Residential Contractor Program Evaluation
Phase II Final Report

Volume Four -- Appendix E:
Multifamily Customer Baseline Survey

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1 Background

Today, market transformation has emerged as a central policy objective of future publicly funded energy-efficiency programs in California. Market transformation has been defined as "a reduction in market barriers due to a market intervention, as evidenced by a set of market effects that last after the intervention has been withdrawn, reduced, or changed."[1]

In order to implement this policy change, the four participating utilities have implemented the Residential Contractor Program (RCP).[2] The goal of the utilities is to use RCP to develop a self-sustaining contractor market for energy efficiency services in the residential retrofit and renovation / remodeling market. The specific objectives addressed by the statewide RCP are to:

- Improve customer awareness and understanding of the benefits associated with energy efficiency;
- Promote whole system and whole building approaches to energy efficiency in the residential sector; and
- Provide standard incentives for contractors to help build self-sustaining businesses that provide diagnostic / tune-up procedures and installations of various energy efficiency measures for customers.

This report, which summarizes multifamily owners and managers' knowledge, interest in energy efficiency, behaviors and attitudes when retrofitting, renovating / remodeling, is part of a comprehensive market assessment and evaluation of the Residential Contractor Program.[3] The purpose of this report is to summarize key findings from research conducted with owners and managers of multifamily dwellings.

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[1] – For a general discussion of market transformation issues, see "A Scoping Study on Energy-Efficiency Market Transformation by California Utility DSM Programs" (Eto, et.al., July 1996)

[2] – The four investor-owned utilities (IOUs) in California are Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric (SDG&E), Southern California Edison Company (SCE), and Southern California Gas Company (SCE). These are the "four participating utilities."

[3] – The overall research project includes:1) Process evaluation of the Program Year 1999 Residential Contractor Program, 2) Review of preceding work and finalization of the market characterization, and 3) Development and implementation of a Market Effects Tracking System.

2 Objectives

This customer research primarily supports the finalization of the market characterization from the customers' perspective. It also supports the development of market effects indicators with baseline data on customers replacing and adding equipment / materials and their level of awareness of the Residential Contractor Program (RCP) and key features and procedures associated with it.

Specifically, the multifamily residential baseline customer survey explored:

- Energy efficiency issues related to tenant units and common areas;4
- Past use of energy audits offered by energy utilities and other providers:
- Market conditions and their influence on capital improvement plans;
- Sources of information regarding building improvements;
- Reactions to selected RCP concepts.

As mentioned in the Preface, PG&E funded a detailed exploration of the multifamily sector in their service territory and a separate study of multifamily common area appliance and equipment holdings was developing as we prepared to field this multifamily baseline study. Thus an additional objective of this study was to coordinate with these efforts to obtain the best use of the resources available for this statewide research. The cooperation of all parties allowed the 400 interviews budgeted for this statewide survey to be used just for the SCE / SCG and SDG&E territories with the existing 226 survey completions providing data for the PG&E territory. Further, we have designed this survey research to provide results that may be compared with the detailed findings of the appliance and equipment saturation data for common areas obtained by ADM and TecMRKTWorks.

[4] – This effort was carefully coordinated with the statewide research effort being conducted by ADM and TechMRKTWorks into appliance and equipment holdings in multifamily building common areas.

3 Methodology

To address the research objectives, 626 telephone interviews were completed with owners and managers of multifamily housing. Interviews were completed with random samples of customers across each of the four utilities' service areas.[5] All survey respondents own or manage multifamily housing in the State of California.

Samples drawn from several sources were used. For PG&E we used two random samples: one of SIC 6513 "apartment building operators" and another of SIC 6531 "real estate agents and managers." For SCE / SCG and SDG&E we obtained samples from the ADM-TecMRKTWorks project. Again, one sample was a "yellow pages listing" sample for apartment building operators. The other sample had been obtained from a commercial real estate investment property information firm, RealFacts. As shown in Table 1, we achieved each of the targeted number of completions.

Table 1
Target and actual survey completions for each utility

Utility	Target	Actual
Pacific Gas & Electric	226	226
Southern California Edison & Southern California Gas	200	200
San Diego Gas & Electric	200	200
Total	626	626

The PG&E calls were completed between December 3 and 13, 1999. The calls for SCE / SCG and SDG&E were completed between March 8 and March 31, 2000. We completed 626 telephone surveys from samples with a total of 2,448 valid numbers, which represents a response rate of 25.6 % (Table 2).

[5] — Three areas are actually used: 1) PG&E, 2) SDG&E and 3) a joint SCE and SCG area.

Table 2
Disposition of Valid Sample (as percent of Valid Sample)

	PG&E	SCE / SCG	Total
Valid Sample	**n=889**	**n=1559**	**n=2448**
Initial refusal	27.1%	24.2%	25.3%
Schedule a callback	41.8%	34.3%	37.1%
Mid-interview terminate	5.6%	4.2%	4.7%
Other	0.1%	11.6%	7.3%
Completed interviews	**25.4%**	**25.7%**	**25.6%**
Completed Interviews	**226**	**400**	**626**

The “valid sample” includes all customers who were identified as individuals or representatives of firms that own or manage multifamily housing.

Based upon the total number of multifamily units (2,144,546 based on 1990 Census data) in the four utilities’ service territories, study results provide a precision of ± 3.9% at the 95 % confidence level.[6] A copy of the survey instrument may be found in Attachment A.

[6] – Individual utility information (based on 1990 Census data): PG&E – 1,244,618 units and 226 responses provides a precision of ± 6.5% at the 95% confidence level; SCE / SCG –547,578 units and 200 respondents provides a precision of ± 6.9% at the 95% confidence level; and SDG&E – 352,350 units and 200 respondents provides a precision of ± 6.9% at the 95% confidence level.

4 Findings

This section of the report is divided into eight major subsections, which present the survey findings. The first subsection explores energy efficiency issues related to tenant units including identifying “who pays the bill” for various end-uses, how important ‘landlords’ feel utility bills are to tenants, and exploring landlords’ knowledge, actions and interest in reducing tenants’ energy bills. The second subsection explores similar topics related to energy bills and energy efficiency in common areas, for which the landlords pay utility bills. In the next subsection, we consider the effects energy audit programs have had on the property owners’ and managers’ decision-making process. Then, in subsections four, five, and six, we describe rental market conditions and investment plans, sources of information for making energy efficiency improvements, and membership in apartment owners and managers associations. In the seventh subsection, we describe respondents’ reactions to various multifamily energy efficiency program concepts. Finally, we conclude with an eighth subsection that provides further information on the characteristics of the organizations that participated in this research process.

Throughout this section we have purposely provided a high level of detail regarding consumer response to various survey questions for a couple of very important reasons. First, the detail gives the reader the ability to draw his or her own conclusions regarding the importance or meaning of a particular finding. Second and more importantly, providing the full detail should facilitate future measurement efforts that seek to compare awareness, attitudes, and practices to the baseline information presented here.

4.1 Energy Efficiency in Tenant Units

In this first subsection we explore energy efficiency issues related to tenants' units beginning with a quantification of "who pays the bill" for various end-uses. We then explore building owners' and managers' perspectives on the importance of tenant utility bills in the rental decision-making process. We also investigate building owners' and managers' knowledge of, past efforts to improve, and interest in future improvements in energy efficiency for individual tenant units. Key findings and supporting tables are described below.

- **Owners and managers report that tenants are most likely to pay their own utility bills for lighting (80 percent), electrical appliances (76 percent), space heating (63 percent), and air conditioning (61 percent).** As illustrated in Table 3, tenants are somewhat less likely to directly pay for water heating (36 percent). Very few respondents said their tenants pay for none of their energy utility costs (nine percent) while two percent pay for all gas use and for all utilities, and one percent pays for all electric use.

Table 3
Energy Uses Most Tenants Pay Directly to the Utility (Q13) [1]
For which of the following energy uses do your tenants pay a bill directly to the utility?

	PG&E	SCE/ SCG	SDG&E	Overall
Lighting for their apartment	79%	81%	85%	80%
Plug-in electric appliances and equipment	76%	73%	81%	76%
Space heating for their apartment	67%	54%	60%	63%
Air conditioning for their apartment	60%	66%	55%	61%
Water heating for use in their apartment	40%	36%	21%	36%
None (energy utility costs included in rent)	8%	8%	13%	9%
All gas use	1%	6%	2%	2%
Everything / all utilities	3%	0%	0%	2%
All electric use	0%	5%	1%	1%
Don't know / not sure	3%	2%	1%	2%
(n)	(226)	(199)	(200)	(625)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Fewer than half of all owners and managers whose tenants pay energy utility bills say that information on estimated utility bills is "important" to prospective tenants.** As illustrated in Table 5, 42 percent of overall respondents rated information on estimated energy bills to prospective tenants as "important," an 8, 9, or 10 on a 10 point scale of importance [see "Top Box" (>7)]. The mean overall rating is 6.41.

Table 4
Importance of Estimated Utility Bills to Tenants (Q16) [1]

How important is information on estimated energy bills to prospective tenants?

		PG&E	SCE/ SCG	SDG&E	Overall
Not at all	1	10%	7%	9%	9%
	2	2%	3%	7%	3%
	3	8%	7%	8%	7%
	4	4%	4%	3%	4%
	5	20%	16%	13%	18%
	6	4%	4%	5%	5%
	7	6%	8%	7%	7%
	8	11%	17%	15%	13%
	9	3%	6%	10%	5%
Extremely	10	25%	26%	17%	24%
Don't know		7%	2%	6%	5%
"Top Box" (>7)		39%	49%	42%	42%
Mean		6.29	6.74	6.30	6.41
(n)		(209)	(186)	(179)	(574)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Approximately one in five respondents said they "always tell" prospective tenants how much the energy utility bills are likely to be**. As illustrated in Table 5, 41 percent "tell if the tenant asks," while 34 percent said they do not tell.

Table 5
Information Provided to Tenants (Q17) [1]

Do you tell prospective tenants how much the energy utility bills will probably be?

		PG&E	SCE/ SCG	SDG&E	Overall
No		37%	31%	25%	34%
Yes, if they ask		36%	45%	52%	41%
Yes, I always tell them		23%	19%	20%	21%
Utilities are included in the rent		1%	0%	0%	1%
Don't know / don't recall		3%	5%	3%	3%
	(n)	(209)	(186)	(179)	(574)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Using a 10-point scale, with 1 meaning "not at all knowledgeable" and 10 meaning "extremely knowledgeable," 44 percent of all owners and managers rate themselves as knowledgeable (8 or higher) about ways to reduce their tenants' energy bills.** As illustrated in Table 6, 11 percent rate themselves as not knowledgeable (3 or lower). The mean overall rating is 6.75.

Table 6
Knowledge of Ways to Reduce Tenants' Energy Bills (Q19b) [1]

How knowledgeable is our firm about ways to save energy in your apartment buildings to reduce your tenants' energy bills for their use in their apartment?

		PG&E	SCE/ SCG	SDG&E	Overall
Not at all	1	8%	7%	5%	7%
	2	2%	2%	2%	2%
	3	1%	4%	6%	2%
	4	4%	4%	3%	4%
	5	14%	13%	14%	14%
	6	11%	4%	8%	8%
	7	13%	13%	7%	12%
	8	20%	19%	18%	20%
	9	7%	8%	8%	7%
Extremely	10	14%	20%	21%	17%
Don't know		6%	6%	8%	7%
"Top Box" (>7)		41%	47%	47%	44%
Mean		6.65	6.87	6.90	6.75
(n)		(226)	(199)	(200)	(625)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Using another 10-point scale to rate their efforts to save energy in individual apartment units where tenants pay energy costs, less than one-half of survey respondents say they have done "a lot" (8 or higher).** Table 7 illustrates that 47 percent of respondents say they have done "a lot" while 15 percent say they have "done little" (3 or lower). The mean rating is 6.77.

Table 7
Efforts Made to Reduce Tenants' Energy Bills (Q20b) [1]

How would you rate your firm's efforts to save energy in individual apartments?

		PG&E	SCE/ SCG	SDG&E	Overall
Not done much	1	8%	11%	8%	8%
	2	4%	5%	2%	4%
	3	3%	3%	6%	3%
	4	1%	3%	2%	2%
	5	12%	13%	17%	13%
	6	9%	4%	4%	7%
	7	8%	13%	9%	9%
	8	18%	12%	16%	16%
	9	9%	9%	8%	9%
Done almost everything	10	22%	23%	22%	22%
Don't know		6%	4%	6%	7%
"Top Box" (>7)		49%	44%	46%	47%
Mean		6.88	6.54	6.75	6.77
(n)		(226)	(199)	(200)	(625)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **When specifically asked to suggest energy efficiency improvements that an owner or manager might make to lower tenants' energy bills for their individual units, the measures respondents mentioned most frequently were caulking and weather-stripping and replacing light fixtures with fluorescent lamps (24 percent each).** As illustrated in Table 8, other measures mentioned by at least 20 percent of respondents include installing high efficiency refrigerators (20 percent) and screw-in compact fluorescent lamps (20 percent).

Table 8
Energy Efficiency Improvements to Lower Tenant Energy Bills[1] (Q21b)

What are some of the energy efficiency improvements that you might make to lower tenants' energy bills for their individual units?

	PG&E	SCE/ SCG	SDG&E	Overall[2]
Caulking and weather-stripping	31%	12%	19%	24%
Replacing light fixtures with fluorescent fixtures	25%	23%	23%	24%
High efficiency refrigerators	26%	12%	28%	23%
Screw-in compact fluorescent lamps	21%	20%	20%	20%
Energy efficient windows	20%	7%	9%	15%
High efficiency water heaters	18%	11%	10%	15%
Nothing	12%	14%	20%	14%
High efficiency air conditioning units	12%	14%	14%	12%
Adding insulation	16%	7%	6%	12%
Installing programmable thermostats	12%	8%	6%	10%
Occupancy sensors on lighting	12%	3%	4%	8%
Replacing exterior doors	7%	3%	4%	5%
Don't know / not sure	17%	15%	16%	16%
(n)	(226)	(199)	(200)	(625)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.
[2] – Only energy saving options mentioned by at least five percent of respondents overall are listed.

- **Thirty-nine percent of all owners and managers are interested (8 or higher) in making energy efficiency improvements to the individual units in their apartment buildings in the next five years.** As illustrated in Table 9, 22 percent are not interested (3 or lower).

Table 9
Interest in Making Improvements to Apartment Units (Q24b)

How interested is your firm in making energy efficiency improvements to the individual tenant units in the next five years?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	15%	11%	12%	14%
	2	3%	4%	3%	3%
	3	5%	4%	6%	5%
	4	3%	4%	3%	3%
	5	18%	9%	16%	15%
	6	4%	2%	6%	4%
	7	8%	16%	7%	10%
	8	12%	12%	9%	11%
	9	2%	4%	2%	3%
Extremely	10	26%	22%	24%	25%
Don’t know		4%	12%	12%	7%
“Top Box” (>7)		40%	38%	35%	39%
Mean		6.18	6.44	6.11	6.23
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility’s percentage share of the total number of multifamily residential customers served by all four IOUs.

4.2 Energy Efficiency in Common Areas

In this subsection we explore energy efficiency issues for apartment building common areas, identifying energy uses that are present in and are billed to the owner or manager. We then describe the importance of these energy utility costs to the owner or manager, their knowledge of and past efforts to improve the energy efficiency of common areas. Finally, we explore their interest in making future capital improvements.

- **Building owners and managers are most likely to pay the utility bills for outdoor common area lighting, outdoor security lighting, parking area lighting, and indoor common area lighting**. As illustrated in Table 10, other energy uses paid for by management include common area laundry facilities, apartment water heating, laundry dryers, common area heating, common area hot water, and swimming pools (filtration system pumps). Less than one-third pays for common area air conditioning.

Table 10
Common Area Energy Uses for Which Owners / Managers Pay[1] (Q14)
What types of energy uses are typically included in the energy utility's bill that you pay for your common area meter?

	PG&E	SCE/ SCG	SDG&E	Overall[2]
Lighting for the outdoor common areas	67%	78%	87%	73%
Outdoor security lighting	66%	69%	80%	69%
Lighting for parking areas / garages	62%	73%	83%	68%
Lighting for the indoor common areas	62%	69%	74%	66%
Electricity for shared-use laundry facilities	44%	57%	70%	52%
Gas for heating water for use in all units	38%	52%	66%	46%
Gas for shared use laundry facilities (dryers)	37%	48%	59%	43%
Heating for the common areas	39%	42%	38%	39%
Gas for heating water just for use in common areas	31%	44%	50%	38%
Electricity for the swimming pool pumps	27%	42%	43%	34%
Air conditioning for the common areas	23%	36%	28%	27%
Don't know / not sure	8%	4%	4%	6%
(n)	(226)	(200)	(200)	(626)

[1] – Weighted by each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.
[2] – Energy saving options mentioned by at least five percent of respondents overall are listed.

- **Using a 10-point scale, with 1 meaning "not at all important" and 10 meaning "extremely important," 62 percent of respondents rate the energy costs they pay for common areas as important (8 or higher).** As illustrated in Table 11, nine percent rate common area energy costs as unimportant (3 or lower). The mean importance score is 8.01.

Table 11
Importance of Energy Costs for Common Areas (Q15)

How important are the energy costs your firm pays for the common areas in the buildings you own or manage in relation to the total owning and operating costs?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	5%	1%	2%	3%
	2	1%	3%	1%	2%
	3	4%	4%	4%	4%
	4	2%	4%	3%	2%
	5	5%	9%	11%	7%
	6	2%	3%	7%	3%
	7	5%	8%	10%	6%
	8	11%	11%	11%	11%
	9	4%	7%	6%	5%
Extremely	10	53%	39%	32%	46%
Don't know		8%	11%	13%	11%
"Top Box" (>7)		68%	57%	49%	62%
Mean		8.22	7.55	7.79	8.01
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Using a 10-point scale, with 1 meaning "not at all knowledgeable" and 10 meaning "extremely knowledgeable," almost half (46 percent) of all owners and managers we interviewed rate themselves as <u>knowledgeable</u> (8 or higher) about ways to save energy in common areas.** As illustrated in Table 12, only 11 percent rate themselves as <u>not</u> knowledgeable (3 or lower). The mean knowledge score is 6.89.

Table 12
Knowledge of Ways to Save Energy in Common Areas (Q19a)

How knowledgeable is your firm about ways to save energy in your apartment buildings to reduce your energy bills for common areas?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	7%	4%	3%	6%
	2	3%	2%	2%	2%
	3	3%	2%	3%	3%
	4	4%	2%	2%	3%
	5	18%	11%	13%	15%
	6	10%	5%	4%	8%
	7	15%	13%	11%	13%
	8	15%	21%	20%	17%
	9	6%	11%	10%	8%
Extremely	10	17%	25%	26%	21%
Don't know		2%	4%	6%	4%
"Top Box" (>7)		38%	57%	56%	46%
Mean		6.50	7.44	7.50	6.89
(n)		(226)	(199)	(200)	(625)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Using another 10-point scale to rate their efforts to save energy in common areas, 59 percent of all owners and managers say they have done "a lot" (8 or higher) to save energy in common areas**. As illustrated in Table 13, only eight percent say they have done "little" (3 or lower).

Table 13
Efforts to Save Energy in Common Areas (Q20a)

How would you rate your firm's efforts to save energy in the common areas?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not done much	1	4%	3%	1%	4%
	2	2%	1%	3%	2%
	3	1%	4%	2%	2%
	4	2%	2%	2%	2%
	5	10%	6%	10%	9%
	6	6%	5%	7%	6%
	7	12%	15%	11%	13%
	8	20%	19%	17%	19%
	9	9%	12%	14%	11%
Done almost everything	10	28%	30%	31%	29%
Don't know		6%	3%	2%	4%
"Top Box" (>7)		57%	61%	62%	59%
Mean		7.50	7.70	7.87	7.62
(n)		(226)	(199)	(200)	(625)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **When asked to name energy efficiency improvements that an owner or manager might make to lower common area energy bills, the most frequently mentioned actions are "replacing light fixtures with fluorescent fixtures" (31 percent) and "installing screw-in compact fluorescent lamps" (27 percent).** As illustrated in Table 14, other measures mentioned by more than ten percent of respondents include: installing high efficiency water heaters (17 percent), caulking and weather-stripping (15 percent), installing water heater controllers (13 percent), installing high efficiency gas boilers (12 percent), installing high efficiency refrigerators (11 percent), adding insulation (11 percent), installing occupancy sensors on lighting (11 percent), and installing energy efficient windows (ten percent).

Table 14
Energy Efficiency Improvements to Lower Common Area Energy Bills[1] (Q21a)

What are some of the energy efficiency improvements that you might make to lower your energy bills for the common areas?

	PG&E	SCE/ SCG	SDG&E	Overall[2]
Replacing light fixtures with fluorescent fixtures	25%	36%	43%	31%
Screw-in compact fluorescent lamps	23%	32%	34%	27%
High efficiency water heaters	16%	14%	24%	17%
Caulking and weather-stripping	17%	8%	18%	15%
Water heater controllers	12%	11%	16%	13%
High efficiency gas boilers	13%	9%	12%	12%
High efficiency refrigerators	14%	5%	13%	11%
Adding insulation	15%	6%	5%	11%
Occupancy sensors on lighting	11%	10%	12%	11%
Energy efficient windows	12%	8%	7%	10%
High efficiency air conditioning units	8%	13%	8%	9%
Installing programmable thermostats	8%	8%	9%	8%
Nothing	9%	5%	8%	8%
High efficiency, horizontal axis clothes washers	8%	3%	8%	7%
High efficiency motors on swimming pool pumps	4%	9%	10%	6%
Don't know / not sure	17%	17%	17%	17%
(n)	(226)	(199)	(200)	(625)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.
[2] – Only improvements mentioned by at least five percent of respondents overall are listed.

- **Rating their interest on a 10-point scale, where 1 means "not at all interested" and 10 means "extremely interested," 46 percent of owners and managers are <u>interested</u> (8 or higher) in making energy efficiency improvements to the common areas in their apartment buildings in the next five years.** As illustrated in Table 15, 22 percent are <u>not</u> interested (3 or lower). The mean interest rating is 6.51.

Table 15
Interest in Making Improvements to Common Areas (Q24a)

How interested is your firm in making energy efficiency improvements to the common areas of your buildings in the next five years?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	22%	8%	8%	16%
	2	3%	1%	3%	3%
	3	3%	2%	5%	3%
	4	3%	1%	2%	2%
	5	12%	9%	12%	11%
	6	3%	4%	2%	3%
	7	6%	6%	8%	6%
	8	8%	18%	13%	11%
	9	4%	7%	4%	5%
Extremely	10	27%	35%	34%	30%
Don't know		9%	9%	9%	10%
"Top Box" (>7)		39%	60%	51%	46%
Mean		5.86	7.57	7.18	6.51
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

4.3 Energy Audits

Energy audits in the multifamily sector have long been offered by many electric and gas utilities. Within this subsection, we explore the extent to which survey participants have been involved in various audit programs—both those conducted by utilities as well as others. We also explore the actions or improvements audit participants have taken over the past five years as a direct result of the audit experience. Key findings are described below.

- **One quarter of all survey participants recalled having an energy audit within the past five years (Table 16).**

Table 16
Energy Audits within the Past Five Years (Q22b and Q22d) [1]

		PG&E	SCE/ SCG	SDG&E	Overall
Have had an energy audit in the last five years		23%	25%	28%	25%
	(n)	(226)	(199)	(200)	(625)
Took action or made improvements based on the audit		84%	75%	76%	79%
	(n)	(53)	(50)	(55)	(158)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Importantly, *79 percent* of the 158 respondents who recalled having an energy audit in the past five years report taking an action or making improvements based upon the audit.**

- **The most common improvements identified by audited owners and managers who took action include**

  – Upgrading lighting (32 percent),
  – Adding weather-stripping (13 percent),
  – Adding insulation (nine percent),
  – Upgrading exterior lighting (eight percent),
  – Installing low flow showerheads or aerators (eight percent),
  – Upgrading windows (six percent),
  – Adding lighting controls (four percent), and
  – Upgrading water heaters (four percent).
  – Three percent or more respondents mentioned no other measures.

Table 17
Actions and Improvements Made Based on the Energy Audit[1] (Q22e)
What did your firm do based upon the audit?

	PG&E	SCE/ SCG	SDG&E	Overall[2]
Upgrade lighting	25%	43%	41%	32%
Add weather-stripping	16%	3%	17%	13%
Add insulation	11%	8%	0%	9%
Upgrade exterior lighting	9%	5%	10%	8%
Low flow showerheads / aerators	7%	11%	10%	8%
Upgrade windows	9%	0%	2%	6%
Add lighting controls	5%	3%	5%	4%
Upgrade water heaters	5%	0%	5%	4%
Don’t know / not sure	21%	22%	14%	20%
(n)	(44)	(37)	(42)	(123)

[1] – Weighted according to each utility’s percentage share of the total number of multifamily residential customers served by all four IOUs.
[2] – Only improvements mentioned by at least three percent of respondents overall are listed.

4.4 Market Conditions and Capital Improvement Plans

In this subsection we explore a number of issues that potentially affect apartment owners' and operators' willingness to invest in building improvements. We begin by exploring the importance of making building improvements over the next five years as well as barriers to energy-related improvements. Next, we explore the impact apartment vacancy rates have on owners' and operators' willingness to invest in their properties.

- **As discussed earlier in this report section, 46 percent of owners and managers are <u>interested</u> (8 or higher on a 10-point scale) in making energy efficiency improvements to the common areas in their apartment buildings in the next five years.** Twenty-two percent are <u>not</u> interested (3 or lower).

- **Also as discussed earlier, 39 percent of all owners and managers are <u>interested</u> (8 or higher on a 10-point scale) in making energy efficiency improvements to the individual units in their apartment buildings in the next five years.** Twenty-two percent are <u>not</u> interested (3 or lower).

- **When asked what barriers they face that keep them from doing more to improve the energy efficiency of their apartment buildings, 44 percent of survey respondents said the "cost is too high."** As illustrated in Table 18, another 25 percent could not think of any particular barrier, four percent said it takes too much time, four percent said they have already done everything possible to make their properties energy efficient, three percent said they don't know how to finance energy projects, and another three percent said they don't know what to do.

Table 18
Barriers to Doing More to Improve Energy Efficiency[1] (Q25)

What barriers do your feel keep your firm from doing more to improve the energy efficiency of the apartment buildings you own or manage?

	PG&E	SCE/ SCG	SDG&E	Overall[2]
Cost too high	50%	33%	40%	44%
No particular reason	25%	22%	27%	25%
Takes too much time	4%	2%	5%	4%
Already done everything	2%	5%	7%	4%
Don't know how to finance energy project	3%	3%	2%	3%
Don't know what to do	2%	3%	4%	3%
Tenants can save if they want to	2%	4%	1%	2%
Tenants don't want auditors or contractors in their apartments	2%	3%	2%	2%
No payback for my investment	3%	2%	2%	2%
Don't know / not sure	8%	13%	11%	10%
(n)	(226)	(200)	(200)	(626)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.
[2] – Only improvements mentioned by at least two percent of respondents overall are listed.

- **Forty-nine percent of respondents said the vacancy rate has a large influence on the importance of investing in apartment building improvements.** Twenty-four percent said it has a small influence.

Table 19
Influence of Vacancy Rates on Investing in Building Improvements (Q29)

How much influence does the apartment vacancy rate have on the importance of investing in apartment building improvements?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
None	1	18%	17%	24%	19%
	2	2%	3%	2%	2%
	3	2%	3%	4%	3%
	4	1%	4%	3%	2%
	5	9%	8%	7%	8%
	6	3%	4%	3%	3%
	7	5%	6%	8%	6%
	8	9%	10%	11%	10%
	9	5%	5%	8%	6%
A great deal	10	35%	32%	25%	33%
Don’t know		11%	8%	5%	8%
“Top Box” (>7)		49%	47%	44%	49%
Mean		6.73	6.57	6.10	6.58
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility’s percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Nearly half (48 percent) of all respondents said it is important (8 or higher on a 10-point scale) to invest in building improvements.** As illustrated in Table 20, 15 percent said it is not important (3 or lower).

Table 20
Importance of Investing in Building Improvements (Q26)

How important is it for your firm to invest in any types of building improvements in the next five years?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	13%	11%	11%	12%
	2	1%	1%	4%	2%
	3	0%	1%	3%	1%
	4	3%	1%	2%	2%
	5	16%	6%	9%	12%
	6	4%	4%	7%	5%
	7	8%	11%	11%	9%
	8	12%	19%	13%	14%
	9	4%	4%	6%	5%
Extremely	10	29%	32%	25%	29%
Don't know		10%	10%	9%	9%
"Top Box" (>7)		45%	55%	44%	48%
Mean		6.75	7.27	6.69	6.87
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Most respondents who said it are important to invest in building improvements, will "invest first" in improving outside and inside appearance.** As illustrated in Table 21, security and safety and energy efficiency were the next most frequently mentioned important building improvement areas. Hallway appearance, comfort, amenities, and convenience were the least likely to be mentioned as "first" investment areas.

Table 21
Improvements Respondents Will Invest in First[1] (Q30b)

Which of the following types of improvements will your firm invest in first?

	PG&E	SCE/ SCG	SDG&E	Overall[2]
Appearance of the outside of the building	57%	66%	66%	61%
Appearance inside the apartments	49%	51%	48%	49%
Security and safety	44%	54%	43%	47%
Energy efficiency	39%	42%	33%	39%
Appearance in the hallways	28%	33%	26%	29%
Comfort	32%	29%	18%	28%
Amenities	26%	28%	22%	26%
Convenience	24%	26%	18%	23%
Don't know / not sure	12%	8%	13%	11%
(n)	(183)	(200)	(200)	(583)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.
[2] – Only improvements mentioned by at least five percent of respondents overall are listed.

4.5 Sources of Information

In this subsection we describe the information sources that building owners and managers turn to at the time of making building improvements. We first asked about sources of information for additions, renovations, or retrofit projects and then about sources when considering an energy efficiency project. A key aspect of this issue is understanding the role that the utilities and energy-efficiency are likely to play in the decision making process. Key findings are described below.

- **Contractors are a key source of information for apartment owners and managers who are thinking about building additions, renovations, and retrofits.** As illustrated in Table 22, 29 percent of survey respondents said they would look to a contractor for information or help selecting the products and equipment to use as part of an addition, renovation, or retrofit.
- **Contractors were followed in popularity by the utility.** Sixteen percent of survey respondents said they would contact their utility when considering additions, renovations, and retrofits.
- Retailers, corporate offices and in-house departments, distributors, energy consultants, architects, specialty firms / contractors, energy services companies (ESCOs), and manufacturers were all mentioned by between nine and four percent of respondents.

Table 22
Sources of Information about Building Improvements[1] (Q31a)

For an addition, renovation, or retrofit project your firm might be considering, where would your firm get information or help selecting the products and equipment to use?

	PG&E	SCE/ SCG	SDG&E	Overall[2]
Contractor	31%	26%	24%	29%
The utility	17%	12%	17%	16%
Retailer	12%	5%	6%	9%
Corp office / mgmt company / in-house dept	6%	10%	7%	7%
Distributor	6%	5%	7%	6%
Energy consultant	3%	9%	11%	6%
Architect	4%	6%	1%	4%
Specialty firm/contractor	4%	5%	3%	4%
Energy Services Company (ESCO)	1%	8%	5%	4%
Manufacturer	3%	5%	4%	4%
Don’t know / not sure	23%	25%	27%	24%
(n)	(226)	(200)	(200)	(626)

[1] – Weighted according to each utility’s percentage share of the total number of multifamily residential customers served by all four IOUs.
[2] – Only improvements mentioned by at least three percent of respondents overall are listed.

4.6 Apartment Owners / Managers Associations and ESCOs

In this subsection we explore survey respondents' membership in apartment owners and managers associations[7] and the services they receive as a result of their membership. We also ask interviewees about their interactions with energy service companies (ESCOs). Key findings are described below.

- **Just over one-half of survey participants (52%) belong to apartment owners / managers associations.** As illustrated in Table 23, these associations provide 61 percent of respondents with information about improving energy efficiency and 63 percent of respondents with information about finding qualified contractors.

Table 23
Information and Assistance from Apartment Owners / Managers Associations (Q34, Q36c, and Q36d) [1]

	PG&E	SCE/ SCG	SDG&E	Overall
Respondents who belong to an owners or managers association	42%	63%	68%	52%
(n)	(226)	(200)	(200)	(626)
Associations provide information on improving energy efficiency	55%	66%	67%	61%
(n)	(95)	(126)	(136)	(357)
Associations provide information on finding qualified contractors	56%	69%	67%	63%
(n)	(95)	(126)	(136)	(357)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

[7] Other names for such associations include "apartment association," "rental housing association," "landlord protection network," "property owners association," "property owner's management association" and "landlord management network."

- **About one-third of the owners and managers have 'heard of' or 'worked with' (PG&E) or 'been approached by' (SCE/SCG and SDG&E) ESCOs.** As illustrated in Table 24, the responses are fairly uniform across utilities.

- **Less than one-fifth of the owners and managers have worked with ESCOs.** As illustrated in Table 24, these responses are also quite consistent across the utilities.

Table 24
Involvement with Energy Service Companies (ESCOs) [1]

	PG&E [2]	SCE/ SCG [3]	SDG&E [3]	Overall
Respondents who had 'heard of' or 'worked with' (PG&E) or 'been approached by' (SCE/SCG and SDG&E) an Energy Service Company	29%	28%	32%	30%
(n)	(226)	(200)	(200)	(626)
Respondents who 'worked with any ESCO' (PG&E) or 'accepted the ESCO's offer' (SCE/SCG and SDG&E)	18%	18%	17%	18%
(n)	(226)	(200)	(200)	(626)

[1] – Responses are unweighted, because the question wording and structure differed between the first survey of PG&E respondents (Q38 and Q39) and the later survey of SCE/SCG and SDG&E respondents (Q38a, Q38b, and Q38c).
[2] – "Heard of" and "Worked with" were asked of all PG&E respondents.
[3] – "Accepted offer" was just asked of SCE/SCG and SDG&E respondents who had "been approached by" an ESCO. For consistency, we have shown the percentage of all 200 respondents for each utility.

4.7 Reactions to Program Concepts

In this subsection we present apartment owners' and managers' opinions of a number of energy efficiency program concepts. We begin by specifically asking about the Residential Contractor Program (RCP) and other programs sponsored by their utility that assist apartment owners and managers in identifying, installing, and paying for various energy efficiency improvements. We then assess apartment owners and managers' opinions of various program concepts including incentive programs, audits, financing assistance, and guaranteed savings plans. Finally, we assess the likelihood that respondents will make energy efficiency improvements over the next 2 years either on their own or through a complete package of services offered by a participating RCP contractor. Key findings are described below.

- **Awareness of the Residential Contractor Program (RCP)[8] and "other" new programs that identify, install, or pay for energy efficiency improvements is relatively low.** As shown in Table 25, only 27 percent of all respondents have heard of their utility's Residential Contractor Program while 24 percent have heard of other new utility programs.

- **The item most often mentioned by respondents who have heard of their utility's programs is rebates (14 percent).** Other items mentioned by respondents include "nothing specific" (10 percent), replacing lamps (eight percent), weatherproofing apartments (six percent), conserving water (five percent), and energy audits (five percent). Thirty-one percent "don't know."

[8] — Whenever respondents from SDG&E were asked about the program either the full name "Residential Energy Efficiency Contractor Program" or the acronym "REECP" were used.

Table 25
Heard of RCP / REECP[9] or Other New Programs (Q40, Q41, and Q42) [1]

		PG&E	SCE/ SCG	SDG&E	Overall
Have heard of their utility's Residential Contractor Program		28%	22%	30%	27%
	(n)	(226)	(200)	(200)	(626)
Have heard of other new utility programs to identify, install, and pay for energy efficiency improvements		25%	21%	26%	24%
	(n)	(226)	(200)	(200)	(626)
What have you heard about your utility's new programs? [2]					
Rebates		18%	10%	4%	14%
Nothing specific		11%	7%	12%	10%
Lamp replacement		7%	7%	12%	8%
Weather proof apartments		9%	0%	4%	6%
Water conservation		2%	10%	12%	5%
Energy audits		5%	5%	4%	5%
Don't know / not sure		37%	17%	26%	31%
	(n)	(57)	(41)	(51)	(149)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.
[2] – Only improvements mentioned by at least four percent of respondents overall are listed.

[9] — Whenever respondents from SDG&E were asked about the program either the full name "Residential Energy Efficiency Contractor Program" or the acronym "REECP" were used.

- **Fifty-seven percent of all respondents said they are interested in incentives for energy efficiency improvements (8 or higher on a 10-point scale).** Only 10 percent of all respondents said they are not interested in incentives for energy efficiency improvements (3 or lower).

Table 26
Interest in Utility Program – Incentives for Energy Efficiency Improvements (Q43a)

How interested would your firm be in a program where your utility provides incentives for energy efficiency improvements in both common areas and dwelling units?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	9%	7%	9%	8%
	2	1%	1%	1%	1%
	3	1%	0%	1%	1%
	4	1%	2%	1%	2%
	5	11%	11%	14%	12%
	6	4%	4%	4%	4%
	7	6%	9%	6%	7%
	8	10%	16%	12%	12%
	9	2%	6%	6%	4%
Extremely	10	44%	37%	37%	41%
Don’t know		11%	7%	9%	8%
“Top Box” (>7)		56%	59%	55%	57%
Mean		7.60	7.69	7.48	7.60
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility’s percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Thirty-nine percent of all respondents said they are interested in a program where contractors facilitate the project (8 or higher on a 10-point scale).** Twenty-one percent of all respondents said they are not interested (3 or lower).

Table 27
Interest in Utility Program – Contractors Facilitate the Project (Q43b)

How interested would your firm be in a program where contractors will conduct an energy audit, determine projected savings, prepare applications, complete the work, and measure and report the savings?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	16%	9%	19%	15%
	2	4%	2%	1%	3%
	3	4%	3%	1%	3%
	4	3%	2%	3%	3%
	5	12%	11%	13%	12%
	6	5%	4%	5%	5%
	7	2%	11%	10%	5%
	8	7%	14%	8%	9%
	9	4%	4%	5%	4%
Extremely	10	29%	26%	16%	26%
Don’t know		14%	14%	19%	15%
“Top Box” (>7)		40%	44%	29%	39%
Mean		6.25	6.97	5.84	6.37
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility’s percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Twenty-eight percent of all respondents said they are interested in a program where contractors provide the financing (8 or higher on a 10-point scale).** Thirty-three percent of all respondents said they are not interested (3 or lower).

Table 28
Interest in Utility Program – Contractors Provide Financing (Q43c)

How interested would your firm be in a program where contractors will provide or arrange for financing?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	30%	26%	28%	28%
	2	5%	5%	1%	4%
	3	1%	2%	3%	1%
	4	3%	1%	3%	3%
	5	7%	10%	13%	9%
	6	4%	5%	3%	4%
	7	3%	8%	4%	4%
	8	6%	6%	7%	6%
	9	1%	3%	2%	2%
Extremely	10	24%	18%	13%	20%
Don’t know		16%	16%	23%	19%
“Top Box” (>7)		31%	27%	22%	28%
Mean		5.11	5.14	4.69	5.05
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility’s percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Forty-six percent of all respondents said they are interested in a program where contractors guarantee savings (8 or higher on a 10-point scale).** Seventeen percent of all respondents said they are not interested (3 or lower).

Table 29
Interest in Utility Program – Contractors Guarantee Savings (Q43d)

How interested would your firm be in a program where contractors will guarantee savings?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	16%	9%	17%	14%
	2	3%	1%	1%	2%
	3	1%	1%	2%	1%
	4	1%	3%	2%	2%
	5	9%	9%	11%	10%
	6	5%	1%	3%	4%
	7	4%	10%	6%	6%
	8	10%	14%	11%	11%
	9	4%	4%	6%	4%
Extremely	10	29%	37%	27%	31%
Don't know		18%	11%	14%	15%
"Top Box" (>7)		43%	55%	44%	46%
Mean		6.55	7.49	6.49	6.79
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Forty-six percent of all respondents said they are interested in a program that combines all the features listed previously in this section (8 or higher on a 10-point scale).** Fifteen percent of all respondents said they are not interested (3 or lower).

Table 30
Interest in Utility Program – All of the Above (Q43e)

How interested would your firm be in a program that offers all the features listed above?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	14%	9%	12%	12%
	2	2%	1%	1%	2%
	3	1%	1%	2%	1%
	4	3%	1%	2%	2%
	5	11%	15%	16%	13%
	6	6%	5%	5%	5%
	7	4%	9%	7%	6%
	8	10%	14%	13%	12%
	9	3%	4%	5%	4%
Extremely	10	33%	30%	24%	30%
Don’t know		13%	11%	13%	13%
“Top Box” (>7)		46%	48%	42%	46%
Mean		6.80	7.18	6.60	6.86
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility’s percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Just over one-quarter of survey respondents (29 percent) are likely to make energy efficiency improvement on their own over the next two years (8 or higher on a 10-point scale).** As illustrated in Table 31, another quarter (25 percent) is not likely to make improvements in this same time frame (3 or lower).

Table 31
Likelihood of Making Energy Efficiency Improvements on Your Own (Q44a)

How likely is your firm to make energy efficiency improvements to your apartment buildings in the next two years if you have to do it all on your own?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	18%	16%	15%	17%
	2	4%	3%	4%	3%
	3	4%	6%	6%	5%
	4	1%	6%	5%	3%
	5	15%	12%	15%	15%
	6	5%	7%	8%	6%
	7	7%	10%	7%	7%
	8	7%	11%	10%	8%
	9	3%	3%	1%	3%
Extremely	10	19%	16%	15%	18%
Don’t know		17%	10%	14%	15%
“Top Box” (>7)		29%	30%	26%	29%
Mean		5.67	5.74	5.50	5.66
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility’s percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Survey respondents are somewhat more likely to make energy efficiency improvements over the next two years if an RCP contractor offers a complete package of services.** As illustrated in Table 32, given an RCP contractor's assistance, the percentage of respondents who are likely to make an energy efficiency improvement over the next two years increases to 35 percent.

Table 32
Likelihood of Making Energy Efficiency Improvements with RCP (Q44b)

How likely is your firm to make energy efficiency improvements to your apartment buildings in the next two years if an RCP contractor offered a complete package of services to identify, plan, finance, install energy efficiency improvements, and measure actual savings?

		PG&E	SCE/ SCG	SDG&E	Overall[1]
Not at all	1	16%	11%	13%	14%
	2	3%	2%	2%	2%
	3	3%	3%	2%	3%
	4	1%	3%	3%	2%
	5	11%	11%	15%	12%
	6	3%	6%	7%	4%
	7	7%	12%	5%	8%
	8	9%	13%	13%	11%
	9	4%	8%	5%	5%
Extremely	10	20%	15%	12%	17%
Don't know		23%	16%	23%	22%
"Top Box" (>7)		33%	36%	30%	35%
Mean		6.02	6.38	5.89	6.10
(n)		(226)	(200)	(200)	(626)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

4.8 Characteristics of Respondents' Firms

In this final subsection we describe the characteristics of firms who participated in this telephone survey research effort. Information collected from interviewees includes the number of complexes and individual units managed in the State of California. Key findings are described below.

- **Respondents own or manage, on average, 51 complexes.** As illustrated in Table 33, the average number of complexes owned or managed by respondent firms in PG&E's territory is 39, the average in SCE / SCG's territory is 92, and the average in SDG&E's territory is 51. The median number of complexes owned or managed is much lower—three overall and, for each utility, one, 13, and eight respectively.

Table 33
Complexes Owned or Managed (in California) (Q45)

	PG&E	SCE/ SCG	SDG&E	Overall[1]
One or none	52%	4%	3%	37%
2 through 5	18%	25%	33%	21%
6 through 10	9%	14%	15%	11%
11 through 50	12%	41%	35%	21%
51 through 100	3%	6%	6%	4%
101 through 200	2%	5%	2%	2%
201 or more	4%	5%	6%	4%
Mean	39	92	51	51
Median	1	13	8	3
(n)	(217)	(121)	(88)	(426)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Respondents own or manage, on average, 1,068 units.** As illustrated in Table 34, the average number of units owned or managed by respondent firms in the PG&E territory is 332, the average in the SCE / SCG territory is 3,176, and the average in the SDG&E territory is 2,426. The median number of units owned or managed is much lower—72, 1,082, and 427 respectively.

Table 34
Units Owned or Managed (in California) (Q47)

	PG&E	SCE/ SCG	SDG&E	Overall[1]
Up to 25	10%	14%	13%	11%
26 through 100	56%	8%	10%	43%
101 through 200	15%	8%	10%	13%
201 and up	19%	57%	51%	29%
Don't know / not sure	0%	13%	16%	4%
Mean	332	3,176	2,426	1,068
Median	72	1,082	427	95
(n)	(184)	(93)	(73)	(350)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Most respondents own and manage (47 percent) or manage apartments (43 percent).** As illustrated in Table 35, most respondents in PG&E's territory (68 percent) manage apartments, most respondents in SCE / SCG's territory (61 percent) own and manage apartments, and most respondents in SDG&E's territory (56 percent) own and manage apartments.

Table 35
Respondents' Roles in Property Ownership or Management (Q3A)

	PG&E	SCE/ SCG	SDG&E	Overall[1]
Own apartments	5%	14%	11%	10%
Manage apartments	68%	25%	34%	43%
Both own and manage apartments	27%	61%	56%	47%
(n)	(226)	(198)	(200)	(624)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **Most owners and management companies (84 percent) own apartment properties for more than five years.**

Table 36
Length of Time Respondents Own Apartment Properties (Q7b)

	PG&E	SCE/ SCG	SDG&E	Overall[1]
Less than 1 year	2%	2%	2%	2%
1 to 3 years	2%	5%	3%	4%
3 to 5 years	9%	7%	4%	6%
More than 5 years	85%	80%	86%	84%
Don't know	3%	6%	5%	5%
(n)	(65)	(149)	(133)	(347)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

- **The owner or respondent (46 percent) or the management company (34 percent) make decisions regarding upgrades for major equipment (such as heating and cooling equipment).**

Table 37
Decision-Maker for Upgrading Major Equipment (Q5)

	PG&E	SCE/ SCG	SDG&E	Overall[1]
Owner or respondent	63%	38%	38%	46%
Management company	27%	38%	40%	34%
Resident manager	8%	9%	8%	8%
Non-resident manager	3%	1%	0%	2%
Don't know	2%	14%	14%	10%
(n)	(199)	(199)	(200)	(598)

[1] – Weighted according to each utility's percentage share of the total number of multifamily residential customers served by all four IOUs.

5 Summary

This section provides a summary of the key findings presented throughout this report. Because the research effort is essentially a baseline effort we do not attempt to draw conclusions or make program design related recommendations. Rather, we present the key facts and findings from the research. This approach, we hope, will make it easier for future program evaluators and program designers to quickly identify both the type and range of issues addressed in this baseline research activity. We are also hopeful that this summary, as well as the overall report, will provide information against which to compare future improvements or changes in homeowners' opinions and perceptions of various energy-related products, practices and services.

Energy Efficiency in Tenant Units

- Owners and managers report that tenants are most likely to pay their own utility bills for lighting (80 percent), electrical appliances (76 percent), space heating (63 percent), and air conditioning (61 percent).
- Only nine percent of owners and managers report that energy utility costs are included in the rent.
- Less than one-half of all owners and managers (42 percent) whose tenants pay energy utility bills say that information on estimated utility bills is "important" to prospective tenants.[10]
- Only about one in five respondents said they "always tell" prospective tenants how much energy utility bills are likely to be. Another 41 percent tell prospective tenants "if they ask."
- Forty-four percent of owners and managers rate themselves as knowledgeable (8 or higher on a 10-point scale) about ways to reduce their tenants' energy bills.
- Less than one-half of the respondents say they have done "a lot" (8 or higher on a 10-point scale) to save energy in individual apartments.
- When asked to suggest improvements that an owner or manager might make to lower tenants' energy bills, owners and managers most frequently mentioned caulking and weather-stripping (24 percent) and replacing light fixtures with fluorescent fixtures (24 percent). Sixteen percent could not name any energy efficiency improvements.

[10] — "Important" is a rating of 8, 9 or 10 on a 10-point scale of importance where 1 means "not at all important" and 10 means "extremely important."

- Thirty-nine percent of owners and managers are “interested” (8 or higher on a 10-point scale) in making energy efficiency improvements to the individual units in their buildings in the next five years.

Energy Efficiency in Common Areas

- Building owners and managers are most likely to pay energy utility bills for outdoor common area lighting, outdoor security lighting, parking area lighting, and indoor common area lighting.
- Other energy uses management pays for include common area laundry facilities, apartment water heating, laundry dryers, common area heating, common area hot water and swimming pool filtration system pumping. Less than one-third pays for common area air conditioning.
- Less than two-thirds of owners and managers (62%) rate the energy costs they pay for common areas as “important” (rating them an 8 or higher on a 10-point scale).
- Less than one-half of owners and managers (46%) rate themselves as “knowledgeable” (8 or higher) about ways to save energy in common areas.
- Fifty-nine percent of respondents rate their efforts to save energy in common areas as having done a lot (8 or higher).[11]
- Owners and managers most frequently name “replacing light fixtures with fluorescent fixtures” (31 percent) and “installing compact screw-in fluorescent lamps” (27 percent) when asked to suggest improvements that could be made to lower common area energy bills. Seventeen percent could not name any energy efficiency improvements.
- Less than one-half of owners and managers (46%) are “interested” in making energy efficiency improvements to the common areas of their apartment buildings in the next five years.

Energy Audits

- One-quarter of owners and managers recalled having an energy audit within the past five years.
- Importantly, 79 percent of the 158 respondents who recalled having an energy audit report taking an action or making improvements based upon the audit.
- The most common improvements were “upgrading lighting” (32 percent) and “adding weather-stripping” (13 percent).

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[11] — Efforts are rated on a 10-point scale where 1 means “not done much” and 10 means “done almost everything.”

Market Conditions and Capital Improvement Plans

- As discussed earlier, less than one-half of owners and managers are “interested” (8 or higher) in making energy efficiency improvements to their apartment buildings in the next five years. Specifically, 46 percent are interested in making improvements to their common areas and 39 percent are interested in making improvements to the individual tenant units.
- “Cost too high” is the main barrier that keeps owners and managers from doing more to improve the energy efficiency of their buildings. Forty-four percent of respondents give cost as a reason, 25 percent say “no particular reason,” and 10 percent “don’t know.” No other reasons are mentioned by even five percent of respondents.
- One-half of the respondents say that apartment vacancy rates have a “large influence” (8 or higher) on the importance of investing in [any] apartment building improvements.
- Currently, one-half of respondents say it is “important” (8 or higher) to invest in building improvements.
- Most of the respondents who said it is “important” to invest in improvements will “invest first” in “appearance.” The top five items listed include: the “appearance of the outside of the building” (61 percent), the “appearance inside the apartments” (49 percent), “security and safety” (47 percent), “energy efficiency” (39 percent), and “appearance in the hallways” (29 percent).

Sources of Information

- Contractors are a key source of information for apartment owners and managers who are thinking about building additions, renovations, and retrofits. Twenty-nine percent of respondents list contractors as the source of information or help selecting products or equipment to use.
- Utilities were named second most often (16percent) as sources of information or help.

Apartment Owners and Managers Associations

- One-half (between 40 percent in PG&E territory and 68 percent in SDG&E territory) of respondents belong to apartment owners and managers associations.
- Of those who belong, many report their associations provide information on improving energy efficiency (61 percent) and finding qualified contractors (63 percent).

Involvement with Energy Service Companies

- Overall, about 30 percent of respondents have heard of or been approached by ESCOs.
- And, overall, about 18 percent of all respondents have working with or accepted the ESCO's offer.

Reactions to Program Concepts

- Only 27 percent of respondents have heard of their utility's RCP / REECP.
- Only 24 percent have heard of other new utility programs to identify, install, and pay for energy efficiency improvements.
- Most who say they have heard of utility programs mention "rebates" (14 percent) or "nothing specific" (10 percent) when asked what they have heard about the programs.
- Fifty-seven percent are "interested" (8 or higher) in incentives for energy efficiency improvements.
- Thirty-nine percent are "interested" in a program where contractors will "conduct an energy audit, determine projected savings, prepare applications, complete the work, and measure and report the savings."
- Twenty-eight percent are "interested" in a program where contractors will "provide or arrange for financing."
- Forty-six percent are "interested" in a program where contractors "guarantee savings."
- Forty-six percent of all respondents are "interested' in a program that offers all the features [just] listed."
- Only 29 percent are "likely" (8 or higher on a 10-point scale) to "make energy efficiency improvements to their apartment buildings in the next two years if they have to do it themselves."
- However, 35 percent are "likely" to "make energy efficiency improvements to their apartment buildings in the next two years if an RCP contractor offered a complete package of services to identify, plan, finance, install energy efficiency improvements, and measure actual savings."

Characteristics of Respondents' Firms

- Respondents (or their firms) own or manage an average of 51 apartment complexes in California. (The median number of complexes is 3.)
- Respondents (or their firms) own or manage an average of 1,068 apartment units in California. (The median number of units is 95.)

Attachment A: Survey Codebook

California Statewide Property Owners and Managers Survey

ODCID

PHONE

ADDR

CITY

STATE

ZIP5

CNAME

CONT
contact

ONAME
owner name

UTIL
Southern California Edison and Southern California Gas....................................... 1
San Diego Gas and Electric 2

SIZE
.... 1
.... 2
.... 3
.... 4

IN

Hello, may I speak with <cont>? Hello, my name is __________.
I'm calling on behalf of <util>. This is NOT a sales call. I'd like to speak to the person who is most involved with energy related decisions at <cname>.
(CONTINUE WITH CORRECT PERSON)
<util > hired me to ask apartment owners and managers for some information to help them better understand your needs related to energy use. By knowing your needs, <util> will be able to develop better programs to help you when you want to save money
and energy in your apartment buildings.

I'd like to ask you just a few questions. This should take about 15 minutes. All your answers will be kept confidential.
@star1
COMPLEX ADDRES: <ADDR > <CITY >
see screens
continue .... 1 D

QA

First off, I have the name: <cname > listed as the name of the apartment complex at <addr > in <city >. Is that correct?
Yes .... 1 => COMPX
No.. 2
(Don't know/Not sure) 8

COMPX

(INTERVIEWER: TYPE IN THE NAME FOR THE COMPLEX HERE!) (USE EITHER <CNAME > OR WHATEVER OTHER NAME THE RESPONDENT GIVES TO YOU) (If respondent doesn't know - ask: How would you like for me to refer to this complex throughout the survey?)
(Type in complex name even if we have the correct name and add.)

Q1

(ENTER NUMBER OF UNITS, 88888=Don't know, 99999=Refused)
How many total apartment units are in the complex named <compx > ?
$E 1 32000
(Don't know) ....88888 I
(Refused) ....99999 I

UNITS

=> INT24 if Q1<=4

(INTERVIEWER - PUNCH HOW MANY UNITS ARE IN COMPLEX HERE)
5-25 1
26-100.. 2
101-250.. 3
251 or more.. 4
(Don't know/refused).. 5

Q1A

=> +1 if	NOT (Q1=#1,#2)

Are there more than 4 units in <compx >?

Yes	1	=> Q2B5
No	2	
(Don't know)	8	

=> +1 if	(Q1=#1,#2 AND Q1A=#1) OR Q1 > 4

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

(Not 5 or more units)	24	=> END

Q2B5

I have the zip code for this complex listed as <zip5 >? Is this correct?

Yes	1	=> Q2B7B
No	2	
(Don't know)	8	

Q2B6

(ENTER ZIP CODE **-** *99999=Refused, 88888=Don't know)*

What is the correct zip code for this complex?

99999

(Don't know)	88888	I
(Refused)	99999	I

Q2B7B

What is your title or position?

Resident manager	01
Site manager	02
Property manager	03
Branch manager	04
Director	05
General Manager	06
Manager	07
Owner and manager	08
Owner	09
Partner	10
President	11
Principal	12
(Other)	13
Assistant Manager	14
Administrative Assistant/Office Manager/Bookkeeper	15
Maintenance Supervisor/Manager/Director	16
Utilities/Energy Manager	17
Vice President	18
(Refused)	99

Q3A2A

Q3A. Does your firm own apartments, manage apartments or both own and manage apartments?

Own..1 => Q3A3A
Manage...2 => Q3A3A
Own and Manage...3 => Q3A3A
(Neither)..4
(Don't know)..8
(Refused)...9

Thank you very much for your time today.
(Do not own or manage)..2 => END

Q3A3A

Q3A. Does your firm own, manage, or both own and manage any other apartment complexes other than <compx >?

Own..1
Manage...2
Own and Manage...3
(Neither)..4 => Q4O
(Don't know)..8 => Q4O
(Refused)...9 => Q4O

Q45

(enter number of complexs, 9998=Don't know, 9999=Refused)

In total, how many apartment complexes does your firm <Q3A3a > in California?

$E 0 5000

(Don't know)...9998 I
(Refused)..9999 I

Q47

(enter number of units, 99998=Don't know, 99999=Refused)

Q47. In total, how many apartment units does your firm <Q3A3a > in California?

$E 0 20000

(Don't know)...99998 I
(Refused)..99999 I

Q4O

=> +1 if	NOT Q3A2A=1

Next, I'd like to know who manages your property called <compx >. Is it you - the owner, or is it a resident manager, a non- resident manager, a management company, or someone else?

Respondent 00
Owner 01
Resident Manager 02
Non-resident Manager 03
Management Company 04
(Other) .... 05 O
(Don't know) 98
(Refused) 99

Q4M

=> +1 if	NOT Q3A2A=#2

Next, I'd like to know your role managing your property called <compx >. Are you a resident manager, a non- resident manager, associated with a management company, or do you have another position?

Resident Manager 02
Non-resident Manager 03
Management Company 04
(Other) .... 05 O
(Don't know) 98
(Refused) 99

Q4OM

=> +1 if	NOT Q3A2A=#3

Next, I'd like to know who manages your property called <compx >. Is it you - the owner/manager, or is it a resident manager, a non- resident manager, a management company, or someone else?

(Respondent) 00
Owner/Manager 01
Resident Manager 02
Non-resident Manager 03
Management Company 04
(Other) .... 05 O
(Don't know) 98
(Refused) 99

Q5

(READ LIST)

Who makes decisions on upgrading major equipment, such as heating and cooling equipment? Is it ....

(Respondent)	00	
Owner	01	
Resident manager	02	
Non-resident manager	03	
Management company	04	
(Other)	05	O
(Don't know)	98	
(Refused)	99	

Q7

(ENTER DOLLAR AMOUNT-77777=No set amount, 88888=Don't know 99999=Ref)

Q7. For decisions on capital investments, what is the largest amount that can be spent without getting the owner's approval?

$E 0 50000

(No set amount)	77777	I
(Don't know)	88888	I
(Refused)	99999	I

Q7A

What are one or two examples of large projects that could be done without getting the owner's approval?

(Nothing)	00	
Unit upgrade/painting/cleaning/carpet	01	
Office supplies	02	
Repairs/maintenance/emergency	03	
Landscaping/parking lot	04	
Cleaning and maintenance supplies	05	
Replace water heater	06	
New appliances	07	
Bathroom fixtures	08	
Roofing	09	
Upgrade lighting	10	
Pool supplies/maintenance	11	
Replace AC	12	
Replace furnace/boiler/heater	13	
Everything	96	
(Other)	97	
(Don' know/Not sure)	98	X
(Refused)	99	X

Q7B

=> +1 if	Q3A2A=2

Q7b. How long does your firm typically own your apartment properties? (PROBE: Across all the properties you own.)
Less than 1 year.......... 1
1 up to 3 years.......... 2
3 up to 5 years.......... 3
More than 5 years.......... 4
(Don't know).......... 8

Q13

(READ LIST, ENTER ALL THAT APPLY)
Q13. For which of the following energy uses do your tenants pay a bill directly to the utility at <compx >?
(None, energy utility costs included in the rent).......... 00
Air conditioning for their apartment.......... 01
Lighting for their apartment.......... 02
Plug-in electric appliances and equipment.......... 03
Space heating for their apartment.......... 04
Water heating for use in their apartment.......... 05
Other.......... 06
All electric.......... 07
All gas.......... 95
Everything.......... 96
(Don't know/Not sure).......... 98

Q14

(READ LIST ENTER ALL THAT APPLY)
Q14. What types of energy uses are typically included in the energy utility's bill that you pay for your common area meter at <compx >?
None.......... 00
Air conditioning for the common areas.......... 01
Lighting for the indoor common areas.......... 02
Lighting for the outdoor common areas.......... 03
Lighting for parking areas / garages.......... 04
Outdoor security lighting.......... 05
Heating for the common areas.......... 06
Gas for heating hot water for use in all the apartments.......... 07
Gas for heating hot water just for use in common areas.......... 08
Electricity for shared-use laundry facilities.......... 09
Gas for shared use laundry facilities (dryers).......... 10
Electricity for the swimming pool pumps.......... 11
Other.......... 12
Electric hot water.......... 13
Elevators.......... 14
All electric.......... 15
All gas.......... 16
All common area utilities.......... 17
Everything / all utilities.......... 96
(Don't know/Not sure).......... 98

Q14A

How often do you see the energy utility bills for <compx >? (PROBE: Do you see them every month, sometimes, or never?)

Every month	1	
Sometimes	2	
Never	3	=> Q15
(Don't know/Not sure)	8	=> Q15

Q14B

(READ LIST ENTER ALL THAT APPLY)

For which of these uses do you feel the utility costs are most significant? (PROBE: These are the energy uses you pay the bill for.)

Elimination => 11 (NOT Q14)

(None)	00
Air conditioning for the common areas	01
Lighting for the indoor common areas	02
Lighting for the outdoor common areas	03
Lighting for parking areas / garages	04
Outdoor security lighting	05
Heating for the common areas	06
Gas for heating hot water for use in all the apartments	07
Gas for heating hot water just for use in common areas	08
Electricity for shared-use laundry facilities	09
Gas for shared use laundry facilities (dryers)	10
Electricity for the swimming pool pumps	11
Other	12
All electric	13
All gas	14
All utilities	15
All common area utilities	16
Gas for pool	17
(Don't know/Not sure)	98

Q15

Q15. Using a scale where 1 means not at all important and 10 means extremely important, please tell me, how important are the energy costs your firm pays for the common areas in the apartment buildings at <compx >, in relation to the total owning and operating costs for that property?

Not at all important	01
	02
	03
	04
	05
	06
	07
	08
	09
Extremely important	10
(Don't Know)	98
(Refused)	99

Q16

=> TXT19 if Q13=00

Q16. Now, please think about a tenant looking for an apartment at <compx > , and tell me how important you believe information on estimated energy utility bills would be to that prospective tenant. Again, using a scale where 1 means not at all important and 10 means extremely important, how important would estimates of utility bills be?

Not at all important.. 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Extremely important.. 10
(Don't Know) 98
(Refused) 99

Q17

Q17. When tenants are looking at <compx >, do you tell them how much the energy utility bills would probably be? (PROBE: Do you always tell them or only if they ask?)

(Utilities included in rent)................................... 0 => TXT19
Yes, always tell them.. 1
Yes, if they ask... 2
No... 3
(Don't know / don't recall) 8

Now, I'd like you to rate your firm's knowledge of the ways you could go about saving energy in ANY of your apartment buildings. I'm going to ask you to rate your knowledge for two situations. Please use a 10-point scale, with 1 meaning "your firm is not at all knowledgeable" and 10 meaning "your firm is extremely knowledgeable."

continue .... 1 D

Q19A

Using a 10 point scale with 1 meaning not at all knowledgeable and 10 meaning extremely knowledgeable... How knowledgeable is your firm about ways to save energy in your apartment buildings to reduce your energy bills for common areas? (PROBE: Across all the properties you own/manage.)

Not at all knowledgeable 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Extremely knowledgeable........ 10
(Don't Know) 98
(Refused) 99

Q19B

Using a 10 point scale with 1 meaning not at all knowledgeable and 10 meaning extremely knowledgeable... How knowledgeable is your firm about ways to save energy in your apartment buildings to reduce your tenants' energy bills for their use in their apartment? (PROBE: Across all the properties you own/manage.)

Not at all knowledgeable 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Extremely knowledgeable........ 10
(Don't Know) 98
(Refused) 99

Q20. Next, I'd like you to rate your firm's efforts to save energy at <compx >. Again, I'm going to ask you to rate your firm's efforts for two situations. Please use a 10-point scale with 1 meaning "your firm has not done much" and 10 meaning "your firm has done almost everything you can."

continue .... 1 D

Q20A

Using a 10 point scale with 1 meaning your firm has not done much and 10 meaning your firm has done everything you can... How would you rate your firm's efforts to save energy in the common areas of <compx >? (PROBE: Where you pay the utility bills)

Not done much.. 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Done almost everything... 10
(Don't know).. 98
(Refused) 99

Q20B

Using a 10 point scale with 1 meaning your firm has not done much and 10 meaning your firm has done everything you can... How would you rate your firm's efforts to save energy in the individual apartments of <compx >? (PROBE: where tenants pay for their energy consumption)

Not done much.. 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Done almost everything... 10
(Don't know).. 98
(Refused) 99

Q21A

(ENTER ALL THAT APPLY)

Q21A. In general, if an apartment owner or manager had high energy bills in their apartment buildings, what are some of the energy efficiency improvements that they might make to lower their energy bills for the common areas? (PROBE: Anything else?)

(Nothing) .... 00 X
(High efficiency air conditioning units) 01
(High efficiency chillers) 02
(High efficiency gas boilers) 03
(High efficiency refrigerators) 04
(Variable speed drives on HVAC fans) 05
(High efficiency water heaters) 06
(Water heater controllers) 07
(Delamping) 08
(Screw-in compact fluorescent lamps) 09
(Occupancy sensors on lighting) 10
(Replacing lighting fixtures with fluorescent fixtures) 11
(High efficiency, horizontal axis clothes washers) 12
(High efficiency motors on swimming pool pumps) 13
(Installing programmable thermostats) 14
(Energy efficient windows) 15
(Caulking and weather-stripping) 16
(Replacing exterior doors) 17
(Adding insulation) 18
(Other) 19
Clean chimney 20
Clean / maintain A/C 21
Clean / maintain heating system 22
Clean / change filters 23
Timers on lights / lighting controls 24
Turn off lights / appliances when not in use 25
Set thermostat lower 26
Wrap water heater / pipes 27
Efficient lighting 28
Automatic doors 29
Low flow showerheads/faucets 30
Low flow toilets 31
Shade trees 32
Maintain appliances 33
Energy audit 34
Maintenance 35
Security/Exterior lighting 36
Efficient appliances 37
Efficient washer / dryer 39
Other 97
(Don't know) 98

Q21B

(ENTER ALL THAT APPLY)

Q21B. In general, if an apartment owner or manager's tenants had high energy bills in their apartments, what are some of the energy efficiency improvements that the owner or manager might make to lower tenants' energy bills for their individual units? (PROBE: Anything else?)

(Nothing)	00	X
(High efficiency air conditioning units)	01	
(High efficiency refrigerators)	04	
(High efficiency water heaters)	06	
(Screw-in compact fluorescent lamps)	09	
(Occupancy sensors on lighting)	10	
(Replacing lighting fixtures with fluorescent fixtures)	11	
(Installing programmable thermostats)	14	
(Energy efficient windows)	15	
(Caulking and weather-stripping)	16	
(Replacing exterior doors)	17	
(Adding insulation)	18	
(Other)	19	
Clean / maintain A/C	21	
Clean / maintain heating system	22	
Clean / change filters	23	
Timers on lights	24	
Turn off lights / appliances when not in use	25	
Set thermostat lower	26	
Wrap water heater / pipes	27	
Efficient lighting	28	
Low flow showerhead/faucet	30	
Energy audit	31	
Window treatments / coverings	32	
Low flow toilets	36	
Efficient appliances	37	
Reduce use of heat / A/C	38	
Maintain appliances / HVAC	39	
Low wattage bulbs	40	
Inform tenants	41	
Gas stove	42	
Gas clothes dryer	43	
(Other)	97	
(Don't know)	98	X

Q22B

Q22B. Has your firm had an energy audit in the past 5 years in any of your complexes?

Yes	1	
No	2	=> Q22F
(Don't know)	8	=> Q22F

Q22C

Q22C. Who conducted the audit? Was it <util >, an Energy Service Company (also known as an "ESCO"), or someone else?

<util >	01
Energy Service Company - ESCO	02
(Other)	03
Other utility	04
In-house staff	05
HUD	06
(Don't know)	98

Q22D

Q22D. Did your firm take any actions or make any improvements based upon this audit?

Yes	1	
No	2	=> Q22F
(Don't know)	3	=> Q22F

Q22E

(RECORD VERBATIM)

Q22E. What did your firm do based upon the audit?

Nothing	00	
Upgrade lighting	01	
Upgrade exterior / security lighting	02	
Add lighting controls	03	
Low flow showerheads / aerators	04	
Upgrade windows	05	
High efficiency water heaters	06	
Maintenance / change filters	07	
Window / door insulation	08	
Weather-stripping	09	
Add insulation	10	
Replace generators	11	
Water heater wrap	12	
Pool pump	13	
New appliances	14	
High efficiency A/C units	15	
High efficiency chillers	16	
High efficiency gas boilers	17	
New doors	18	
New heat units	19	
High efficiency refrigerators	20	
Variable speed drives on HVAC fans	21	
Water heater controllers	22	
Delamping	23	
Screw-in compact fluorescent lamps	24	
Occupancy sensors on lighting	25	
Replace lighting fixtures with fluorescent fixtures	26	
High efficiency, horizontal axis clothes washers	27	
Programmable thermostats	28	
Low flow toilets	29	
Energy efficient clothes washers	30	
Shade trees	31	
Energy audit	32	
Energy efficient dishwasher	33	
Energy efficient clothes washer	34	
(Other)	97	
(Don't know)	98	X

Q22F

(READ LIST)

If your firm were adding or replacing any energy using equipment such as lighting, heating, air-conditioning, water heating, laundry, swimming pool, Kitchen or bathroom equipment or systems, how likely would your firm be to consider energy efficient products, equipment, or controls? Would you be...

Extremely unlikely	1
Somewhat unlikely	2
Neither unlikely nor likely	3
Somewhat likely	4
Extremely likely	5
(Don't know)	8

Q24A

Q24A. Using a scale where 1 means not at all interested and 10 means extremely interested, please tell me, how interested is your firm in making energy efficiency improvements to the common areas of ANY of your apartment buildings in the next 5 years?

Not at all interested	01	=> Q24B
	02	=> Q24B
	03	=> Q24B
	04	
	05	
	06	
	07	
	08	
	09	
Extremely interested	10	
(Don't know)	98	
(Refused)	99	

Q24A2

What types of energy efficiency improvements is your firm considering for the common areas? (PROBE: Any others?)

Nothing	00	
High efficiency air conditioning units	01	
High efficiency chillers	02	
High efficiency gas boilers	03	
High efficiency refrigerators	04	
Variable speed drives on HVAC fans	05	
High efficiency water heaters	06	
Water heater controllers	07	
Delamping	08	
Screw-in compact fluorescent fixtures	09	
Occupancy sensors on lighting	10	
Replacing lighting fixtures with fluorescent fixtures	11	
High efficiency, horizontal axis clothes washers	12	
High efficiency motors on swimming pool pumps	13	
Installing programmable thermostats	14	
Energy efficient windows	15	
Caulking and weather-stripping	16	
Replacing exterior doors	17	
Adding insulation	18	
Other	19	
Lighting controls / timers	20	
Low flow toilets	21	
Low flow showerheads / faucets	22	
Efficient clothes dryer	23	
Shade trees	24	
Maintain appliances / HVAC / Heating	25	
Energy audit	26	
Energy efficient dishwasher	27	
Gas clothes dryer	28	
Security / exterior lighting	29	
Efficient clothes washer	30	
Solar heating	31	
Gas heating	32	
High efficiency furnaces	33	
New appliances – general	34	
Open to suggestions	95	
Already done a lot / already EE	96	
Other	97	
(Don't know)	98	X
(refused)	99	X

Q24B

Q24B. Using a scale where 1 means not at all interested and 10 means extremely interested, please tell me, how interested is your firm in making energy efficiency improvements to the individual tenant units in any of your apartment buildings in the next 5 years?

Not at all interested	01	=> Q25
	02	=> Q25
	03	=> Q25
	04	
	05	
	06	
	07	
	08	
	09	
Extremely interested	10	
(Don't know)	98	
(Refused)	99	

Q24B2

What types of energy efficiency improvements is your firm considering for individual units? (PROBE: Any others?)

Nothing	00	
High efficiency air conditioning	01	
High efficiency refrigerators	04	
High efficiency water heaters	06	
Screw-in compact fluorescent lamps	09	
Occupancy sensors on lighting	10	
Installing programmable thermostats	14	
Energy efficient windows	15	
Caulking and weather-stripping	16	
Replacing exterior doors	17	
Adding insulation	18	
Other	19	
Reduce use of heat / A/C	20	
Maintain appliances / HVAC	21	
Low flow toilets	22	
Low flow showerhead / faucet	23	
Low wattage bulbs	24	
Efficient dishwashers	25	
Inform tenants	26	
Turn off when not in use	27	
Gas stove	28	
Gas clothes dryer	29	
Tenants’ requests / suggestions	30	
Appliance replacement – general	31	
Gas furnace / heater	32	
Gas appliances – general	33	
Sewer	34	
Currently making improvements / already done	35	
Clothes washers	36	
Window treatments / coverings	37	
Roof improvements	38	
Solar	39	
Ceiling fans	40	
Range hoods	41	
New microwaves	42	
Heating blankets	43	
New carpet	44	
Nothing	96	
(Don't know)	98	X
(refused)	99	X

Q25

(Record first mentioned first then others. PROBE: any others?)

Q25. What barriers do you feel keep your firm from doing more to improve the energy efficiency of the apartment buildings you <Q3A2a >?

(No particular reason)	00	X
(Building not up to code, worry inspector would find problems if we renovate)	01	
(Can't find good contractors)	02	
(Conflicting information / recommendations)	03	
(Contractors don't know apartment buildings)	04	
(Cost too high)	05	
(Don't know how to finance energy projects)	06	
(Don't know what to do)	07	
(Hassles too great)	08	
(HUD requirements too complicated)	09	
(Inexperienced contractors)	10	
(Inexperienced maintenance staff)	11	
(Managers skeptical of savings)	12	
(No incentive from owner to improve building)	13	
(No payback for my investment)	14	
(Owners skeptical of savings)	15	
(Takes too much time)	16	
(Tax deductions for energy expenses decrease if we improve efficiency)	17	
(Tenants break anything nice we install)	18	
(Tenants can save if they want to)	19	
(Tenants don't want auditors or contractors in their apartments)	20	
(Tenants pay for energy, we have to pay for efficient equipment. We see no payback.)	21	
(Tenants won't learn to use programmable thermostats)	22	
(Unknowns complicate planning)	23	
(Other)	24	
Owners decision	25	
Tenants steal new light bulbs	26	
Too many other repairs needed	27	
Lack of knowledge	28	
Impact on income	29	
Can’t find good products, technology	30	
Climate does not require it	31	
Lack of information	32	
No energy savings / bills already low	33	
Customer satisfaction	34	
Local government / municipality	35	
Tightening up units causes other problems	36	
Laws	37	
Lack of staff	38	
Inconvenience	39	
Not my responsibility	40	
Current profitability levels of business	41	
Age of facilities	42	
Master metering	43	
No barriers	94	
Bad timing for the company	95	
Already done everything / in process	96	
Other	97	
(Don't Know)	98	X

Q26

Q26. Using a scale where 1 means 'not at all important' and 10 means 'extremely important', please tell me, given current market conditions in the areas near <compx >, how important is it for your firm to invest in any types of building improvements in the next 5 years? (PROBE: by market conditions, I mean the current vacancy rates)

Not at all important.......... 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Extremely important.......... 10
(Don't know).......... 98
(refused).......... 99

Q29

Q29. Using a scale where 1 means No influence and 10 means a great deal of influence, how much influence does the apartment vacancy rate have on the importance of investing in apartment building improvements? (PROBE: across most of the properties your firm owns/manages)

No influence.......... 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
A great deal of influence.......... 10
(Don't know).......... 98
(refused).......... 99

Q30B

(READ LIST, ENTER ALL THAT APPLY)

Which of the following types of improvements will your firm invest in first, for any of your apartment buildings?

(ENTER ALL THAT APPLY)

Rotation => 8

Appearance of the outside of the building	01	
Appearance in the hallways	02	
Appearance inside the apartments	03	
Security and safety	04	
Energy efficiency	05	
Convenience	06	
Comfort	07	
Amenities	08	
Other	09	
Painting	10	
Building by building basis	11	
Playground	12	
Utilities	13	
New roofs	14	
Everything / all are important	15	
As needed basis	16	
Preventative maintenance	17	
Appearance of outside areas / landscaping	18	
Parking lots	19	
Lighting	20	
Nothing	96	
Already done everything	97	
(Don't know)	98	X

Q31A

(Record FIRST RESPONSE, and then all other responses. PROBE:any other)

Q31A. For an addition, renovation, or retrofit project your firm might be considering, where would your firm get information or help selecting the products and equipment to use?

No one	00	
(Architect)	01	
(Contractor)	02	
(Designer)	03	
(Distributor)	04	
(Energy consultant)	05	
(Energy Services Company, or ESCO)	06	
(Engineer)	07	
(Manufacturer)	08	
PG&E Smarter Energy Line	09	
(Utility)	10	
(Retailer)	11	
(Specialty firm / contractor)	12	
(Other)	13	
Magazine / catalog / journal	14	
Internet	15	
City government	16	
Phone book	17	
Corp office / mgmt co / in-house	18	
Association	19	
Owner	20	
Trade / home show	21	
Developer	22	
Word-of-mouth	23	
Yellow pages	24	
Vendors	25	
Trade organizations	26	
Security	27	
Seminars	28	
Electrician	29	
Interior decorator	30	
Market study	31	
Bids	32	
(Don't know)	98	X

Q34

Q34. Does your firm belong to an apartment owners' and managers' association?

Yes	1	
No	2	=> Q38A
(Don't know)	8	=> Q38A

Q36C

Q36. Does this group provide any information or assistance related to... Improving the energy efficiency of your buildings?

Yes	1
No	2
(Don't know)	8

Q36D

Q36. Does this group provide any information or assistance related to... Finding qualified contractors?

Yes	1
No	2
(Don't know)	8

Q37

Q37. Using a 10 point scale, where 1 means "Not at all interested" and 10 means "Extremely interested," how interested would you be in having <util > work through local apartment owners' and managers' associations to provide information on energy efficiency improvements for apartment buildings?

Not at all interested	01
	02
	03
	04
	05
	06
	07
	08
	09
Extremely interested	10
(Don't know)	98
(refused)	99

Q38A

Has your firm been approached by any Energy Service Companies, or ESCOs to make energy efficiency improvements? (PROBE: an ESCO may offer to identify energy saving opportunities, to provide financing, to guarantee savings, or to provide other services.)

Yes	1	
No	2	=> Q40
(Don't know)	8	=> Q40

Q38B

Did you accept the ESCO's offer to make energy efficiency improvements?

Yes	1	
No	2	=> Q40
(Don't know)	8	=> Q40

Q38C

(ENTER VERBATIM)

What type of energy efficiency improvements did your firm contract with the ESCO to make? (PROBE:Anything else?)

Nothing	00	
High efficiency air conditioning units	01	
High efficiency chillers	02	
High efficiency gas boilers	03	
High efficiency refrigerators	04	
Variable speed drives on HVAC fans	05	
High efficiency water heaters	06	
Water heater controllers	07	
Delamping	08	
Screw-in compact fluorescent lamps	09	
Occupancy sensors on lighting	10	
Replacing lighting fixtures with fluorescent fixtures	11	
High efficiency, horizontal axis clothes washers	12	
High efficiency motors on swimming pool pumps	13	
Installing programmable thermostats	14	
Energy efficient windows	15	
Caulking and weather-stripping	16	
Replacing exterior doors	17	
Adding insulation	18	
Other	19	
Lighting controls / timers	20	
Low flow toilets	21	
Low flow showerheads / faucets	22	
Efficient clothes dryer	23	
Shade trees	24	
Maintain appliances / HVAC	25	
Energy audit	26	
Energy efficient dishwasher	27	
Gas clothes dryer	28	
Security / exterior lighting	29	
Efficient clothes washer	30	
Weatherizing	31	
The study and all the work	32	
Energy efficient exit signs	33	
Not accepted for the program	34	
Water heater wrap	35	
(Don't know)	98	X

Q40

Q40. Have you heard of <util >'s Residential Energy Efficiency Contractor Program (REECP)?

Yes	1
No	2
(Don't know)	8

Q41

Q41. Have you heard of any new programs sponsored by <util > to help apartment owners and managers identify, install, and pay for energy efficiency improvements?

Yes	1	
No	2	=> Q43A
(Don't know)	8	=> Q43A

Q42

Q42. What have you heard about any new <util > programs to help apartment owners and managers? (Enter verbatim) (PROBE: Anything else?)

Rebates	01	
Energy audits	02	
Mail survey	03	
Weatherproof apartments	04	
Insulate windows	05	
Refrigerators	06	
Lamp replacement	07	
Low income program	08	
Free safety checks	09	
Install heat system	10	
Fluorescent light fixtures	11	
Energy saving equipment	12	
Advertisements	13	
Water conservation – showerheads / toilets	14	
Seniors / elderly	15	
Energy partners	16	
Weather-stripping	17	
Outside / security lighting	18	
Energy efficiency	19	
Bills / cut costs	20	
Clean appliances	21	
Performance contracts	22	
Air conditioning	23	
Energy savings	24	
Refrigerator and range recycling	25	
Voucher programs	26	
Self-help program	27	
New doors and windows	28	
Washers and dryers	29	
Low energy use exit lighting	30	
Nothing specific	96	
All kinds of things	97	
(Don't know)	98	X

Q43A

Rotation => Q43D

Q43. Using a scale of 1 to 10, where 1 means No Interest and 10 means Extremely Interested, how interested would your firm be in a program where... <util > provides incentives for energy efficiency improvements in both common areas and dwelling units?

No interest... 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Extremely interested.. 10
(Don't know)... 98

Q43B

Q43. Using a scale of 1 to 10, where 1 means No Interest and 10 means Extremely Interested, how interested would your firm be in a program where... Contractors will conduct an energy audit, determine projected savings for certain equipment replacement or retrofit projects, prepare applications, complete the replacement or retrofit, and measure and report the savings?

No interest... 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Extremely interested.. 10
(Don't know)... 98

Q43C

Q43. Using a scale of 1 to 10, where 1 means No Interest and 10 means Extremely Interested, how interested would your firm be in a program where... Contractors will provide or arrange for financing?

No interest... 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Extremely interested.. 10
(Don't know)... 98

Q43D

Q43. Using a scale of 1 to 10, where 1 means No Interest and 10 means Extremely Interested, how interested would your firm be in a program where... Contractors will guarantee savings?

No interest.. 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Extremely interested.. 10
(Don't know).. 98

Q43E

Q43. Using a scale of 1 to 10, where 1 means No Interest and 10 means Extremely Interested, how interested would your firm be in a program that... offers all the features listed above?

No interest.. 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Extremely interested.. 10
(Don't know).. 98

Q44A

Q44. Using a 10-point scale, where 1 means "definitely will not" and 10 means "definitely will," how likely is your firm to make energy efficiency improvements to your apartment buildings in the next two years, if you have to do it all on your own?

Definitely not... 01
.... 02
.... 03
.... 04
.... 05
.... 06
.... 07
.... 08
.... 09
Definitely will.. 10
(Don't know).. 98

Q44B

(PROBE: REECP=Residential ENERGY EFFICIENCY Contractor Program)

Q44. Using a 10-point scale, where 1 means "definitely will not" and 10 means "definitely will," how likely is your firm to make energy efficiency improvements to your apartment buildings in the next two years, if an REECP contractor offered a complete package of services to identify, plan, finance, install energy efficiency improvements and measure actual savings?

Definitely not	01
	02
	03
	04
	05
	06
	07
	08
	09
Definitely will	10
(Don't know)	98

Thank you very much for your time.

continue	1	D

RESULT

Enter the appropriate disposition code.

No answer	01		=> END
Answering machine	02		=> END
Busy	03		=> END
Disconnected phone	04		=> END
Residential Phone	05		=> END
Initial refusal	06		=> END
Computer tone	07		=> END
Language problems	08		=> END
Schedule a callback	09		=> CB
Completed interview	10	C	=> END
Mid-interview terminate	11		=> END
Enter a substitute phone number	12		=> TEL02
Duplicate phone number	13		=> END
Not apartment manager or owner	24	I	=> END
NOT DECISION MAKER	26	I	=> END
Not decision maker	30	I	=> END
OVER QUOTA	17		=> END

Attachment B: Codes for Open-ended Qs

Q13:

00 “None, energy utility costs included in the rent”
01 “Air conditioning for their apartment”
02 “Lighting for their apartment”
03 “Plug-in electric appliances and equipment”
04 “Space heating for their apartment”
05 “Water heating for use in their apartment”
06 “Other”
07 “All electric”
95 “All gas”
96 “Everything”
98 “Don’t know / not sure”

Q14:

00 “None”
01 “Air conditioning for the common areas”
02 “Lighting for the indoor common areas”
03 “Lighting for the outdoor common areas”
04 “Lighting for parking areas / garages”
05 “Outdoor security lighting”
06 “Heating for the common areas”
07 “Gas for heating hot water for use in all apartments”
08 “Gas for heating hot water just for use in common areas”
09 “Electricity for shared-use laundry facilities”
10 “Gas for shared use laundry facilities (dryer)”
11 “Electricity for the swimming pool pumps”
12 “Other”
13 “Electric hot water”
14 “Elevators”
15 “All electric”
16 “All gas”
17 “All common area utilities”
96 “Everything / all utilities”
98 “(Don’t know / not sure)”

Q21A:

00 “Nothing”
01 “High efficiency air conditioning units”
02 “High efficiency chillers”
03 “High efficiency gas boilers”
04 “High efficiency refrigerators”
05 “Variable speed drives on HVAC fans”
06 “High efficiency water heaters”
07 “Water heater controllers”
08 “Delamping”
09 “Screw-in compact fluorescent lamps”
10 “Occupancy sensors on lighting”
11 “Replacing lighting fixtures with fluorescent fixtures”
12 “High efficiency, horizontal axis clothes washers”
13 “High efficiency motors on swimming pool pumps”
14 “Installing programmable thermostats”
15 “Energy efficient windows”
16 “Caulking an weather-stripping”
17 “Replacing exterior doors”
18 “Adding insulation”
19 “Other”
20 “Clean chimney”
21 “Clean / maintain A/C”
22 “Clean / maintain heating system”
23 “Clean / change filters”
24 “Timers on lights / lighting controls”
25 “Turn off lights / appliances when not in use”
26 “Set thermostat lower”
27 “Wrap water heater / pipes”
28 “Efficient lighting”
29 “Automatic doors”
30 “Low flow showerheads”
31 “Low flow toilets”
32 “Shade trees”
33 “Maintain appliances”
34 “Energy audit”
35 “Maintenance”
36 “Security / exterior lighting”
37 “Efficient appliances”
39 “Efficient washer / dryer”
97 “Other”
98 “Don’t know”

Q21B.

00 “Nothing”
01 “High efficiency air conditioning units”
04 “High efficiency refrigerators”
06 “High efficiency water heaters”
09 “Screw-in compact fluorescent lamps”
10 “Occupancy sensors on lighting”
11 “Replacing lighting fixtures with fluorescent fixtures”
14 “Installing programmable thermostats”
15 “Energy efficient windows”
16 “Caulking and weather-stripping”
17 “Replacing exterior doors”
18 “Adding insulation”
19 “Other”
21 “Clean / maintain A/C”
22 “Clean / maintain heating system”
23 “Clean / change filters”
24 “Timers on lights”
25 “Turn off lights / appliances when not in use”
26 “Set thermostat lower”
27 “Wrap water heater / pipes”
28 “Efficient lighting”
30 “Low flow showerheads”
31 “Energy audit”
32 “Window treatments / coverings”
36 “Low flow toilets”
37 “Efficient appliances”
38 “Reduce use of heat / A/C”
39 “Maintain appliances”
40 “Low wattage bulbs”
41 “Inform tenants”
42 “Gas stove”
43 “Gas clothes dryer”
97 “Other”
98 “Don’t know”

Q22E:

00 “Nothing”
01 “Upgrade lighting”
02 “Upgrade exterior / security lighting”
03 “Add lighting controls”
04 “Low flow showerheads / aerators”
05 “Upgrade windows”
06 “High efficiency water heaters”
07 “Maintenance / change filters”
08 “Window / door insulation”
09 “Weather-stripping”
10 “Add insulation”
11 “Replace generators”
12 “Water heater wrap”
13 “Pool pump”
14 “New appliances”
15 “High efficiency A/C units”
16 “High efficiency chillers”
17 “High efficiency gas boilers”
18 “New doors”
19 “New heat units”
20 “High efficiency refrigerators”
21 “Variable speed drives on HVAC fans”
22 “Water heater controllers”
23 “Delamping”
24 “Screw-in compact fluorescent lamps”
25 “Occupancy sensors on lighting”
26 “Replace lighting fixtures with fluorescent fixtures”
27 “High efficiency, horizontal axis clothes washers”
28 “Programmable thermostats”
29 “Low flow toilets”
30 “Energy efficient clothes dryer”
31 “Shade trees”
32 “Energy audit”
33 “Energy efficient dishwasher”
34 “Energy efficient clothes washer”
97 “(Other)”
98 “(Don’t know)”

Q24B2.

00 “Nothing”
01 “High efficiency air conditioning”
04 “High efficiency refrigerators”
06 “High efficiency water heaters”
09 “Screw-in compact fluorescent lamps”
10 “Occupancy sensors on lighting”
14 “Installing programmable thermostats”
15 “Energy efficient windows”
16 “Caulking and weather-stripping”
17 “Replacing exterior doors”
18 “Adding insulation”
19 “Other”
20 “Reduce use of heat / AC”
21 “Maintain appliances / HVAC”
22 “Low flow toilet”
23 “Low flow showerhead / faucet”
24 “Low wattage bulbs”
25 “Efficient dish washers”
26 “Inform tenants”
27 “Turn off when not in use”
28 “Gas stove”
29 “Gas clothes dryer”
30 “Tenants’ requests / suggestions”
31 “Appliance replacement – general”
32 “Gas furnace / heater”
33 “Gas appliances – general”
34 “Sewer”
35 “Currently making improvements / already done”
36 “Clothes washers”
37 “Window treatments”
38 “Roof improvements”
39 “Solar”
40 “Ceiling fans”
41 “Range hoods”
42 “New microwaves”
43 “Heating blankets”
44 “New carpet”
96 “Nothing”
98 “Don’t know”
99 “Refused”

Q25:
No particular reason
Building not up to code, worry inspector would find problems if we renovate
Can’t find good contractors
Conflicting information / recommendations
Contractors don’t know apartment buildings
Cost too high
Don’t know how to finance energy projects
Don’t know what to do
Hassles too great
HUD requirements too complicated
Inexperienced contractors
Inexperienced maintenance staff
Managers skeptical of savings
No incentive from owner to improve building
No payback for my investment
Owners skeptical of savings
Takes too much time
Tax deductions for energy expenses decrease if we improve efficiency
Tenants break anything nice we install
Tenants can save if they want to
Tenants don’t want auditors or contractors in their apartments
Tenants pay for energy, we have to pay for efficient equipment. We see no payback.
Tenants won’t learn to use programmable thermostats
Unknowns complicate planning

(continues on next page)

Q25: (continued)

Other
25 “Owner’s decision”
26 “Tenants steal new light bulbs”
27 “Too many other repairs needed”
28 “Lack of knowledge”
29 “Impact on income”
30 “Can’t find good products, technology”
31 “Climate does not require it”
32 “Lack of information”
33 “No energy savings / bills already low”
34 “Customer satisfaction”
35 “Local government / municipality”
36 “Tightening up units causes other problems”
37 “Laws”
38 “Lack of staff”
39 “Inconvenience”
40 “Not my responsibility”
41 “Current profitability levels of business”
42 “Age of facilities”
43 “Master metering”
94 “No barriers”
95 “Bad timing for the company”
96 “Already done everything / in process”
97 “Other”
98 “Don’t know”

Q30B:

Appearance of the outside of the building
Appearance in the hallways
Appearance inside the apartments
Security and safety
Energy efficiency
Convenience
Comfort
Amenities
Other
10 “Painting”
11 “Building by building”
12 “Playground”
13 “Utilities”
14 “New roofs”
15 “Everything / all are important”
16 “As needed basis”
17 “Preventative maintenance”
18 “Appearance of outside areas / landscaping”
19 “Parking lots”
20 “Lighting”
96 “Nothing”
97 “Already done everything”
98 “Don’t know”

Q31A:

No one
Architect
Contractor
Designer
Distributor
Energy consultant
Energy services company or ESCO
Engineer
Manufacturer
PG&E Smarter Energy Line
Utility
Retailer
Specialty firm / contractor
Other
14 “Magazine / catalog / journals”
15 “Internet”
16 “City government”
17 “Phone book”
18 “Corp office / mgmt co / in-house”
19 “Association”
20 “Owner”
21 “Trade / home show”
22 “Developer”
23 “Word-of-mouth”
24 “Yellow pages”
25 “Vendors”
26 “Trade organizations”
27 “Security”
28 “Seminars”
29 “Electrician”
30 “Interior decorator”
31 “Market study”
32 “Bids”
98 “Don’t know”

Q38C:

00 “Nothing”
01 “High efficiency air conditioning units”
02 “High efficiency chillers”
03 “High efficiency gas boilers”
04 “High efficiency refrigerators”
05 “Variable speed drives on HVAC fans”
06 “High efficiency water heaters”
07 “Water heater controllers”
08 “Delamping”
09 “Screw-in compact fluorescent lamps”
10 “Occupancy sensors on lighting”
11 “Replacing lighting fixtures with fluorescent fixtures”
12 “High efficiency, horizontal axis clothes washers”
13 “High efficiency motors on swimming pool pumps”
14 “Installing programmable thermostats”
15 “Energy efficient windows”
16 “Caulking and weather-stripping”
17 “Replacing exterior doors”
18 “Adding insulation”
19 “Other”
20 “Lighting controls/timers”
21 “Low-flow toilets”
22 “Low-flow showerheads/faucets”
23 “Efficient clothes dryer”
24 “Shade trees”
25 “Maintain appliances / HVAC”
26 “Energy audit”
27 “Energy efficient dishwasher”
28 “Gas clothes dryer”
29 “Security/exterior lighting”
30 “Efficient clothes washer”
31 “Weatherizing”
32 “The study and all the work”
33 “Energy efficient exit signs”
34 “Not accepted for the program”
35 “Water heater wrap”
98 “Don’t know”

Q42:

01 “Rebates”
02 “Energy audits”
03 “Mail survey”
04 “Weather proof apartments”
05 “Insulate windows”
06 “Refrigerators”
07 “Lamp replacement”
08 “Low income program”
09 “Free safety checks”
10 “Install heat system”
11 “Fluorescent light fixtures”
12 “Energy saving equipment”
13 “Advertisements”
14 “Water conservation – showerheads, toilets”
15 “Seniors / elderly”
16 “Energy partners”
17 “Weather-stripping”
18 “Outside lighting / security lighting”
19 “Energy efficiency”
20 “Bills / cut costs”
21 “Clean appliances”
22 “Performance contracts”
23 “Air conditioning”
24 “Energy savings”
25 “Refrigerator and range recycling”
26 “Voucher programs”
27 “Self help program”
28 “New doors and windows”
29 “Washers and dryers”
30 “Low energy use exit lighting”
96 “Nothing specific”
97 “All kinds of things”
98 “Don’t know”