSES]

[Southern California Edison (SCE) mailings/brochures] 1
[SCE website] 2
[SCE/California utility meeting] 3
[SCE email] 4
[SCE phone call] 5
[Equipment manufacturer/retailer] 6
[Trade conference/trade association] 7
[Word-of-mouth/Industry colleague] 8
[OTHER, Specify_____] 9
[Don't know] 97
[Refused] 98

R16. In cases where your company was scheduled to receive rebate payments, were they received in a timely manner?

Yes 1
No 2
Don't Know 97
Refused 98

General Program Satisfaction

I would like to get your overall assessment of the program.

S1. Using a scale of 1 to 5 where 5 = very satisfied and 1 = very dissatisfied, how satisfied have you been with the multifamily rebate program as a whole? ____

Don't know 97

Refused 98

S2. [ASK ONLY IF S1 = 3, 2, or 1] Why do you say that?

[RECORD RESPONSE]_____

Don't know 97

Refused 98

S3. What things do you like about the rebate program?

[RECORD RESPONSE]_____

Don't know 97

Refused 98

S4. Do you have any suggestions for other ways to improve the rebate program, besides those already mentioned?

Yes[RECORD SUGGESTIONS. THEN ASK: "ANY OTHER SUGGESTIONS"]1

No 2

Don't Know 97

Refused 98

S5. SCE offers rebates on a lot of non-lighting measures such energy-efficient refrigerators, air conditioners, water heaters, windows, insulation, ceiling fans, and pool pumps. Yet most of the contractors who participate in the program only install lighting measures. What does the program need to do encourage contractors to install more non-lighting measures in multifamily dwellings? [DO NOT READ, ALLOW MULTIPLE RESPONSES]

[Increase contractor awareness of these non-lighting measures] 1

[Increase the rebate levels for these non-lighting measures] 2

[Other recommendations] [SPECIFY_____] 3

[Don't know] 97

[Refused] 98

Interaction with Multifamily Property Owners & Managers

I would like to ask you some questions about how you typically interact with owners and managers of multifamily properties.

P2. Are there any types of multifamily properties that you avoid, whether this decision is based on type of housing or the geographic area where the housing is located?

Yes 1
No ..... 2 [SKIP TO P3]
Don't Know ..... 97 [SKIP TO P3]
Refused ..... 98 [SKIP TO P3]

P2A. What types do you avoid? [SPECIFY]?
Don't Know 97
Refused 98

P3. Do you find it more difficult to get installation business from large property management firms?
Yes 1
No ..... 2 [SKIP TO P5]
Don't Know ..... 97 [SKIP TO P5]
Refused ..... 98 [SKIP TO P5]

P3A. Why is this?
[RECORD] _____?
Don't Know 97
Refused 98

P5. When doing installation projects that use financial incentives from the SCE rebate program, what kind of information about the program do you normally provide to property owners and managers?
[RECORD]_____
Don't Know 97
Refused 98

P6. What do you think are the main reasons why property owners and managers do not implement these energy-efficient measures on their own? [DO NOT READ, ALLOW MULTIPLE RESPONSES]
[Not aware of energy efficiency options] 1
[Not aware of need to save energy] 2
[They don't receive the full incentive/ installer receives some of the incentive] 3
[It's too much hassle] 4
[Too much upfront initial/upfront cost] 5
[Not aware of rebates or rebate programs] 6

[Other] [SPECIFY_____]..... 7
[Don't Know]..... 97
[Refused]..... 98

P7. After you do installations, do you leave behind product information and information about warranties with the property manager and owner? If so, can you describe the information?
Yes..... [RECORD Description] 1
No 2
Don't Know.....97
Refused.....98

P8. [ASK ONLY IF THEY INSTALL LIGHTING (C11 includes 1, 2, 3, 4, or 5), OTHERWISE SKIP TO P9] Do you leave behind extra lamps with the property owners and managers for replacement of any early burnouts?
Yes.....1
No 2
Don't Know.....97
Refused.....98

P9. If a property owner or manager is unhappy with an installation of an energy-efficient measure – whether this was caused by a problem with the product or the installation itself – what is your normal standard operating procedure for dealing with these kinds of complaints? [RECORD PROCEDURE]

Don't Know.....97
Refused.....98

Market Characterization

This is the last section of the survey. Now I would like to get your opinion on the opportunities for energy-efficient measures in the multifamily market.

M3. [ASK ONLY IF THEY INSTALL CFLs (C11 includes 1), OTHERWISE SKIP TO M5] How would you characterize the current opportunities for installing compact fluorescent lamps in the multifamily buildings? On a scale of 1 to 10 where 10 indicates unlimited opportunities to install and 1 indicates no opportunities, how would you characterize the current market for compact fluorescent lamps? ____

Don't know ..... [SKIP TO M5] 97

Refused ..... [SKIP TO M5] 98

M4. Why do you say that?

[RECORD RESPONSE]_____

Don't know 97

Refused 98

M5. [ASK ONLY IF THEY INSTALL T5s/T8s (C11 includes 2), OTHERWISE SKIP TO END]. How would you characterize the current opportunities for installing T5/T8 fluorescent lamps in multifamily buildings? On a scale of 1 to 10 where 10 indicates unlimited opportunities to install and 1 indicates no opportunities, how would you characterize the current market for T5/T8 lamps? _____

Don't know ..... [SKIP TO END] 97

Refused ..... [SKIP TO END] 98

M6. Why do you say that?

[RECORD RESPONSE]_____

Don't know 97

Refused 98

Thank you very much for participating in this survey.

8.3 Survey Instrument for HVAC Contractors

Introduction

I1. Hello, may I speak with *[read contact name, if available]*?

- [Contact available] [SKIP TO I3] 1
- [Contact currently unavailable] [SCHEDULE A CALL BACK] 2
- [No contact] 3
- [REFUSED] [SKIP TO I4] -97
- [DON'T KNOW/NOT SURE] [SKIP TO I5] -98

I2. I would like to speak with whoever is responsible for administering HVAC projects such as air conditioning, ventilation, water heaters and A/C maintenance.[record name].

- [Contact available] 1
- [Contact currently unavailable] [SCHEDULE A CALL BACK] 2

- [No contact] [SKIP TO I4] 3
- [REFUSED] [SKIP TO I4] -97
- [DON'T KNOW/NOT SURE] [SKIP TO I5] -98

I3. I'm [*your name*] calling from_____, on behalf on Southern California Edison. We are interviewing contractors who install HVAC equipment in Edison's service territory. This interview will help Edison improve its rebate programs and the services it can provide to businesses like yours. Do you have a few minutes to answer some questions about the HVAC program?

- [YES] [SKIP TO I6] 1
- [NOT RIGHT NOW] [SCHEDULE A CALL BACK] 2
- [REFUSED] -97

[IF NECESSARY CONTACT KRISTINA WONG OF SCE AT 626-633-3075]

I4. Thank you very much for your time, those are all of the questions I have for you today.
[End interview, record "no decision making contact available"]

I5. May I speak with someone who might know who administers HVAC projects such as air conditioning, ventilation, water heaters and A/C maintenance for your company?

- [YES] [RETURN TO I2] 1
- [NOT RIGHT NOW] [SCHEDULE A CALL BACK] 2
- [REFUSED] [RETURN TO I4] -97

I6. Before we start this interview in earnest I'd like to find out if your company installs or sells any of the following products or services: [READ LIST, ALLOW MULTIPLE RESPONSES]

Energy Star Rated Room Air Conditioners	1
Whole House Fans	2
Electric Hot Water Storage Tanks	3
Ducted Evaporative Coolers	4
Central Air Conditioning Preventive Maintenance Services	5
Packaged Thermal Air Conditioners (PTAC)	6
[None of the above]	7 [TERMINATE]
[DON'T KNOW/NOT SURE]	-97 [TERMINATE]
[REFUSED]	-98 [TERMINATE]

I7. Prior to this interview were you aware that Edison offers rebates on all of the following products and services [READ BACK EQUIPMENT THAT RESPONDENT SAID THEIR COMPANY INSTALLED/SOLD IN RESPONSE TO I6] ?

1	[YES]	[SKIP TO B1]
2	[NO]	
-97	[DON'T KNOW/NOT SURE]	[TERMINATE]
-98	[REFUSED]	[TERMINATE]

I8. Which of those rebates were you not aware of? [RECORD WHICH REBATES THE RESPONDENT WAS NOT AWARE OF. READ BACK RESPONSES FROM I6 IF NECESSARY,]

Energy Star Rated Room Air Conditioners	1
Whole House Fans	2
Electric Hot Water Storage Tanks	3
Ducted Evaporative Coolers	4
Central Air Conditioning Preventive Maintenance Services	5
Packaged Thermal Air Conditioners (PTAC)	6
[None of the above]	7 [SKIP TO M11]
[DON'T KNOW/NOT SURE]	-97 [TERMINATE]
[REFUSED]	-98 [TERMINATE]

Business Classification

Now I would like to collect some background information about your business.

B1. Do you install HVAC equipment in single-family homes?

1	[YES]
2	[NO]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

B2. How about in multifamily buildings such as apartment buildings, condos or duplexes?

1	[YES]
2	[NO]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

B3. Do you install HVAC equipment in school, government, or institutional buildings?

1	[YES]
2	[NO]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

B4. How about in commercial or industrial buildings?

1	[YES]
2	[NO]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

B5. Which of these customer sectors I just named would you say is your primary market? [DO NOT READ]

1.	[Single family residential homes]
2	[Multi-family buildings]
3	[School, government, and institutional]
4	[Commercial or industrial]
5	[Other] [RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

B5A. About how many HVAC installation or maintenance jobs does your company do in a given year?

#	
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

B5B. [IF B1 = 1 ELSE SKIP TO B5C] About what percentage of your HVAC jobs are done in single-family homes?

%	
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

B5C. [IF B2 = 1 ELSE SKIP TO B6] About what percentage of your HVAC jobs are done in apartment buildings, condos, or duplexes?

%	
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

B6. [IF I6 ≠ 4, ELSE SKIP TO B7] How come your company does not install advanced evaporative cooling systems? [DO NOT READ, ALLOW MULTIPLE RESPONSES]

1	[Service area too humid/ Not dry enough for efficient operation of evaporative coolers]
2	[Challenging Installation]
3	[Aesthetically Unpleasant]
4	[Low Profit Margin]
5	[Customers are not interested]
6	[Don't think technology is efficient/effective enough]
7	[Other [SPECIFY]]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

[**NOTE TO SURVEY PROGRAMMERS: OUR SAMPLE CALLS FOR 25 CONTRACTORS WHO **DO NOT** SELL DUCTED EVAPORATIVE COOLERS (DEC'S) PERFORM THE FULL SURVEY FOR ALL RESPONDENTS UNTIL WE OBTAIN 25 COMPLETED SURVEYS FOR NON-DEC CONTRACTORS. WHEN WE ARRIVE AT 25 COMPLETED NON-DEC SURVEYS, BEGIN TERMINATING AFTER B6 FOR NON-DEC'S BUT COMPLETE THE SURVEY FOR DEC CONTRACTORS. IF TERMINATED RECORD "NO DEC SALES".]

B7. [IF B1 = 1 OR B2 = 1 SKIP TO B8] Thank you very much for your time; those are all of the questions I have for you today. [End interview, record "no residential or multifamily work"]

B8. How many full-time employees does your business have at this location?

#		
-97	[DON'T KNOW/NOT SURE]	[SKIP TO B10]
-98	[REFUSED]	[SKIP TO B10]

B9. About how many of these full-time employees work on installing HVAC?

#	
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

B10. Does your business operate out of more than one location in California?

1	[YES]	
2	[NO]	[SKIP TO A1]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO A1]
-98	[REFUSED]	[SKIP TO A1]

B11. Approximately how many total employees are there throughout your California locations?

#	
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

Program Awareness and Participation

A1. How did you hear about the Edison HVAC rebate program? [DO NOT READ, ALLOW MULTIPLE RESPONSES]

1.	[Trade Association/Union]
2	[HVAC Manufacturer/Supplier]
3	[Another HVAC Contractor]
4	[Edison Information]
5	[Edison Representative]
6	[Customer]
7	[Other][SPECIFY]]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

Participation Experience

P1. In the last three years have you installed HVAC equipment in single –family homes or multifamily buildings for which Edison rebates were paid?

1	[YES]	[SKIP TO P3]
2	[NO]	
-97	[DON'T KNOW/NOT SURE]	
-98	[REFUSED]	

P2. Why is your company not participating in or promoting this rebate program?

1	[Too few buildings in area with rebate-qualifying equipment]	SKIP TO M10
2	[Rebates are not large enough]	SKIP TO M10
3	[Rebate qualification standards are too strict]	SKIP TO M10
4	[Rebate processes are too difficult]	SKIP TO M10
5	[Other [specify]]	SKIP TO M10
-97	[DON'T KNOW/NOT SURE]	SKIP TO M10
-98	[REFUSED]	SKIP TO M10

P3. On a scale of 1 to 5 where 5 indicates “very active” and 1 indicates “not very active,” how actively has your company promoted HVAC rebates offered by Edison?

1	not very active	
2		
3		
4		[SKIP TO M1]
5	Very active	[SKIP TO M1]
-97	[DON’T KNOW/NOT SURE]	[SKIP TO M1]
-98	[REFUSED]	[SKIP TO M1]

P4. Why haven’t you been more active in promoting these rebates?

[RECORD RESPONSE]

_____

-97	[DON’T KNOW/NOT SURE]
-98	[REFUSED]

Helpfulness of Marketing Materials/Support and Program Satisfaction

[THIS SECTION ONLY IF P1 ≠ 2]
I would now like to ask you some questions about Edison’s marketing materials.

M1. Do you use Edison marketing materials to promote Edison’s HVAC rebate program?

1	[YES]	
2	[NO]	[SKIP TO M4]
-97	[DON’T KNOW/NOT SURE]	[SKIP TO M4]
-98	[REFUSED]	[SKIP TO M4]

M2. Which Edison information sources or marketing materials do you use? [DO NOT READ, ALLOW MULTIPLE RESPONSES]

[Pamphlets]	1
[In-shop signage]	2
[Other] [RECORD]	3
[DON’T KNOW/NOT SURE]	-97

[REFUSED]	-98	

M3. Using a scale of 1 to 5, with 1 being “not at all helpful” and 5 being “very helpful”, how helpful have Edison marketing materials and support staff been to you in terms of promoting your company’s products and services?

[not at all helpful]	1	
	2	
	3	
	4	[SKIP TO M4]
[very helpful]	5	[SKIP TO M4]
[DON’T KNOW/NOT SURE]	-97	[SKIP TO M4]
[REFUSED]	-98	[SKIP TO M4]

M3A. Why do you say the marketing materials have been less than helpful?
[RECORD RESPONSE]

_____

_____

_____

[DON’T KNOW/NOT SURE]	-97
[REFUSED]	-98

M3B. How could the marketing materials or promotions be improved to better suit your needs?
[RECORD RESPONSE]

_____

_____

_____

[DON’T KNOW/NOT SURE]	-97
[REFUSED]	-98

M4. On a scale of 1 to 5, with 1 being “very hard” and 5 being “very easy,” how easy was it to keep up with the HVAC rebate program changes?

[very hard]	1
	2
	3

	4	[SKIP TO M6]
[very easy]	5	[SKIP TO M6]
[DON'T KNOW/NOT SURE]	-97	[SKIP TO M6]
[REFUSED]	-98	[SKIP TO M6]

M4a. Why is it hard to keep up with program changes?

_____

_____

_____

M6. [IF B2=1 (MULTIFAMILY CONTRACTORS)] On a scale of 1 to 5, 1 being unsatisfied and 5 being very satisfied, how satisfied are you with Edison's website for its multifamily HVAC rebates?

[dissatisfied]	1	
	2	
	3	
	4	[SKIP TO M7]
[satisfied]	5	[SKIP TO M7]
I've never seen the website	6	[SKIP TO M7]
[DON'T KNOW/NOT SURE]	-97	[SKIP TO M7]
[REFUSED]	-98	[SKIP TO M7]

M6a. Why do you say you are dissatisfied with the website?
[RECORD RESPONSE]

_____

_____

_____

[DON'T KNOW/NOT SURE]	-97
[REFUSED]	-98

M7. On a scale of 1 to 5, 1 being unsatisfied and 5 being very satisfied, how satisfied are you with the way Edison promotes HVAC rebates?

[dissatisfied]	1
	2

	3	
	4	[SKIP TO M8]
[satisfied]	5	[SKIP TO M8]
[DON'T KNOW/NOT SURE]	-97	[SKIP TO M8]
[REFUSED]	-98	[SKIP TO M8]

M7a. Why do you say you are dissatisfied with Edison's marketing efforts?
[RECORD RESPONSE]

_____

_____

_____

[DON'T KNOW/NOT SURE]	-97
[REFUSED]	-98

M8. On a scale of 1 to 5, 1 being unsatisfied and 5 being very satisfied, how satisfied are you with the way Edison staff responded to questions regarding the HVAC program?

[dissatisfied]	1	
	2	
	3	
	4	[SKIP TO M9]
[satisfied]	5	[SKIP TO M9]
[I never asked the Edison staff any questions]		
[DON'T KNOW/NOT SURE]	-97	[SKIP TO M9]
[REFUSED]	-98	[SKIP TO M9]

M8a. Why do you say you are dissatisfied Edison's staff?
[RECORD RESPONSE]

_____

_____

_____

[DON'T KNOW/NOT SURE]	-97
[REFUSED]	-98

M9. On a scale of 1 to 5, one being unsatisfied and 5 being very satisfied, how satisfied are you with Edison's HVAC program as a whole?

[dissatisfied]	1	
	2	
	3	
	4	[SKIP TO M10]
[satisfied]	5	[SKIP TO M10]
[DON'T KNOW/NOT SURE]	-97	[SKIP TO M10]
[REFUSED]	-98	[SKIP TO M10]

M9a. Why do you say you are dissatisfied Edison's HVAC program as a whole? [RECORD RESPONSE]

_____

_____

_____

[DON'T KNOW/NOT SURE]	-97
[REFUSED]	-98

M9b. Did your company fill out any rebate applications on behalf of your residential customers in the last three years?

1	[YES]	
2	[NO]	[SKIP TO M9e]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO M9e]
-98	[REFUSED]	[SKIP TO M9e]

M9c. Using a scale of 1 to 5, where 5 = very satisfied and 1 = very dissatisfied, how satisfied have you been with the rebate application forms?

[dissatisfied]	1	
	2	
	3	
	4	SKIP TO M9e
[satisfied]	5	SKIP TO M9e

[DON'T KNOW/NOT SURE]	-97	SKIP TO M9e
[REFUSED]	-98	SKIP TO M9e

M9d. Why do you say that?
[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

M9e. Are there any aspects of the Edison rebate program that have made it less likely that you will present it as an option to your customers?

_____
_____
_____

M10. Do you have any specific suggestions for improving the Edison HVAC rebate program?

_____
_____
_____

M11. What is the most effective way for Edison to inform you of HVAC rebate programs and changes to these programs? [DO NOT READ, ALLOW MULTIPLE ANSWERS]

[E-mail]	1
[Website]	2
[Mail]	3
[Phone]	4
[Personal visits]	5
[Other][RECORD]	6
[DON'T KNOW/NOT SURE]	-97
[REFUSE]	-98

Satisfaction with Rebates and Rebate Process (IF I8=7, Skip to S5)

Finally I'm going to ask you some questions about your satisfaction with the rebate application for

S5. [IF I6≠1 SKIP TO S6] Edison currently offers a $50 rebate for the purchase of Energy Star rated room air conditioners. Do you think that this rebate is large enough to encourage customers to choose Energy Star rated room air conditioners over standard efficiency models?

1	[YES]	[SKIP TO S5b]
2	[NO]	
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S5b]
-98	[REFUSED]	[SKIP TO S5b]

S5a. What level of incentive do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S5b. [IF P1 ≠ 1 OR I8 = 1 SKIP TO S6] If these $50 rebates from Edison had not been available, do you think your sales of these Energy Star room air conditioners in the past year would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S6]
3	[LOWER/FEWER SALES]	[SKIP TO S5d]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S6]
-98	[REFUSED]	[SKIP TO S6]

S5c. Why do you say this?
[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S5d. By what percent do you estimate your Energy Star rated room air conditioner sales in the past year would be lower without the rebate? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S6. [IF I6≠2, SKIP TO S7] Edison currently offers a $50 rebate for the purchase and installation of a whole house fan. Do you think that this rebate is large enough to encourage customers to choose a whole house fan?

1	[YES]	[SKIP TO S6b]
2	[NO]	
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S6b]
-98	[REFUSED]	[SKIP TO S6b]

S6a. What level of incentive do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S6b. [IF P1 ≠ 1 OR I8 = 2 SKIP TO S7] If these $50 rebates from Edison had not been available, do you think your sales of these whole-house fans in the past year would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S7]
3	[LOWER/FEWER SALES]	[SKIP TO S6d]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S7]
-98	[REFUSED]	[SKIP TO S7]

S6c. Why do you say this?
[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S6d. By what percent do you estimate your sales of whole-house fans in the past year would be lower without the rebate?

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S7. [IF I6≠3 SKIP TO S8] Edison currently offers a $30 rebate for the purchase and installation of electric storage water heaters with energy factor of .93 or greater. Do you think that this rebate is large enough to encourage customers to choose an electric storage water heater of this efficiency?

1	[YES]	[SKIP TO S7b]
2	[NO]	
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S7b]
-98	[REFUSED]	[SKIP TO S7b]

S7a. What level of incentive do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S7b. [IF P1 ≠ 1 OR I8 = 3 SKIP TO S8] If these $30 rebates from Edison had not been available, do you think your sales of these water heater in the past year would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S8]
3	[LOWER/FEWER SALES]	[SKIP TO S7d]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S8]
-98	[REFUSED]	[SKIP TO S8]

S7c. Why do you say this
[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S7d. By what percent would your sales of electric storage water heaters be lower without the rebate? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8. [IF I6≠4, SKIP TO S9] Edison currently offers rebates for four types of ducted, advanced evaporative central cooling systems. I will ask you about each rebate separately:

S8a. A single stage ducted evaporative cooling system is eligible for a $300 rebate per unit. Do you think that this incentive is large enough to encourage customers to install single stage ducted evaporative cooling systems in their homes?

1	[YES]	[SKIP TO S8a2]
2	[NO]	
3	[DON'T SELL THIS TYPE OF COOLER]	[SKIP TO S8b]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S8b]
-98	[REFUSED]	[SKIP TO S8b]

S8a1. What level of incentive do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8a2. [IF P1 ≠ 1 OR I8 = 4 SKIP TO S8b] If these rebates from Edison had not been available, do you think your sales of Ducted Evaporative Coolers in the past year would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S8b]
3	[LOWER/FEWER SALES]	[SKIP TO S8a4]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S8b]
-98	[REFUSED]	[SKIP TO S8b]

S8a3. Why do you say this?
[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8a4. By what percent would your sales of ducted, advanced evaporative central cooling systems be lower without the rebate? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8b. The same single stage system with pressure relief dampers installed is eligible for a $400 rebate per unit. Do you think that this incentive is large enough to encourage customers to install single stage ducted evaporative cooling systems with pressure relief dampers in their homes?

1	[YES]	[SKIP TO S8b2]
2	[NO]	
3	[DON'T SELL THIS TYPE OF COOLER]	[SKIP TO S8c]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S8c]
-98	[REFUSED]	[SKIP TO S8c]

S8b1. What level of incentive do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8b2. [IF P1 ≠ 1 OR I8 = 4 SKIP TO S8c] If these rebates from Edison had not been available, do you think your sales of Ducted Evaporative Coolers in the past year would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S8c]
3	[LOWER/FEWER SALES]	[SKIP TO S8b4]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S8c]
-98	[REFUSED]	[SKIP TO S8c]

S8b3. Why do you say this?

[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8b4. By what percent would your sales of ducted, advanced evaporative central cooling systems be lower without the rebate? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8c. A two stage ducted evaporative cooling system is eligible for a $500 rebate per unit. Do you think that this incentive is large enough to encourage customers to install two stage ducted evaporative cooling systems in their homes?

1	[YES]	[SKIP TO S8c2]
2	[NO]	
3	[DON'T SELL THIS TYPE OF COOLER]	[SKIP TO S8d]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S8d]
-98	[REFUSED]	[SKIP TO S8d]

S8c1. What level of incentive do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8c2. [IF P1 ≠ 1 OR I8 = 4 SKIP TO S8d] If these rebates from Edison had not been available, do you think your sales of Ducted Evaporative Coolers in the past year would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S8d]
3	[LOWER/FEWER SALES]	[SKIP TO S8c4]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S8d]
-98	[REFUSED]	[SKIP TO S8d]

S8c3. Why do you say this?

[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8c4. By what percent would your sales of ducted, advanced evaporative central cooling systems be lower without the rebate? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8d. A two stage ducted system with the addition of pressure relief dampers is eligible for a $600 rebate per unit. Do you think that this incentive is large enough to encourage customers to install two stage ducted evaporative cooling systems with pressure relief dampers in their homes?

1	[YES]	[SKIP TO S8d2]
2	[NO]	
3	[DON'T SELL THIS TYPE OF COOLER]	[SKIP TO S9]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S9]
-98	[REFUSED]	[SKIP TO S9]

S8d1. What level of incentive do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8d2. [IF P1 ≠ 1 OR I8 = 4 SKIP TO S9] If these rebates from Edison had not been available, do you think your sales of Ducted Evaporative Coolers in the past year would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S9]
3	[LOWER/FEWER SALES]	[SKIP TO S8d4]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S9]
-98	[REFUSED]	[SKIP TO S9]

S8d3. Why do you say this?

[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S8d4. By what percent would your sales of ducted, advanced evaporative central cooling systems be lower without the rebate? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S9. [IF I6≠5, SKIP TO S10] Edison's "A/C Quality" program currently has three facets. I will ask you about each of these program elements separately:

S9a. A 12% financing option is available for the replacement of a worn out central A/C with a new high efficiency unit. Do you think that this rate is low enough to ensure that customers replace old and inefficient A/C systems in their homes?

1	[YES]	[SKIP TO S9a2]
2	[NO]	
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S9b]
-98	[REFUSED]	[SKIP TO S9b]

S9a1. What financing rate do you think would be sufficient?

_____%	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S9a2. [IF P1 ≠ 1 OR I8 = 5 SKIP TO S10] If this financing option from Edison had not available, do you think your sales of new high efficiency air conditioners to replace older units would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S9b]
3	[LOWER/FEWER SALES]	[SKIP TO S9a4]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S9b]
-98	[REFUSED]	[SKIP TO S9b]

S9a3. Why do you say this?
[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S9a4. By what percent would your sales of new high efficiency air conditioners that replace older units be lower? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S9b. A $50 rebate for a 'basic tune-up' is available from Edison. Do you think that this rebate is high enough to encourage customers to ensure that their A/C systems receive regular basic maintenance?

1	[YES]	[SKIP TO S9b2]
2	[NO]	
3	[DO NOT PROVIDE BASIC SERVICE]	[SKIP TO S9c]

-97	[DON'T KNOW/NOT SURE]	[SKIP TO S9c]
-98	[REFUSED]	[SKIP TO S9c]

S9b1. What rebate do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S9b2. [IF P1 ≠ 1 OR I8 = 5 SKIP TO S10] If this 'basic service' rebate from Edison had not available, do you think your sales of basic air conditioner maintenance services would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S9c]
3	[LOWER/FEWER SALES]	[SKIP TO S9b4]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S9c]
-98	[REFUSED]	[SKIP TO S9c]

S9b3. Why do you say this?
[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S9b4. By what percent would your sales of basic air conditioner maintenance services be lower? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S9c. A $150 rebate for an 'advanced tune-up' is also available from Edison. Do you think that this rebate is high enough to encourage customers to ensure that their A/C systems receive regular advanced maintenance?

1	[YES]	[SKIP TO S9c2]
2	[NO]	

3	[DO NOT PROVIDE ADVANCED SERVICE]	[SKIP TO S10]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S10]
-98	[REFUSED]	[SKIP TO S10]

S9c1. What rebate do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S9c2. [IF P1 ≠ 1 OR I8 = 5 SKIP TO S10] If this 'basic service' rebate from Edison had not available, do you think your sales of advanced air conditioner maintenance services would have been about the same, lower, or higher?

1	[HIGHER/MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[SKIP TO S9c]
3	[LOWER/FEWER SALES]	[SKIP TO S9b4]
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S9c]
-98	[REFUSED]	[SKIP TO S9c]

S9c3. Why do you say this?
[RECORD RESPONSE]

_____	
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S9c4. By what percent would your sales of advanced air conditioner maintenance services be lower? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S10. [IF I6≠6, SKIP TO M1] Edison offers a $100 rebate per PTAC unit installed at multifamily dwellings so long as the unit is 20% more efficient than required by Title 20. Do you think that this incentive is large enough to encourage property managers to choose these PTACs?

1	[YES]	[SKIP TO S10b]
2	[NO]	
-97	[DON'T KNOW/NOT SURE]	[SKIP TO S10b]
-98	[REFUSED]	[SKIP TO S10b]

S10a. What level of incentive do you think would be sufficient?

$_____	[RECORD]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S10b. [IF P1 ≠ 1 AND/OR I8 = 6 SKIP TO M1] If these $100 rebates from Edison had not available, do you think your sales of these PTACs in the past year would have been about the same, lower, or higher?

1	[MORE SALES]	
2	[THE SAME/NO IMPACT ON SALES]	[TERMINATE]
3	[FEWER SALES]	[SKIP TO S10D]
-97	[DON'T KNOW/NOT SURE]	[TERMINATE]
-98	[REFUSED]	[TERMINATE]

S10c. Why do you say this?

[RECORD RESPONSE]

_____

-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

S10d. By what percent would your sales of PTAC units in multifamily buildings change? [RECORD]

_____	[%]
-97	[DON'T KNOW/NOT SURE]
-98	[REFUSED]

_____

Thank you very much for your time and input.