STATEWIDE SMALL/MEDIUM NONRESIDENTIAL CUSTOMER NEEDS AND WANTS STUDY

FINAL REPORT

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EXECUTIVE SUMMARY

Addressing customers' needs and wants has become increasingly important – and challenging – in light of the energy crisis, as energy concerns have been top of mind for California customers in 2001. One important objective of the 2001 Small/Medium Nonresidential Customer Wants and Needs Study is to conduct a wants and needs assessment on small/medium customers to identify potential program elements that could assist these customers in making decisions regarding energy efficiency and increase participation in IOU programs.

The report for the 2001 Small/Medium Nonresidential Customer Wants and Needs Study ("the study") presents the results of interviews and focus groups of customers that make up California's under 500 kW population,[1] conducted as part of this statewide study of the nonresidential sector managed by PG&E for the four California Investor Owned Utilities (IOUs) on behalf of the California Public Utilities Commission (CPUC). In addition to conducting a wants and needs study, the research conducted by Quantum Consulting and Xenergy Inc. extends a previous baseline description of small/medium customers' equipment changes, program participation and awareness to 2001.

As California undertook a massive effort to promote energy efficiency and demand response to improve electric system reliability in 2001, it became clear that the energy crisis had placed additional demands on this study. In addition to conducting a wants and needs assessment, this study assesses how the energy crisis has affected < 500 kW customers and how they are responding to the energy crisis, particularly with respect to conservation and demand response. Finally, the study provides more information about customer segments believed to be under-served (or hard-to-reach) with respect to utility sponsored energy efficiency programs – their energy efficiency practices, needs and program participation.

The study found that an overwhelming number of small/medium customers – 92% – are conserving in order to reduce their energy costs. Small/medium customers are primarily adopting no cost conservation measures such as reduced lighting levels and thermostat adjustment. These efforts are part of the larger conservation success story in California. California officials hoped to lower peak power demand by 2,300 MW when they launched an aggressive push for conservation early in the summer. By mid-August 2001, Californians had reportedly saved as much as 5,500 MW. About one-third of residential customers of the state's IOUs are getting a 20% rebate for reducing their power usage.

In addition, California is beginning to target demand response programs to the under 500 kW marketplace. Forty-one percent of the population is taking demand responsive action on alert days, suggesting an opportunity for both voluntary or incentive-based demand response programs. Furthermore, there is potential to be tapped among demand responsive customers –

[1] The small/medium nonresidential population has traditionally been defined as customers with peak demand under 500 kW.

less than 20 percent of them report turning off lights, turning off unused office equipment, adjusting thermostats and taking other measures

Small/medium customers' conservation efforts underscore the success of public information campaigns launched by the state and the IOUs. The word is out about conservation, customers are listening and they are doing something about it. Moreover, these conservation actions are proactive rather than reactive, as some hadn't even seen bigger bills when this survey was fielded in July.

Customers report that they are doing all they can to reduce usage. Only six percent indicate that they lack information about energy efficient practices, confirming that the state of California and the utilities have done a good job of educating customers about what they can do.

Despite a strong desire to reduce operating costs, customers have responded with no cost conservation practices and lighting retrofits. Unfortunately, lighting retrofit are the only significant investment-type actions customers are taking. 2001 has been a success story for lighting – both turning lights off and retrofitting them with T-8s, CFLs and controls. Forty-seven percent of the population perceived lighting to be their primary end use (or among their primary end-uses) – significantly more than cooling. Customers retrofitted their lights in record numbers because that is where they see their greatest source of bill savings. Furthermore, the California IOUs have increased incentive levels and institute vendor bonuses over the past year, both targeted at the under 500 kW population. This utility program, typically dominated by lighting applications, saw 20,000 customers participate in 2000 – an order of 4 to 5 times higher than a typical year.

However, with the exception of lighting retrofits, customers remain reluctant to make energy efficient investments, citing lack of funds. It is money that deters small/medium customers from making bigger investments. Higher electricity prices have not yet removed the first cost barrier.

With respect to program participation, it does appear that there are some customer segments that have historically been under-served. A number of opportunities were identified that can be used to increase program participation among not only the under-served segments, but all customer segments. It is clear from the survey research and focus group results that customers want more reliable sources of information, coming from a source they find credible. Customers emphasized a need for customized information – in particular, they want better information on energy savings and audits.

In general, the IOUs are implementing new strategies that will meet the informational needs of their small/medium customers. These include (1) delivering customized literature to customers through PG&E's 1-2-3 program marketing campaign provides business-specific information on no cost, low cost and investment level energy efficiency improvements, (2) using community-based organizations and trade/industry organizations – which respondents tend to view as credible and effective – to personalized information to hard to reach segments, (3) conducting energy audits, which customers expressed an interest in.

Although, it does appear that there are some customer segments that have historically been under-served with respect to utility sponsored programs, the IOUs are taking positive steps

towards increasing their program participation. This is particularly evident by the significant increases in participation in the Express Efficiency program that have occurred over the past year among the under 20 kW group of customers, which is one the largest under-served segments.

1. OVERVIEW

This is the final report for the 2001 Small/Medium Nonresidential Customer Wants and Needs Study ("the study"). This study continues another year of baseline study of small/medium customers in order to make longitudinal comparisons, but this year, the study moves beyond a baseline description to offer a broader look at customer needs and wants in light of the energy crisis.

The report presents the results of interviews and focus groups of customers that make up California's under 500 kW population,[2] conducted as part of a statewide study of the nonresidential sector managed by PG&E for the four California Investor Owned Utilities (IOUs) on behalf of the California Public Utilities Commission (CPUC). The research was conducted by Quantum Consulting and Xenergy Inc.

Addressing customers' needs and wants has become increasingly important – and challenging – in light of the energy crisis, as energy concerns have been top of mind for California customers in 2001. One important objective of this study is to conduct a wants and needs assessment of small/medium customers to identify potential program elements that could assist these customers in making decisions regarding energy efficiency and increase participation in IOU programs.

As California undertook a massive effort to promote energy efficiency and demand response to improve electric system reliability in 2001, it became clear that the energy crisis had placed additional demands on this study. How has the under 500 kW marketplace responded to the massive California effort to promote energy efficiency? This year, the study takes a broad look at customer response to the energy crisis – from no cost conservation measures to investment-grade actions.

Another cross-cutting objective of this study is improve our understanding of customer segments identified as "hard to reach" by the CPUC. Over the past year, the IOUs have been working with the California Public Utilities Commission (CPUC) to determine if there are customer segments that are under-served (or hard-to-reach) with respect to the public's good charge (PGC) funded energy efficiency programs. One goal of this study is to provide more information about these customers' energy efficiency practices, needs and program participation.

[2] The small/medium nonresidential population has traditionally been defined as customers with peak demand under 500 kW.

1.1 STUDY OBJECTIVES AND RESEARCH QUESTIONS

The overall objectives of this study are:

1. to conduct a wants and needs assessment of < 500 kW to identify program elements, and types of information and delivery mechanisms that would be most helpful in aiding energy efficiency decisions and increasing program participation among small/medium customers.

2. to assess how the energy crisis has affected < 500 kW customers and how they are responding to the energy crisis, particularly with respect to conservation and demand response.

3. to offer a baseline description of small/medium customers' equipment changes, program participation and awareness.

4. to provide more information about customer segments believed to be hard-to-reach – their energy efficiency practices, needs and program participation.

These four primary objectives lead us to a number of research questions:

- What are < 500 kW customers' barriers to adopting Energy Efficiency and what do they need and want to make energy efficient decisions?
  - What program elements, types of information and delivery mechanisms would be most helpful in aiding energy efficiency decisions and program participation?
- How has the energy crisis affected < 500 kW customers?
  - What is the level of awareness of the energy crisis among small/medium customers?
  - What is the impact of the energy crisis on businesses and the way they operate?
  - How are customers responding to the energy crisis? Are they conserving energy? Are they being demand responsive?
- What type of equipment changes have < 500 kW customers made and why?
- What are program awareness and participation levels among < 500 kW customers?

1.2 APPROACH

Two data sources – customer surveys and focus groups – were used to meet these objectives.

Customer surveys. Customer data were collected through telephone interviews conducted with in-state customers in the small/medium size category during July 2001. We used customer statistics provided by the utilities to develop the sample design. The sample was implemented to be representative of each IOU. 767 interviews were conducted with small/medium size customers. Data was weighted by GWh for the < 500 kW population to reflect the population by seven business types and eight hard to reach segments.

These results were weighted based on energy consumption. Each California customer stratum was weighted based on its total electricity consumption.

We developed an interview instrument to obtain data through telephone interviews with California customers. This instrument is presented in Appendix A. It was designed to obtain information on the following topics:

- Attitudes toward and response to energy crisis (conservation, demand response)
- Changes in lighting, HVAC and other equipment
- Reasons for installing energy-efficient equipment
- Sources of information about energy efficiency
- Energy-efficiency decision-making
- Participation in energy-efficiency programs
- Attitudes toward community-based organizations (CBOs), trade and industry organizations

Focus groups. A set of focus groups were conducted with small to mid-size non-residential customers across California from June 18-21, 2001 to obtain insights into customer awareness of and response to the energy crisis. Eight groups were conducted -- two each in Berkeley, Fresno, Orange City, and San Diego. Participants were recruited from Dun and Bradstreet (D&B) lists based on SIC codes to ensure the desired mix of business types and sizes, and a screener was administered to verify that the recruited respondent in fact played a role in decisions related to energy use and the selection of energy using equipment. Specific market segments recruited for each group are summarized in Exhibit 1-1 below.

Exhibit 1-1
Focus Group Locations and Customer Segments

Location	Customer segment
Berkeley	customers less than 10 employees; no franchises
	customers with 10-99 employees
Fresno	customers less than 10 employees; no franchises
	customers with 10-99 employees
Orange City	customers that are lease holders/renters
	customers that are owners
San Diego	restaurants, grocery stores or retail establishments with less than 24 employees
	customers with 25-99 employees

The results of these focus groups are presented in Appendix B.

We also draw some direct comparisons from the 1999 State-Level Small/Medium Nonresidential MA&E Study. Comparing current results to the 1999 study offers a longitudinal assessment of customers energy efficient practices.

1.3 REPORT OUTLINE

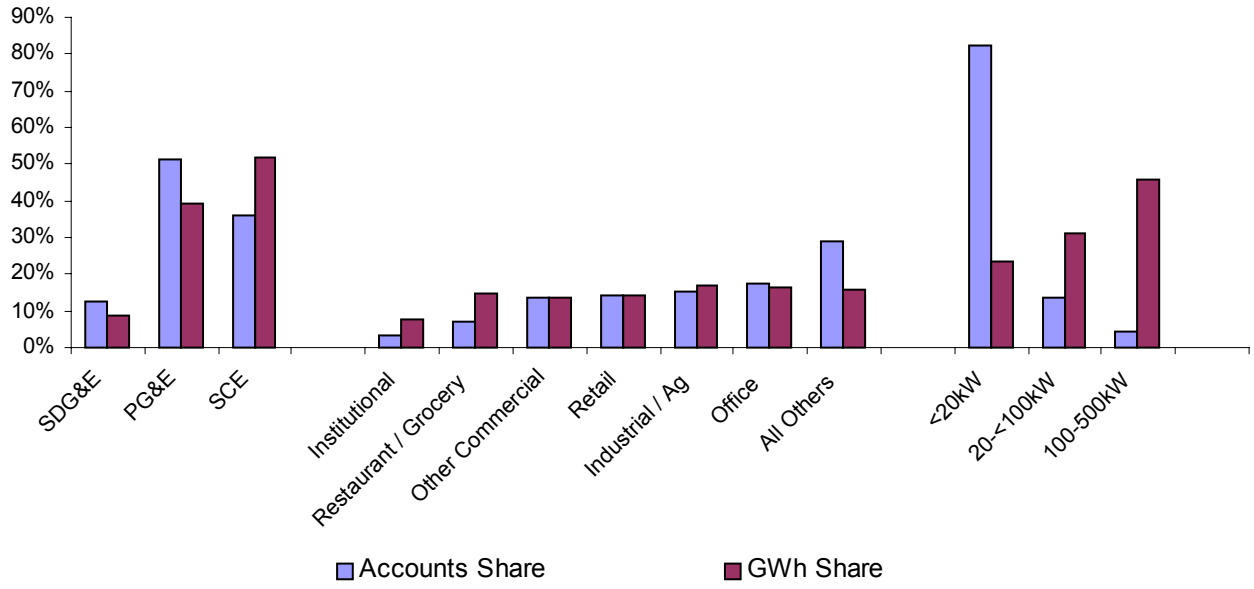
This report first outlines our data collection efforts – how customers were segmented and sampled. We then describe the types of businesses surveyed and their energy characteristics in the customer firmographics section. Next, we examine the energy crisis – its impact on small/medium customers, their conservation and demand responsive actions taken, what actions they have not taken and why. Equipment changes – primarily lighting and cooling – that customers have made is considered next. The following section addresses program participation and awareness among < 500 kW customers. Customers' needs and wants are then examined – program elements, types of information and their delivery mechanisms that would be most helpful in aiding energy efficiency decisions and increasing program participation. We then focus on the renters and small businesses – the two largest hard to reach segments – and customer perceptions of community-based and trade organizations as a program delivery vehicle. Last, we summarize major findings and offer recommendations on increasing program participation in the < 500 kW marketplace.

2. DATA COLLECTION

2.1 CUSTOMER SEGMENT STATISTICS

We segmented customers using demographic data provided by the utilities. Exhibit 2-1 shows the distribution of small/medium customers of the three electric IOUs, Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E), according to utility service territory, customer type and customer size (kW demand). The distributions are shown by the number of customers (based on accounts) and electricity consumption. As discussed below, the biggest differences occur in the distributions by size, where 82 percent of the customers fall into the smallest size category but represent only 23 percent of consumption.

Exhibit 2-1
Small/Medium Business Customer Distribution



Key data that we used to develop our sample design and customer samples were based on customer statistics provided by the utilities. Small/medium customers are distributed among the three California IOUs, as shown in Exhibit 2-2. While PG&E has the majority of accounts, SCE contributes the majority of energy consumption. PG&E claims a little over half the small/medium accounts, SCE accounts for 36 percent and 12 percent are in SDG&E's service territory.

Exhibit 2-2
Distribution of California
Small/Medium Customers by Electric IOU

Utility	Number of Accounts	Accounts Share	GWh	GWh share
SCE	340,433	36.2%	28,311	52.1%
SDG&E	115,827	12.3%	4,636	8.5%
PG&E	483,686	51.5%	21,426	39.4%

Based on prior studies, seven customer segments were defined for data collection and analysis purposes – institutional (school/health/government), office, retail, restaurant/grocery, industrial/transportation, communication and utilities (TCU), other commercial and all others. Exhibit 2-3 shows that the number of accounts is largest in the "all others" category and smallest in the institutional group. Industrial/TCU and offices are the largest energy consumers.

Exhibit 2-3
Distribution of California
Small/Medium Customers by Type

Customer Type	Number of Accounts	Accounts Share	GWh	GWh share
Institutional	61,734	3.3%	8,250	7.6%
Office	329,418	17.5%	17,835	16.4%
Retail	271,380	14.4%	15,485	14.2%
Restaurant / Grocery	133,778	7.1%	16,167	14.9%
Other Commercial	253,964	13.5%	15,097	13.9%
Industrial / TCU	282,742	15.0%	18,518	17.0%
All Others	546,876	29.1%	17,393	16.0%
Total	1,879,892	100.0%	108,746	100.0%

As shown in Table 2-4, <20 kW accounts dominate the customer population but make up less than a quarter of GWh. The largest customers (100 to 500 kW) comprise only about 4 percent of the total utility accounts, but make up nearly half of small/medium customer consumption.

Exhibit 2-4
Distribution of California
Small/Medium Customers by Size

Size	Number of Accounts	Accounts Share	GwH	GWh Share
<20kW	772,491	82.2%	12,742	23.4%
20-<100kW	126,434	13.5%	16,846	31.0%
100-500kW	41,021	4.4%	24,784	45.6%

Exhibit 2-5 shows how customers (by accounts) are distributed jointly across type and size. Institutional customers have four times as large a proportion in the largest size category. There are more midsize accounts in the restaurant/grocery segment than any other segment.

Exhibit 2-5
Distribution of California Small/Medium Customer Accounts, Type vs. Size

Customer Type	Size, Peak Demand			Grand Total
	<20 kW	20 - <100 kW	100 - <500 kW	
Institutional	18,861	6,313	5,693	30,867
Row %	61.1%	20.5%	18.4%	
Column %	2.4%	5.0%	13.9%	3.3%
Office	137,500	21,022	6,187	164,709
Row %	83.5%	12.8%	3.8%	
Column %	17.8%	16.6%	15.1%	17.5%
Retail	113,095	18,467	4,128	135,690
Row %	83.3%	13.6%	3.0%	
Column %	14.6%	14.6%	10.1%	14.4%
Restaurant / Grocery	42,476	21,246	3,167	66,889
Row %	63.5%	31.8%	4.7%	
Column %	5.5%	16.8%	7.7%	7.1%
Other Commercial	104,661	17,054	5,267	126,982
Row %	82.4%	13.4%	4.1%	
Column %	13.5%	13.5%	12.8%	13.5%
Industrial / TCU	117,566	15,900	7,905	141,371
Row %	83.2%	11.2%	5.6%	
Column %	15.2%	12.6%	19.3%	15.0%
All Others	238,332	26,432	8,674	273,438
Row %	87.2%	9.7%	3.2%	
Column %	30.9%	20.9%	21.1%	29.1%
Grand Total	772,491	126,434	41,021	939,946
	82.2%	13.5%	4.4%	100.0%

Exhibit 2-6 shows how electricity consumption is distributed across customer groups based on customer type and size categories. Institutional and industrial customers have a larger share in the largest size category than average. 43 percent of the restaurant/grocery segment are midsize customers. Retail customers tend to be smaller than other business types.

Exhibit 2-6
Distribution of California Small/Medium Customer
Electricity Consumption by GWh/yr, Type vs. Size

Customer Type	Size, Peak Demand			Grand Total
	<20 kW	20 - <100 kW	100 - <500 kW	
Institutional	365	980	2,780	4,125
Row %	8.9%	23.8%	67.4%	
Column %	2.9%	5.8%	11.2%	7.6%
Office	2,348	2,753	3,816	8,917
Row %	26.3%	30.9%	42.8%	
Column %	18.4%	16.3%	15.4%	16.4%
Retail	2,274	2,605	2,864	7,743
Row %	29.4%	33.6%	37.0%	
Column %	17.8%	15.5%	11.6%	14.2%
Restaurant / Grocery	1,810	3,448	2,826	8,084
Row %	22.4%	42.7%	35.0%	
Column %	14.2%	20.5%	11.4%	14.9%
Other Commercial	1,924	2,345	3,279	7,548
Row %	25.5%	31.1%	43.4%	
Column %	15.1%	13.9%	13.2%	13.9%
Industrial / TCU	1,569	2,265	5,426	9,259
Row %	16.9%	24.5%	58.6%	
Column %	12.3%	13.4%	21.9%	17.0%
All Others	2,452	2,451	3,794	8,696
Row %	28.2%	28.2%	43.6%	
Column %	19.2%	14.5%	15.3%	16.0%
Grand Total	12,742	16,846	24,784	54,373
	23.4%	31.0%	45.6%	100.0%

2.2 SAMPLE DESIGN AND SURVEY DISPOSITION

Throughout the report, we will present results by ten categories: seven business types, shown in Exhibit 2-3 (weighted up statewide by gigawatt hours), renters and small customers (the two biggest hard to reach segments) and the total (the entire sample). The following sections discuss sample design, survey disposition, and these HTR segments.

Sample Design

Exhibit 2-7 shows the sample design for our customer survey. We segmented by utility, business type and size. Business types were developed to be roughly proportional to the population with respect to electricity demand, with the exception of institutional customers. We gave each segment roughly an equal number of sample points and then divided them equally among the sizes (kW demand). PG&E and SCE had twice the sample of SDG&E because their customer populations are larger.

Exhibit 2-7
Sample Design

Size	Business Category	Pacific Gas & Electric	Southern California Edison	San Diego Gas & Electric	Total
Small	Schl / Coll / Hlth / Gov	13	13	7	33
	Office	14	14	7	35
	Retail	14	14	7	35
	Restaurant / Grocery	14	14	8	36
	Other Commercial	14	14	8	36
	Ind / TCU	15	16	7	38
	All Others	17	11	11	39
	TOTAL	101	96	55	252
Medium	Schl / Coll / Hlth / Gov	13	13	7	33
	Office	14	14	7	35
	Retail	14	14	7	35
	Restaurant / Grocery	14	14	8	36
	Other Commercial	14	14	8	36
	Ind / TCU	15	16	7	38
	All Others	17	11	11	39
	TOTAL	101	96	55	252
Large	Schl / Coll / Hlth / Gov	13	13	7	33
	Office	14	14	7	35
	Retail	14	14	7	35
	Restaurant / Grocery	14	14	8	36
	Other Commercial	14	14	8	36
	Ind / TCU	15	16	7	38
	All Others	17	11	11	39
	TOTAL	101	96	55	252
TOTAL	Schl / Coll / Hlth / Gov	39	39	21	99
	Office	42	42	21	105
	Retail	42	42	21	105
	Restaurant / Grocery	42	42	24	108
	Other Commercial	42	42	24	108
	Ind / TCU	45	48	21	114
	All Others	51	33	33	117
	TOTAL	303	288	165	756

Survey Disposition

The survey disposition, presented in Exhibit 2-8, closely follows the sample design.

Size	Business Category	Pacific Gas & Electric	Southern California Edison	San Diego Gas & Electric	Total
Small	Schl / Coll / Hlth / Gov	12	13	7	45
	Office	14	14	7	49
	Retail	14	14	7	49
	Restaurant / Grocery	14	15	8	51
	Other Commercial	14	14	10	52
	Ind / TCU	14	15	7	52
	All Others	17	11	12	51
	TOTAL	99	96	58	349
Medium	Schl / Coll / Hlth / Gov	13	14	7	34
	Office	14	14	7	35
	Retail	16	15	8	39
	Restaurant / Grocery	14	15	8	37
	Other Commercial	14	14	7	35
	Ind / TCU	15	16	7	38
	All Others	17	11	11	39
	TOTAL	103	99	55	257
Large	Schl / Coll / Hlth / Gov	13	12	7	32
	Office	15	14	9	38
	Retail	14	15	7	36
	Restaurant / Grocery	14	14	8	36
	Other Commercial	14	16	8	38
	Ind / TCU	15	15	7	37
	All Others	17	11	12	40
	TOTAL	102	97	58	257
TOTAL	Schl / Coll / Hlth / Gov	38	39	21	111
	Office	43	42	23	122
	Retail	44	44	22	124
	Restaurant / Grocery	42	44	24	124
	Other Commercial	42	44	25	125
	Ind / TCU	44	46	21	127
	All Others	51	33	35	130
	TOTAL	304	292	171	863

2.3 CPUC-PROPOSED HARD TO REACH CUSTOMERS

Over the past year, the IOUs have been working with the California Public Utilities Commission (CPUC) to determine if there are customer segments that are under-served (or hard-to-reach) with respect to PGC funded energy efficiency programs. In fact, the CPUC has proposed a number of customer segments believed to be hard-to-reach (HTR).

The nonresidential HTR definitions provided by the CPUC are: "For PY 2001 purposes, under-served or hard to reach customers should be defined as: 1) small customers that have less than 10 employees; 2) businesses in leased space; 3) rural customers; 4) strip malls; 5) local chain or

single-location restaurants; 6) "mom and pop" restaurants and stores; and 7) convenience stores.

Survey respondents were asked questions that allowed us to classify each respondent into one or more of the HTR segments. Survey respondents can be classified based on the CPUC's definitions as follows:

- Renters comprised 40 percent of the survey sample (weighted by GWh)
- Small businesses: 38 percent are businesses with 10 or less employees
- Single-site or local chain: 48 percent of sample
- Strip malls: 10 percent
- Convenience stores account for 1 percent of the survey sample, and are focused in the restaurant/grocery segment
- Rural customers make up 22 percent of the sample and tend to own their space (only 13 percent rent)
- "Mom and Pop" restaurant/groceries are 5 percent of the customer sample.

2.4 PRESENTATION OF DATA

We analyzed survey results by ten segments: all customers, the seven business types and two hard to reach customer segments (renters and small businesses e.g. less than 10 employees). This segmentation scheme is reported in tables, and the text discusses highlights from the tabular information.

We present the analysis by some combination of these segments – usually renters and small business – in order to identify their energy efficient practices, program participation levels, needs and wants. We focus on renters and small businesses because these are the biggest hard to reach segments. These are perhaps the two segments where the greatest emphasis should lie, as renters comprise about 40 percent of the under 500 kW population in terms of annual energy consumption, and small customers comprise 38 percent (note that 41 percent of renters are also small). Furthermore, these two segments overlap significantly with strip malls, convenience stores and local chain/single-location restaurants. Combined, renters and small customers comprise over 60 percent of the under 500 kW population, in terms of annual energy consumption.

As noted earlier, ***the results in this section have been weighted based on electric energy consumption.*** This is an effective and logical weighting strategy for reporting data potentially related to program effects that could influence electricity consumption. It may distort some firmographics data, however, which are usually reported based on numbers of customers.

3. CUSTOMER FIRMOGRAPHICS AND ENERGY CHARACTERISTICS

This section describes the types of businesses surveyed and their energy characteristics. Exhibit 3-1 shows customers' size by number of employees. Retailers tend to be small, with 56 percent employing less than 10 people. The institutional and industrial segments tend be bigger employers. Small businesses (less than 10 employees) make up a significant portion – 38 percent – of the small/medium customer sample. In general, the number of employees varies as expected with customer electricity demand. That is, electricity consumption generally increases with the number of employees.

Exhibit 3-1
Number of Employees

Number of Employees at Location	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
1 to 5	24%	36%	19%	3%	17%	21%	39%	24%	65%	28%
6 to 10	19%	20%	9%	2%	10%	20%	8%	13%	35%	13%
11 to 20	9%	10%	18%	11%	11%	17%	14%	13%	0%	15%
21 to 50	21%	17%	36%	13%	31%	28%	20%	25%	0%	25%
51 to 100	12%	9%	15%	31%	19%	7%	6%	13%	0%	12%
More than 100	12%	7%	2%	38%	10%	8%	14%	11%	0%	7%
Refused	<1%	0%	0%	2%	0%	0%	<1%	<1%	0%	<1%
Don't know	2%	0%	<1%	0%	1%	0%	0%	<1%	0%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

Exhibit 3-2 shows the distribution of customers by number of locations. Institutions tend to have more locations than any other type of business – not surprising in light of the fact that institutions also tend to employ more people. By contrast, over half of retailers (59 percent) and renters (54 percent) operate one location.

Exhibit 3-2
Number of Locations

Number of Locations	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
1	50%	59%	51%	28%	51%	47%	41%	48%	61%	54%
2 to 4	22%	17%	27%	21%	23%	22%	22%	22%	17%	20%
5 to 10	14%	4%	6%	16%	19%	9%	7%	10%	9%	8%
11 to 25	5%	3%	0%	21%	4%	11%	13%	7%	5%	2%
Over 25	9%	17%	16%	13%	2%	11%	17%	12%	8%	16%
Refused	<1%	0%	0%	<1%	1%	0%	0%	<1%	<1%	<1%
Don't know	0%	0%	0%	1%	0%	0%	0%	<1%	0%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

Exhibit 3-3 suggests that most small/medium customers tend to have only one location or are concentrated in one part of California.

Exhibit 3-3
Type of Location

Type of Location	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Only have one location	50%	59%	51%	28%	51%	47%	41%	48%	61%	54%
In one concentrated part of CA	26%	19%	27%	58%	22%	17%	39%	27%	25%	16%
In various parts of CA	8%	5%	4%	3%	5%	8%	5%	5%	5%	5%
Both within and outside CA	15%	16%	18%	10%	21%	28%	15%	18%	9%	24%
None of the above	0%	0%	<1%	0%	0%	0%	<1%	<1%	0%	<1%
Other	1%	<1%	0%	0%	<1%	0%	0%	<1%	<1%	<1%
Refused	<1%	0%	0%	<1%	1%	0%	0%	<1%	<1%	<1%
Don't know	0%	0%	0%	1%	0%	0%	0%	<1%	0%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

As is the case for employees, institutional facilities in California are typically the largest customers in terms of floor area. Retail and restaurants/groceries are the smallest business types, suggesting that retail customers have a high ratio of employees to floor area and use a relatively large amount of energy.

Exhibit 3-4
Floor Area of Facility

Floor Area of the Facility	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Less than 2,500 square ft	11%	27%	27%	3%	7%	7%	14%	14%	28%	24%
2,500 - 5,000 square ft	9%	16%	22%	4%	6%	12%	10%	12%	18%	14%
5,000 - 10,000 square ft	11%	10%	9%	10%	17%	14%	8%	12%	16%	12%
10,000 - 20,000 square ft	22%	12%	16%	14%	20%	16%	14%	17%	11%	16%
20,000 - 50,000 square ft	16%	10%	15%	25%	23%	11%	13%	16%	8%	13%
50,000 - 100,000 square ft	17%	11%	4%	38%	13%	23%	10%	15%	6%	12%
AG/ Non-Facility - Outdoors	4%	3%	0%	4%	6%	4%	28%	7%	8%	3%
Refused	0%	1%	0%	2%	0%	0%	0%	<1%	<1%	<1%
Don't know	10%	8%	5%	<1%	8%	12%	3%	7%	5%	5%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

Exhibit 3-5 shows that more businesses are urban (45 percent) than suburban (31 percent) or rural (22 percent). Miscellaneous commercial and retailers are disproportionately urban, while 48 percent of businesses that fall in "other " category report a rural location.

Exhibit 3-5
Geographic Area

Geographic Area	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Rural	10%	16%	10%	27%	27%	22%	48%	22%	25%	13%
Suburban	40%	30%	39%	35%	31%	20%	24%	31%	32%	35%
Urban	48%	51%	50%	37%	41%	55%	28%	45%	41%	49%
Don't know	2%	3%	<1%	1%	<1%	3%	0%	1%	2%	2%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

Strip malls, one of the customer segments proposed by the CPUC as hard to reach, make up 10 percent of the sample. They are overwhelmingly small businesses and tend to cluster in the restaurant/grocery and retail segments.

Exhibit 3-6
Business Is a Strip Mall

Strip Mall	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	3%	26%	32%	<1%	<1%	2%	1%	10%	11%	16%
No	97%	72%	68%	97%	100%	98%	96%	89%	87%	82%
Refused	0%	1%	0%	2%	0%	0%	0%	<1%	<1%	<1%
Don't know	<1%	<1%	0%	0%	0%	0%	2%	<1%	1%	<1%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

Only 1 percent of the sample is convenience stores, another segment proposed by the CPUC as hard to reach.

Exhibit 3-7
Business Is a Convenience Store

Convenience Store	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	0%	1%	5%	0%	0%	0%	<1%	1%	3%	1%
No	100%	99%	95%	100%	100%	100%	99%	99%	97%	99%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

Fifty-nine percent of California customers own their space, as shown in Exhibit 3-6. Institutions and offices are most likely to own their space. Only about a third of restaurants and groceries own their space. It is interesting to note that 55 percent of small businesses own – not much different from the overall sample.

Exhibit 3-8
Business Owns or Leases Space

Business Owns or Leases Space	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Own	77%	46%	34%	89%	56%	56%	66%	59%	55%	0%
Lease/Rent	22%	51%	64%	8%	44%	42%	34%	40%	44%	100%
Don't know	2%	3%	2%	4%	0%	2%	0%	1%	<1%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

Most customers, including renters, pay their entire bill, as indicated in Exhibit 3-9. This high percentage is not surprising, as the sample is drawn from the CIS and is unlikely to capture customers that do not pay their bill directly.

Exhibit 3-9
Who Pays Electricity Bill

Who Pays Electricity Bill for Rent/Lease Customers	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
We pay all of bill - None in the lease	85%	94%	95%	100%	98%	100%	92%	95%	95%	95%
We pay a portion of electric utility bill	11%	5%	1%	0%	0%	0%	8%	3%	5%	3%
We pay none of the bill - All in lease	0%	0%	0%	0%	2%	0%	0%	<1%	0%	<1%
Don't Know	4%	1%	3%	0%	0%	0%	0%	1%	<1%	1%
# Respondents	26	60	76	24	56	45	42	329	154	329

Note: data are weighted based on electricity consumption

Over 50 percent of renters (56), industrial/utility (52), restaurants/groceries and commercial businesses (53) report that energy costs are less than 10 percent of their operating cost. Thirty-seven percent of small businesses and 44 percent in the "other" category report that energy make up more than 10 percent of their operating costs. Exhibit 3-10 breaks down energy costs by business type.

Exhibit 3-10
Energy Costs as Percentage of Operating Costs by Business Type

Energy costs as a percentage of operating costs	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Less than 1 percent	8%	8%	4%	6%	10%	7%	2%	6%	5%	9%
1 but less than 2 percent	5%	8%	3%	14%	11%	15%	5%	8%	6%	7%
2 but less than 3 percent	6%	4%	7%	3%	4%	5%	4%	5%	6%	7%
3 but less than 4 percent	5%	3%	12%	10%	4%	5%	6%	6%	3%	8%
4 but less than 5 percent	9%	9%	7%	6%	10%	<1%	4%	7%	5%	10%
5 but less than 6 percent	3%	4%	4%	<1%	5%	8%	3%	4%	3%	5%
6 but less than 10 percent	10%	11%	15%	7%	12%	13%	12%	12%	12%	11%
10 to 15 percent	15%	9%	16%	3%	8%	15%	13%	12%	13%	12%
16 to 25 percent	9%	10%	6%	9%	4%	2%	16%	8%	8%	5%
26 to 50 percent	2%	5%	4%	<1%	6%	7%	8%	5%	10%	4%
Over 51 percent	4%	8%	5%	2%	<1%	5%	7%	5%	6%	5%
Refused	1%	0%	1%	0%	0%	0%	0%	<1%	<1%	0%
Don't Know	23%	22%	16%	40%	26%	19%	21%	23%	22%	18%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

Exhibit 3-11 shows self-reported average electricity bills by business type. Higher rates are probably not completely reflected in these results because the survey was fielded in July.

Exhibit 3-11
Self-Reported Average Monthly Electric Bill

Average Monthly Electric Bill	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
$1-$100	4%	7%	2%	2%	<1%	2%	7%	4%	9%	6%
$101-$250	6%	7%	2%	<1%	3%	7%	2%	4%	10%	5%
$251-$500	1%	9%	5%	<1%	8%	15%	8%	7%	14%	10%
$501-$1,000	17%	13%	17%	8%	6%	5%	7%	11%	17%	13%
$1,001-$2,500	14%	21%	22%	5%	8%	8%	11%	13%	14%	16%
$2,501-$5,000	14%	10%	15%	12%	23%	16%	15%	15%	8%	14%
$5,001-$10,000	7%	11%	17%	13%	20%	12%	10%	13%	5%	8%
Over $10,000	9%	6%	7%	11%	21%	6%	18%	11%	3%	9%
Don't Know	29%	16%	13%	48%	11%	28%	22%	22%	20%	19%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

4. ENERGY CRISIS

California's energy crisis dominated the concerns of both utilities and their customers in 2001. In this section, we examine what small business customers are doing in response to the crisis and why.

This section addresses the following questions:

1. What is the level of awareness of the energy crisis among small/medium customers?

2. What is the impact of the energy crisis on businesses and the way they operate?

3. How are customers responding to the energy crisis? Are they conserving energy? Are they being demand responsive – reducing usage on alert days when supply is tight? Are they investing in energy-saving equipment?

4.1 IMPACT OF ENERGY CRISIS

The energy crisis has been top of mind for small business customers in 2001. Customers are universally aware of the crisis – 99 percent report being aware of the crisis.

Exhibit 4-1
Awareness of Energy Crisis

Aware of Energy Crisis?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	99%	97%	99%	98%	100%	100%	98%	99%	97%	99%
No	1%	3%	1%	2%	<1%	0%	2%	1%	3%	<1%
# Respondents	108	110	110	98	111	111	119	767	324	329

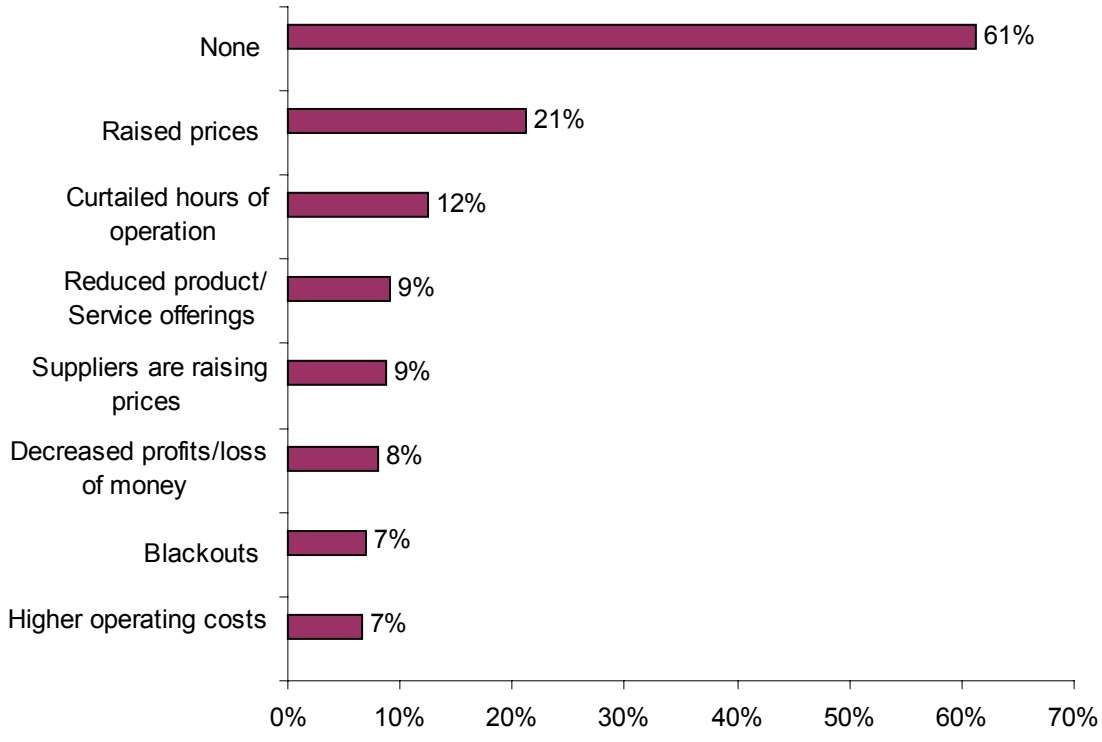
Small/medium customers report that the energy crisis has primarily affected their pocketbooks – their chief concern is higher electricity prices, not blackouts. Exhibit 4-2 shows that 57 percent of customers list higher prices versus 22 percent that mention blackouts. Institutional customers are most concerned about blackouts (45 percent), while small businesses tend to be least concerned about outages (13 percent). Likewise, focus group participants in the office segments viewed outages as little more than an inconvenience.

Exhibit 4-2
Aspect of Crisis That Has Most Affected Business

Aspect of crisis that has had most significant impact on business	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
No impacts	19%	17%	5%	6%	11%	12%	16%	13%	18%	9%
Higher gas bills	1%	3%	2%	<1%	3%	2%	<1%	2%	3%	2%
Higher electric bills	31%	27%	38%	27%	36%	34%	39%	34%	35%	35%
Blackouts/outages	25%	18%	18%	45%	18%	26%	16%	22%	13%	25%
Higher bills (non-specific)	16%	25%	25%	19%	22%	19%	23%	21%	24%	24%
Lack of business/customers aren't spend	0%	3%	3%	0%	<1%	<1%	0%	<1%	<1%	1%
Conserving more	2%	0%	2%	<1%	<1%	3%	2%	1%	2%	<1%
Other	<1%	4%	7%	1%	8%	3%	3%	4%	3%	3%
Refused	2%	0%	0%	0%	0%	0%	<1%	<1%	<1%	0%
Don't Know	3%	3%	1%	2%	0%	0%	<1%	1%	2%	<1%
# Respondents	108	110	110	98	111	111	119	767	324	329

When probed on what ways the crisis has affected their business operations, sixty-one percent of customers report they have not been affected by the energy crisis. Another 21 percent report they raised prices. Exhibit 4-3 shows the most commonly cited impacts on customers' business operations.

Exhibit 4-3
Ways Energy Crisis Has Affected Business Operations



Despite concern about higher bills, customers were likely to have not yet felt the full effects of higher prices due to the timing of this survey, which was fielded in July. This may explain why the majority of customers surveyed report that the crisis had not yet affected their businesses as of July 2001.

Exhibit 4-4 breaks out the effect on business operations by customer segment. Restaurants/groceries report bigger impacts than other segments. Twenty-nine percent of restaurants/groceries report they have raised prices and 12 percent have decreased profits. 18 percent of customers in the industrial segment report they have curtailed hours of operation.

Exhibit 4-4
Ways Energy Crisis Has Affected Business Operations
by Customer Segment

Ways energy crisis has affected business	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Laid off staff	2%	<1%	6%	<1%	7%	<1%	9%	4%	4%	6%
Curtailed hours of operation	11%	16%	9%	7%	18%	7%	16%	12%	12%	15%
Reduced product/ Service offerings	7%	13%	10%	2%	8%	15%	7%	9%	9%	12%
Raised prices	15%	18%	29%	14%	26%	21%	23%	21%	23%	26%
Moved or considering moving business	0%	0%	<1%	0%	1%	0%	2%	<1%	<1%	<1%
Going out of business	0%	0%	<1%	<1%	1%	0%	<1%	<1%	<1%	<1%
Suppliers are raising prices	4%	8%	9%	12%	6%	13%	13%	9%	9%	8%
None	73%	68%	44%	73%	61%	67%	48%	61%	66%	56%
Decreased profits/loss of money	<1%	6%	12%	8%	8%	11%	10%	8%	5%	9%
Higher operating costs	6%	2%	5%	15%	10%	8%	3%	7%	5%	6%
Increased conservation	3%	7%	3%	10%	3%	4%	6%	5%	4%	4%
Scheduling work for off peak hours	0%	0%	0%	<1%	0%	0%	4%	<1%	0%	0%
Researched emergency backup	3%	<1%	0%	<1%	<1%	4%	3%	2%	2%	2%
Blackouts	4%	4%	7%	6%	12%	5%	8%	7%	4%	8%
Can't give employees salary increases	0%	<1%	2%	<1%	0%	2%	0%	<1%	0%	<1%
Other	21%	19%	47%	26%	6%	7%	19%	20%	14%	15%
Refused	0%	<1%	0%	0%	<1%	0%	0%	<1%	<1%	<1%
Don't Know	6%	2%	3%	<1%	0%	2%	2%	3%	3%	3%
# Respondents	108	110	110	98	111	111	119	767	324	329

4.2 ENERGY CONSERVATION

Customers' primary response to the crisis has been to conserve energy. Ninety-two percent of respondents have taken energy conservation actions, suggesting that small/medium customers are very willing to undertake no cost conservation actions. As shown in Exhibit 4-5, the proportion is higher among restaurants/groceries (99 percent) and institutions (96 percent), and lower for small businesses (83 percent).

Exhibit 4-5
Businesses That Have Taken Energy Conservation Actions

Have you taken Energy Conservation Actions?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	92%	95%	99%	96%	86%	98%	80%	92%	83%	94%
No	7%	5%	<1%	4%	14%	2%	20%	8%	16%	6%
Don't Know	<1%	0%	0%	0%	0%	0%	<1%	<1%	<1%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Exhibit 4-6 shows that one-third of respondents estimate that they are conserving 0-5 percent. Another 38 percent believe they are conserving between 6 and 20 percent. Twenty percent estimate they are conserving over 20 percent.

Exhibit 4-6
Self-Reported Estimates of Energy Savings

Self-Reported Estimate of Energy Savings	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
0 to 5 percent	36%	25%	36%	31%	44%	32%	25%	33%	29%	35%
6 to 10 percent	20%	18%	21%	10%	9%	20%	26%	18%	20%	18%
11 to 15 percent	11%	17%	10%	6%	15%	7%	10%	11%	13%	9%
16 to 20 percent	10%	7%	7%	19%	4%	6%	7%	8%	9%	5%
21 to 30 percent	10%	11%	9%	4%	6%	13%	11%	9%	10%	11%
More than 30 percent	2%	8%	1%	1%	6%	8%	9%	5%	7%	7%
Don't Know	11%	13%	16%	29%	17%	15%	11%	15%	12%	16%
# Respondents	98	104	109	90	103	106	103	713	287	312

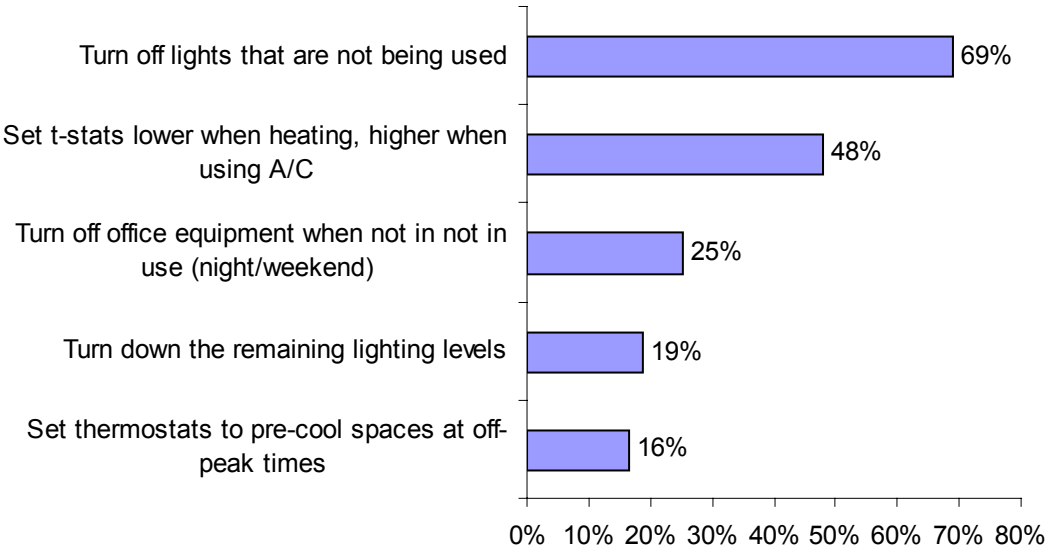
These conservation activities are clearly crisis-driven. Exhibit 4-7 suggests that 94 percent of small/medium customers report that they will conserve as long as the crisis lasts – which, to these customers, ostensibly means as long as prices are higher.

Exhibit 4-7
Expected Length of Conservation Activities

Expected Length of Energy Conservation Actions	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
A few more months	4%	3%	<1%	0%	6%	2%	<1%	2%	3%	3%
Up to a year	1%	0%	2%	1%	<1%	2%	<1%	1%	1%	2%
Up to two years	3%	2%	<1%	6%	1%	1%	2%	2%	2%	2%
As long as the crisis lasts/ or as long as necessary	90%	95%	95%	92%	93%	95%	97%	94%	94%	92%
Don't Know	1%	0%	2%	1%	0%	0%	0%	<1%	<1%	<1%
# Respondents	98	104	109	90	103	106	103	713	287	312

Customers mainly turned off lights and adjusted thermostats, as indicated in Exhibit 4-8. Nearly 70% are turning off unused lights. Almost half are adjusting thermostats. One quarter are turning off unused office equipment. Nineteen percent are turning down lighting levels.

Exhibit 4-8
Major Types of Conservation Activities Taken



The roster of energy conservation activities taken by customers is shown in Exhibit 4-9. More Restaurants/groceries turn off lights and adjust thermostats than the average. Offices and institutions tend to turn off office equipment when not in use. Small businesses are generally doing less conservation activities than other segments. Some focus group participants reported that they have trained employees to conserve and raised energy awareness among employees.

All of these activities are no-cost conservation practices that involve modifying behavior, not changing out equipment, to reduce energy usage.

Exhibit 4-9
Energy Conservation Activities

Type of conservation actions taken	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Turn off office equipment when not in not in use	39%	17%	16%	42%	28%	24%	19%	25%	22%	27%
Set thermostats lower when heating and higher when using the A/C	45%	47%	59%	60%	41%	55%	37%	48%	36%	47%
Schedule high electrical energy-use processes during off-peak periods where feasible.	1%	3%	4%	16%	3%	1%	13%	5%	3%	3%
Turn off any lights that are not being used	73%	71%	77%	65%	67%	70%	58%	69%	64%	70%
Turn down the remaining lighting levels if you can	19%	25%	22%	20%	15%	16%	15%	19%	11%	16%
(If available) Use dimmer switches to lower lights	3%	2%	2%	8%	4%	2%	3%	3%	1%	5%
Set air conditioning thermostats to pre-cool spaces at off-peak times	13%	11%	17%	20%	22%	17%	16%	16%	11%	18%
Establish a system to alert employees of expected high demand days	2%	<1%	0%	2%	<1%	2%	0%	<1%	<1%	<1%
Reprogram EMS schedule	6%	<1%	<1%	<1%	<1%	6%	3%	3%	1%	3%
Turn off your computer if you are out of the office for more than a few minutes	2%	2%	<1%	2%	<1%	2%	<1%	1%	<1%	<1%
Set computer to low power stand bye mode	0%	0%	0%	0%	<1%	0%	2%	<1%	<1%	<1%
Turn off personal appliances, such as coffee pots and radios	3%	<1%	2%	2%	1%	4%	<1%	2%	2%	2%
Run backup generator at times of peak demand	0%	0%	2%	0%	0%	0%	0%	<1%	0%	0%
Cut back on use of A/C	3%	8%	5%	3%	<1%	3%	<1%	3%	4%	4%
Work less hours/days	0%	3%	<1%	3%	3%	5%	0%	2%	2%	3%
Installed EE lights/ Equipment	<1%	3%	0%	<1%	3%	3%	<1%	1%	2%	<1%
Open doors/ Windows	0%	0%	<1%	<1%	1%	5%	0%	1%	<1%	<1%
Irrigate in the evening	0%	0%	0%	0%	0%	0%	<1%	<1%	<1%	0%
Other	9%	19%	23%	19%	7%	17%	22%	16%	15%	13%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Don't Know	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Small/medium customers' primary conservation activity is turning off lights. Exhibits 4-10 and 4-11 drill down on percentages of daytime and evening lights customers are turned off. Retailers and restaurants/groceries tend to turn off fewer daytime lights; it is not surprising that their business operations are less flexible on lighting applications.

Exhibit 4-10
Daytime Lighting Conservation

Percentage of daytime lights shut off	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
0 to 5 percent	14%	11%	13%	15%	7%	19%	18%	14%	19%	12%
6 to 10 percent	10%	13%	8%	21%	19%	10%	13%	13%	9%	17%
11 to 15 percent	9%	4%	8%	7%	5%	4%	7%	6%	4%	4%
16 to 25 percent	30%	21%	20%	9%	18%	17%	15%	20%	22%	17%
26 to 50 percent	25%	30%	36%	20%	23%	26%	28%	27%	25%	33%
51 to 75 percent	4%	12%	11%	6%	21%	13%	5%	10%	9%	7%
Over 75 percent	5%	8%	3%	12%	8%	7%	14%	7%	9%	8%
Don't Know	4%	1%	<1%	9%	<1%	5%	<1%	2%	3%	<1%
# Respondents	84	86	100	80	85	83	80	598	238	268

Businesses are turning off more daytime than evening lights, as Exhibit 4-10 shows. Security concerns may be a factor in their decision making. Renters and "other" businesses are tend to turn off fewer lights than other business types.

Exhibit 4-10
Evening Lighting Conservation

Percentage of evening lights shut off	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
0 to 5 percent	25%	29%	22%	21%	14%	18%	19%	22%	27%	23%
6 to 10 percent	11%	5%	7%	9%	5%	3%	6%	7%	3%	4%
11 to 15 percent	3%	4%	8%	0%	11%	5%	<1%	5%	2%	4%
16 to 25 percent	1%	7%	7%	10%	11%	17%	5%	8%	6%	6%
26 to 50 percent	9%	18%	21%	17%	22%	16%	8%	16%	11%	16%
51 to 75 percent	<1%	5%	7%	6%	2%	8%	8%	5%	3%	3%
Over 75 percent	15%	14%	10%	13%	15%	8%	21%	14%	15%	15%
Lights Normally off	31%	20%	17%	22%	19%	24%	31%	23%	31%	27%
Don't Know	3%	0%	<1%	2%	<1%	1%	0%	1%	1%	<1%
# Respondents	84	86	100	80	85	83	80	598	238	268

Reducing cost is the primary driver of these conservation activities, as shown in Exhibit 4-11. Seventy-five percent of small/medium customers first mentioned lowering energy/operating costs as the reason they conserved. An even higher proportion of restaurant/grocery owners – 88 percent - mentioned lowering costs. About a third of respondents indicated that civic duty motivated their conservation actions. Seventeen percent reported they conserve to help avoid blackouts, a motive that can be interpreted as either civic-minded (reducing strain on the grid) or self-interested (preventing potential blackout losses to my business).

Exhibit 4-11
Reasons for Energy Conservation Actions

Reasons for Energy Conservation actions	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Lower energy (operating) cost	64%	69%	88%	85%	74%	71%	78%	75%	71%	75%
Shift load to off-peak ours	1%	0%	0%	6%	0%	0%	5%	1%	<1%	0%
Help avoid blackouts	23%	25%	11%	18%	11%	19%	12%	17%	15%	15%
None	1%	2%	<1%	2%	<1%	0%	0%	<1%	1%	<1%
Enhance productivity	0%	1%	0%	0%	2%	0%	0%	<1%	<1%	<1%
Improve quality of merchandising environment	0%	0%	0%	0%	2%	0%	0%	<1%	0%	0%
Take advantage of rebates offered by utilities	0%	<1%	0%	<1%	<1%	1%	0%	<1%	1%	<1%
Reduce organization's environmental impact	3%	1%	<1%	3%	<1%	3%	<1%	2%	1%	1%
Improve organization's environmental image	2%	0%	4%	0%	0%	0%	0%	1%	<1%	2%
Energy crisis (general, including "civic duty" type responses)	37%	32%	28%	43%	27%	35%	37%	34%	35%	35%
Other	11%	6%	3%	2%	5%	3%	1%	5%	5%	5%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Don't Know	0%	0%	0%	0%	0%	<1%	<1%	<1%	<1%	<1%
# Respondents	98	104	109	90	103	106	103	713	287	312

Customers were asked what aspect of the energy crisis affected their conservation efforts. Higher energy prices drove conservation actions for two-thirds of small/medium customers, according to Exhibit 4-12. Restaurant/grocery owners are even more price sensitive – 90 percent cited higher prices. There are some differences among business types with respect to

civic duty; industrial and restaurant/grocery customers do not tend to mention civic duty or corporate responsibility.

Exhibit 4-12
Aspect of Energy Crisis that Affected Conservation Actions

Aspect of energy crisis that affected conservation actions	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
High electricity prices	46%	53%	60%	64%	51%	38%	41%	50%	45%	49%
High gas prices	5%	3%	14%	<1%	5%	3%	0%	5%	4%	5%
High demand charges	0%	2%	2%	<1%	3%	2%	<1%	1%	1%	2%
Blackouts	28%	27%	20%	27%	33%	22%	26%	26%	22%	27%
Civic duty/corporate responsibility	33%	32%	19%	19%	12%	16%	31%	23%	26%	23%
No influence	5%	6%	2%	4%	8%	13%	7%	7%	9%	6%
Higher prices - Not specific	8%	6%	16%	4%	9%	16%	15%	11%	11%	12%
Shortage of energy/ Energy crisis	4%	1%	<1%	<1%	0%	3%	<1%	2%	3%	2%
Other	3%	5%	0%	1%	4%	2%	0%	2%	2%	<1%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Don't know	2%	<1%	<1%	2%	2%	<1%	2%	1%	1%	1%
# Respondents	98	104	109	90	103	106	103	713	287	312

The small minority of customers that chose not to conserve were asked about the most important reasons why they hadn't taken any conservation actions. Exhibit 4-13 shows that the most frequently cited reason for not conserving is that it would interfere with business operations (19 percent). Another 7 percent believe it would not make a difference. Four percent said they were not conserving because they had alternative power sources. Only five percent said they did not know what to do.

Exhibit 4-13
Reasons for Not Taking Conservation Actions

Reasons for not taking energy crisis actions	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Would interfere with business operation	25%	35%	0%	33%	7%	7%	16%	16%	19%	31%
Don't know what to do	10%	31%	100%	0%	0%	0%	0%	5%	5%	12%
Don't believe it would make a difference	0%	0%	0%	1%	24%	0%	0%	7%	9%	25%
Not possible with our lighting/cooling equipment	0%	0%	0%	7%	0%	0%	3%	1%	<1%	<1%
Needed more information to make decision or convince management	0%	0%	0%	21%	0%	0%	0%	<1%	0%	0%
Not worth the effort	20%	0%	0%	2%	0%	0%	0%	3%	4%	<1%
Crisis is artificial, no need to conserve	0%	0%	0%	0%	0%	0%	<1%	<1%	<1%	0%
We have backup/alternative power sources	0%	0%	0%	0%	0%	0%	10%	4%	5%	0%
None	10%	15%	0%	0%	0%	0%	30%	14%	10%	12%
Other	35%	8%	0%	36%	30%	63%	38%	33%	31%	16%
Don't Know	0%	11%	0%	0%	0%	0%	4%	2%	1%	3%
# Respondents	10	6	1	8	8	5	16	54	37	17

4.3 DEMAND RESPONSE

Customers were asked what additional actions they take on alert days when emergency warnings are issued because of extremely low electricity supplies. Exhibit 4-14 shows that 41 percent of small/medium customers report taking additional conservation actions on alert

days. Miscellaneous commercial, institutional and restaurant/grocery customers are the most demand responsive segments. Industrial and retail customers are the least demand responsive.

Exhibit 4-14
Businesses That Have Taken Demand Responsive Actions

Have you taken Additional Actions on Alert Days?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	36%	32%	47%	46%	33%	50%	44%	41%	35%	38%
No	62%	66%	53%	54%	67%	50%	53%	58%	64%	60%
Don't Know	2%	2%	0%	0%	0%	0%	3%	<1%	<1%	1%
# Respondents	108	110	110	98	111	111	119	767	324	329

These demand responsive actions are similar to conservation actions, as shown in Exhibit 4-15. Reduced lighting levels, unused office equipment and thermostat adjustment top the list of demand responsive activities. Also, focus group participants report taking action to protect against blackout losses, such as battery backups and generators.

Exhibit 4-15
Types of Demand Responsive Actions

What actions have you taken on days when alerts are announced?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Turn off office equipment when not in not in use	12%	6%	7%	23%	12%	15%	15%	12%	9%	10%
Set thermostats lower when heating and higher when using the A/C	7%	9%	21%	6%	9%	10%	11%	11%	9%	12%
Schedule high electrical energy-use processes during off-peak periods	0%	<1%	0%	3%	2%	3%	6%	2%	2%	1%
Turn off any lights that are not being used	19%	16%	28%	21%	15%	22%	15%	19%	16%	19%
Turn down the remaining lighting levels if you can	3%	5%	7%	8%	1%	2%	3%	4%	2%	2%
Set air conditioning thermostats to pre-cool spaces at off-peak times	1%	1%	3%	0%	0%	1%	4%	2%	2%	1%
Establish a system to alert employees of expected high demand days	4%	0%	0%	<1%	<1%	6%	<1%	2%	<1%	<1%
Reprogram EMS schedule	0%	0%	0%	<1%	0%	0%	<1%	<1%	0%	<1%
Turn off your computer if you are out of the office for more than a few min.	3%	2%	0%	0%	3%	1%	<1%	1%	<1%	<1%
Set computer to low power standby mode	1%	2%	<1%	<1%	1%	0%	0%	<1%	<1%	0%
Turn off personal appliances, such as coffee pots and radios	0%	0%	0%	0%	0%	<1%	3%	<1%	<1%	0%
Run backup generator	0%	<1%	0%	8%	6%	2%	<1%	2%	<1%	<1%
Other	4%	2%	11%	4%	<1%	4%	3%	4%	2%	4%
Don't Know	<1%	<1%	0%	0%	0%	0%	<1%	<1%	<1%	<1%
# Respondents	108	110	110	98	111	111	119	767	324	329

When asked why they took demand responsive actions, customers said that avoiding blackouts was an important driver. Exhibit 4-16 shows that avoiding blackouts played a larger role in demand responsive actions (38 percent) then in general conservation activities (22 percent), suggesting that California's small/medium businesses have indeed responded to the state's push for conservation.

Exhibit 4-16
Reasons for Demand Responsive Actions

Reasons for Demand Responsive Actions	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Lower energy bill	24%	31%	26%	37%	21%	41%	38%	31%	43%	22%
Reduce strain on grid	12%	10%	10%	<1%	2%	17%	1%	8%	11%	9%
Be less vulnerable to outages/risk mgmt	9%	4%	18%	19%	5%	5%	24%	12%	9%	8%
Avoiding Blackout	22%	22%	33%	24%	47%	20%	7%	25%	13%	33%
Civic Duty	33%	31%	5%	18%	23%	12%	25%	20%	21%	22%
Other	0%	0%	6%	1%	<1%	6%	5%	3%	2%	5%
Don't Know	0%	1%	1%	<1%	0%	0%	0%	<1%	1%	<1%
# Respondents	37	36	46	45	45	53	46	308	114	130

4.4 ROADS NOT TAKEN

Customers claim to have maxed out their conservation potential. We asked customers whether they had identified any actions to save energy since 2000. Exhibit 4-17 shows that only 12 percent of businesses had identified but did not take energy-saving actions. "I'm doing all that I can – what more can I do?" was a common theme among focus group customers.

Exhibit 4-17
Energy Saving Actions Identified but Not Undertaken

Energy saving actions identified but not undertaken	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	13%	10%	16%	19%	6%	18%	7%	12%	7%	12%
No	86%	88%	82%	78%	89%	81%	93%	86%	92%	86%
Don't Know	<1%	2%	2%	3%	5%	<1%	0%	2%	<1%	3%
# Respondents	108	110	110	98	111	111	119	767	324	329

Money – lack of available funds and competing capital priorities – topped the list of reasons why businesses did not undertake energy-saving actions they had identified. Another 22 percent believed that the energy savings did not outweigh the investment costs, as shown in Exhibit 4-18.

Customers did not indicate that they lacked the information to adopt conservation practices. Exhibit 4-18 shows that 6 percent reported they did not have the information they needed to adopt energy efficient practices. Likewise, lack of knowledge was cited by only 5 percent of customers that did not conserve at all, suggesting that public information campaigns led by the state and its utilities were effective.

Exhibit 4-18
Reasons For Not Taking Those Actions

Reasons for not taking those actions	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Other priorities for capital spending	23%	0%	46%	0%	11%	10%	3%	17%	2%	20%
Amount of savings did not justify added investment costs	23%	32%	42%	0%	3%	25%	0%	22%	15%	16%
No funds available for investment	44%	26%	22%	28%	20%	36%	55%	33%	50%	37%
Energy savings were too uncertain	0%	0%	0%	0%	43%	0%	0%	4%	0%	9%
Could not obtain financing for investment	2%	0%	0%	0%	18%	7%	14%	5%	2%	7%
Needed more information to make decision or convince management	11%	0%	0%	16%	0%	13%	0%	6%	0%	0%
Not enough management time to oversee project	0%	7%	0%	0%	0%	2%	0%	1%	4%	2%
Would have took too much time to get a convincing analysis	0%	0%	0%	0%	0%	9%	0%	2%	0%	5%
Expectation that energy prices would decrease	4%	0%	0%	0%	0%	0%	0%	<1%	3%	0%
Building Owner would not allow it	0%	10%	0%	0%	0%	0%	0%	1%	6%	3%
Crisis will go away	0%	0%	0%	0%	11%	0%	0%	<1%	0%	0%
None	0%	0%	0%	0%	0%	12%	0%	2%	0%	3%
Other	25%	25%	73%	56%	43%	20%	28%	39%	23%	43%
Don't Know	8%	10%	0%	0%	0%	0%	0%	3%	6%	3%
# Respondents	16	10	8	14	10	18	9	85	22	30

We asked customers to respond to three statements about the energy crisis in order to gauge their attitudes toward the crisis and energy efficient practices. Exhibit 6 shows that customers tend to agree (40 percent) that the crisis provided them an opportunity to advance the cause of energy efficiency in their businesses, but disagree (45 percent) that the energy crisis has forced them to take expensive actions. Customers have overwhelmingly chosen no cost conservation practices over more costly investments, as the next section on equipment changes will show.

However, customers are unenthusiastic about their conservation actions – 67 percent neither disagree nor agree with the statement, "I am satisfied with the energy conservation decisions that I have made in my business." This ambivalence perhaps reflects some customers' sense of being stuck between a rock and a hard place – working to conserve, but not seeing bill savings result from their energy savings due to higher utility rates.

Exhibit 4-19
Attitudes Toward Crisis-Driven Energy Efficiency Actions

The energy crisis has provided me an opportunity to advance the cause of energy efficiency in my business	Strongly Disagree	24%
	Strongly Agree	40%
	Neither	36%
The energy crisis has forced me to take expensive and time-consuming actions that I would not otherwise have taken	Strongly Disagree	45%
	Strongly Agree	28%
	Neither	27%
I am satisfied with the energy conservation decisions that I have made in my business	Strongly Disagree	6%
	Strongly Agree	27%
	Neither	67%

4.5 CONCLUSIONS

The energy crisis was top of mind for small business customers in 2000. The crisis hit them in the pocketbook – concern about higher energy bills far outweigh customers' fears of blackouts.

An overwhelming number of small/medium customers – 92 percent – are conserving in order to reduce their energy costs. Small/medium customers are primarily adopting no cost conservation measures such as reduced lighting levels and thermostat adjustment. These efforts are part of the larger conservation success story in California. California officials hoped to lower peak power demand by 2,300 MW when they launched an aggressive push for conservation early in the summer. By mid-August 2001, Californians had reportedly saved as much as 5,500 kW. About one-third of residential customers of the state's IOUs are getting a 20 percent rebate for reducing their power usage.

Small/medium customers' conservation efforts underscore the success of public information campaigns launched by the state and the IOUs. The word is out about conservation, customers are listening and they are doing something about it. Moreover, these conservation actions are proactive rather than reactive, as some hadn't even seen bigger bills when this survey was fielded in July.

A significant number of businesses have also taken demand responsive actions – largely out of civic duty, wanting to avoid blackouts. California is beginning to target demand response programs to the under 500 kW marketplace. We find that forty-one percent of the population is taking demand responsive action on alert days, suggesting an opportunity for both voluntary or incentive-based demand response programs. Furthermore, there is potential to be tapped among demand responsive customers – less than 20 percent of them report turning off lights, turning off unused office equipment, adjusting thermostats and taking other measures

Customers report that they are doing all they can to reduce usage. Only six percent indicate that they lack information about energy efficient practices, suggesting that the state of California and the utilities have done a good job of educating customers about what they can do.

5. EQUIPMENT CHANGES

We asked each customer a battery of equipment-related questions that included how they used equipment, how active they were in equipment purchase decisions, and what changes they had made to their equipment since 2000 and why.

While customers have responded overwhelmingly to the crisis by conserving energy, we found that they are not investing in energy-efficient equipment, with the exception of lighting retrofits. Twenty-seven percent of customers made lighting changes. This rate is double that of a similar study conducted just over a year ago. However, changes in cooling equipment did not change significantly from 1999.

5.1 EQUIPMENT USE

Customers deploy equipment in a variety of ways, but indicate that lighting and cooling are their primary end uses. Exhibit 5-1 shows that one-third of small/medium believe lighting to be their primary end use.

Exhibit 5-1
Customers' Primary End Uses

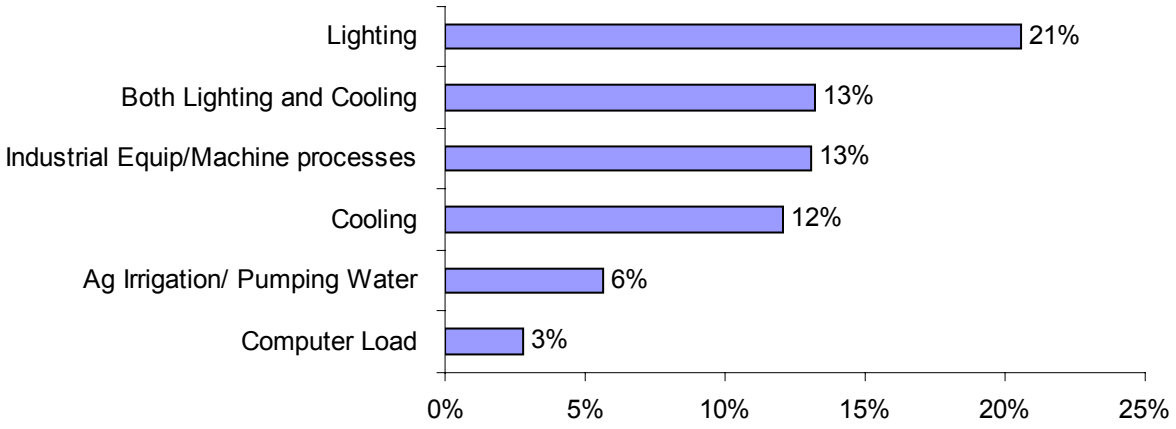


Exhibit 5-2 breaks down customer end use by business type. Lighting and cooling are the primary end uses in the office, retail and institutional segments. Primary end uses for restaurant/groceries are cooling, refrigeration and lighting. Industrial customers use energy mostly for lighting, industrial equipment and machine processing.

Exhibit 5-2
Customer End Use by Business Type

Business' primary use of energy	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Lighting	26%	32%	9%	36%	13%	22%	15%	21%	26%	20%
Cooling	19%	8%	14%	18%	5%	17%	7%	12%	11%	11%
Computer Load	8%	3%	0%	4%	<1%	3%	<1%	3%	3%	3%
Both - Lighting and Cooling	16%	18%	11%	19%	6%	12%	13%	13%	13%	14%
Refrigeration	0%	4%	36%	0%	3%	3%	2%	7%	6%	9%
Heating	0%	0%	<1%	1%	2%	0%	0%	<1%	<1%	<1%
Ag Irrigation/ Pumping Water	1%	0%	0%	0%	0%	2%	33%	6%	8%	3%
Cooking/Food Processing	0%	2%	5%	<1%	<1%	<1%	2%	1%	1%	2%
Motors	0%	1%	<1%	0%	9%	2%	5%	3%	1%	5%
Industrial Equip/ Mach processes	8%	8%	3%	2%	38%	13%	11%	13%	10%	16%
Lighting/ Cooling/ Computer Load	2%	4%	2%	8%	5%	5%	0%	3%	2%	2%
Pumps	0%	0%	0%	0%	4%	0%	1%	<1%	2%	0%
Lighting and Computers	5%	0%	0%	2%	<1%	5%	<1%	2%	2%	2%
Lighting/Heating and Cooling	1%	<1%	0%	0%	0%	0%	0%	<1%	<1%	<1%
Other	13%	18%	20%	9%	14%	16%	10%	14%	13%	13%
Don't know	0%	<1%	0%	0%	<1%	0%	0%	<1%	0%	<1%
# Respondents	108	110	110	98	111	111	119	767	324	329

Note: data are weighted based on electricity consumption

Exhibit 5-3 shows that 60 percent of customers report being very active in equipment purchase decisions for their businesses, although there is significant variation among business types. Only 37 percent of offices are very active, compared with 75 percent of the industrial/utility segment.

Exhibit 5-3
How Active A Role Does Your Business Take in Equipment Purchase Decisions?

How Active a Role does your Business take in Equipment Purchase Decisions	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Very active – involved in all phases and have veto power	37%	65%	64%	57%	75%	47%	53%	60%	63%	60%
Somewhat active – we approve decisions and provide some input and review	30%	11%	17%	17%	12%	24%	14%	17%	8%	17%
Slightly active – we have a voice but it's not the dominant voice	7%	11%	11%	14%	9%	14%	10%	10%	10%	10%
Not active at all – we're part of a larger firm	7%	8%	3%	5%	<1%	3%	10%	5%	8%	5%
Not active at all – our firm doesn't get involved in these issues	19%	6%	4%	7%	3%	12%	13%	8%	11%	8%
Don't Know	0%	0%	0%	<1%	0%	0%	0%	<1%	0%	<1%
# Respondents	26	60	76	24	56	45	42	329	154	329

5.2 EQUIPMENT CHANGES: LIGHTING

We first examine lighting equipment changes, since 47 percent of the population claimed lighting among their primary end uses. Exhibit 5-4 shows that twenty-seven percent of customers made lighting changes versus 12 percent in 1999. Restaurants/groceries (22 percent) and renters (22 percent) tended to make fewer lighting retrofits, while institutional customers made more (33 percent).

Exhibit 5-4
Were Lighting Changes Made since 2000?

Were lighting changes made since January 2000?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	32%	29%	22%	33%	25%	29%	24%	27%	22%	22%
No Change	68%	71%	78%	67%	74%	69%	75%	72%	78%	78%
Don't Know	0%	0%	<1%	0%	1%	2%	<1%	<1%	<1%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Renters reported that their building owners and property managers made relatively few lighting changes (3 percent). Lighting changes made by owners were most likely in offices, restaurants/groceries and miscellaneous commercial customers. Lighting changes were least likely among retail (1 percent), institutional (9 percent) and industrial/utility customers (0 percent).

Exhibit 5-5
Were Lighting Changes Made
by Building Owner/Property Manager Since 2000?

Were lighting changes made by Property Manager /Building Owner since January 00?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	4%	1%	4%	0%	0%	9%	0%	3%	5%	3%
No	96%	99%	93%	97%	100%	90%	100%	96%	95%	96%
Don't Know	0%	0%	3%	3%	0%	<1%	0%	<1%	<1%	<1%
# Respondents	26	60	76	24	56	45	42	329	154	329

Customers were then asked about the condition of their pre-existing lighting equipment. Exhibit 5-6 offers evidence of accelerated adoption – 65 percent replaced fully functional lighting, up from 47 percent, reported in the 1999 study. Institutional users were most likely to retrofit fully functional lighting (89 percent). Retailers were least likely to do such retrofits (49 percent).

Exhibit 5-6
Condition of Pre-existing Lighting Equipment

Condition of pre-existing lighting equipment	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
New equipment installed did not replace pre-existing	5%	17%	5%	7%	8%	14%	14%	10%	11%	12%
Existing equipment was fully functional	57%	49%	64%	89%	66%	72%	73%	65%	59%	58%
Existing equipment was functioning with significant problems	21%	3%	14%	4%	3%	7%	2%	8%	11%	7%
Existing equipment had failed	17%	23%	17%	<1%	21%	3%	2%	13%	20%	22%
Don't Know	0%	8%	0%	0%	3%	4%	9%	3%	0%	1%
# Respondents	31	29	31	35	24	33	26	209	71	81

Businesses primarily made three types of lighting changes: T-8 (12 percent) CFLs (6 percent) and lighting controls (3 percent), as shown in Exhibit 5-7.

Exhibit 5-7
Types of Lighting Equipment Changes

Types of lighting equipment changed	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
T8 Fixtures (1" diameter)	7%	8%	9%	18%	9%	3%	6%	8%	6%	5%
T10 Fixtures	0%	0%	<1%	0%	0%	0%	2%	<1%	<1%	<1%
T12 Fixtures (1.5" diameter)	2%	2%	<1%	<1%	<1%	<1%	6%	2%	2%	
HID Fixtures, Compact	0%	1%	0%	0%	4%	0%	0%	<1%	0%	2%
Compact Fluorescent, Screw-in Mod	7%	<1%	6%	4%	0%	8%	3%	4%	4%	3%
Compact Fluorescent, Hardware	2%	<1%	<1%	8%	2%	4%	1%	2%	1%	1%
Incandescent	0%	0%	<1%	0%	<1%	<1%	0%	<1%	<1%	<1%
Exit Signs, Compact Fluorescent	<1%	0%	0%	0%	0%	1%	<1%	<1%	<1%	0%
Exit Signs, LED	0%	0%	0%	3%	0%	0%	0%	<1%	0%	0%
Halogen	0%	3%	1%	0%	1%	0%	<1%	<1%	<1%	2%
Install Reflectors	<1%	0%	1%	<1%	3%	0%	<1%	<1%	<1%	<1%
Electronic Ballast	8%	2%	7%	6%	<1%	4%	2%	4%	2%	<1%
Magnetic Ballast	1%	2%	0%	0%	0%	0%	0%	<1%	0%	0%
Lighting Controls, Time Clock	3%	2%	0%	4%	0%	2%	5%	2%	3%	<1%
Lighting Controls, Occupancy Sensor	1%	<1%	0%	3%	<1%	2%	3%	1%	<1%	2%
Lighting Controls, Bypass/Delay Timers	0%	2%	0%	<1%	0%	<1%	0%	<1%	0%	0%
Lighting Controls, Photocell	2%	0%	0%	0%	0%	1%	2%	<1%	0%	<1%
Other	6%	6%	3%	1%	10%	5%	2%	5%	3%	5%
T5 Fixtures (5/8" diameter)	0%	0%	<1%	<1%	0%	1%	0%	<1%	0%	<1%
Other Fluorescent	4%	4%	3%	1%	5%	2%	5%	4%	4%	4%
Don't Know	2%	7%	1%	<1%	2%	4%	3%	3%	3%	4%
# Respondents	108	110	110	98	111	111	119	767	324	329

We asked those customers that had installed lighting equipment why they installed the equipment they did. The most commonly cited reason (74 percent) that customers install efficient lighting is to reduce energy costs, as shown in Exhibit 5-8. Institutional facilities (88 percent) were most likely to install to lower energy costs. Miscellaneous commercial customers (21 percent) were most likely to retrofit lighting due to the energy crisis, while industrial/utility customers (14 percent) were most likely to install efficient lighting due to company policy. Only 2 percent mentioned rebates as a driver.

Exhibit 5-8
Reasons for Lighting Equipment Changes

Reasons for installing Energy Efficient Lighting Equipment	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Lower energy (operating) cost	69%	60%	85%	88%	70%	71%	88%	74%	74%	76%
Enhance productivity	3%	5%	3%	0%	5%	0%	10%	4%	9%	1%
Improve quality of worker or environment	0%	8%	4%	7%	0%	10%	21%	7%	6%	9%
Take advantage of rebates offered by utilities	1%	0%	1%	4%	0%	4%	2%	2%	0%	<1%
Reduce organization's environmental impact	4%	6%	0%	1%	8%	0%	1%	3%	<1%	2%
Improve organization's environmental image	0%	2%	0%	0%	0%	0%	0%	<1%	0%	<1%
Company policy to install such lighting	7%	0%	0%	0%	14%	2%	7%	5%	12%	6%
Recommended by contractor	10%	0%	0%	0%	4%	1%	0%	3%	0%	2%
None	0%	8%	3%	0%	2%	0%	0%	2%	<1%	5%
Better light/ Quality	3%	0%	4%	<1%	9%	5%	13%	5%	6%	5%
Energy crisis (including civic duty responses)	7%	15%	16%	2%	14%	21%	2%	12%	10%	11%
Other	15%	22%	0%	7%	<1%	8%	18%	11%	9%	7%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Don't Know	0%	0%	0%	<1%	0%	0%	1%	<1%	<1%	<1%
# Respondents	29	28	30	34	22	31	25	199	67	79

Sixty-six percent of customers independently made the decision to retrofit, as shown in Exhibit 5-9. Only 22 percent of institutions made the decision independently; 44 percent reported that their utility played a role. By contrast, 76 percent of small businesses made the decision on their own. Only 7 percent of these customers called a contractor.

Exhibit 5-9
Who Influenced Lighting Retrofit Decision

Who Influenced Lighting Retrofit Decision Making	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Energy Equipment Contractors and Installers	20%	20%	3%	21%	23%	22%	11%	17%	8%	15%
Energy Service Companies (ESCOs)	0%	5%	0%	5%	8%	0%	4%	3%	0%	2%
Your electric utility	3%	8%	19%	40%	4%	9%	22%	13%	7%	9%
Equipment manufacturers	0%	0%	0%	0%	0%	0%	<1%	<1%	0%	0%
Corporate technical staff	19%	27%	4%	9%	11%	16%	13%	15%	11%	17%
Corporate management	0%	0%	0%	0%	<1%	0%	4%	<1%	0%	0%
Made decision on my own	16%	40%	28%	6%	24%	46%	24%	27%	49%	38%
In-house Staff	32%	10%	40%	7%	29%	10%	32%	24%	16%	18%
Other	6%	2%	6%	18%	0%	16%	<1%	6%	9%	6%
Don't Know	5%	0%	1%	<1%	0%	0%	0%	1%	3%	<1%
# Respondents	31	29	31	35	24	33	26	209	71	81

5.3 EQUIPMENT CHANGES: COOLING

Customers report cooling to be a significant end use. Twenty-one percent of customers made changes in cooling equipment – not a significant change from 1999. As shown in Exhibit 5-10,

renters, retail and small businesses tended to make fewer cooling retrofits, whereas 34 percent of institutional customers made changes.

Exhibit 5-10
Were Cooling Changes Made since 2000?

Were cooling changes made since January 2000?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	23%	18%	21%	34%	27%	15%	14%	21%	12%	18%
No Change	77%	81%	79%	66%	72%	85%	83%	78%	87%	82%
Refused	0%	0%	0%	0%	0%	0%	2%	<1%	<1%	0%
Don't Know	0%	<1%	<1%	0%	1%	0%	<1%	<1%	<1%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Exhibit 5-11 shows that 5 percent of renters reported their building owner or property manager made cooling changes. Renters in the retail segment tended to see the most changes made by building owners.

Exhibit 5-11
Were Cooling Changes Made
by Building Owner/Property Manager Since 2000?

Were cooling changes made by Property Manager / Building Owner since January 00?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	4%	11%	2%	3%	5%	4%	7%	5%	8%	5%
No	93%	89%	98%	97%	95%	96%	86%	93%	89%	93%
Don't Know	4%	<1%	0%	0%	0%	0%	7%	1%	3%	1%
# Respondents	26	60	76	24	56	45	42	329	154	329

Thirty-four percent of small/medium customers replaced fully functional cooling – compared with 17 percent in 1999 –suggesting accelerated adoption. Exhibit 5-12 shows that 49 percent of respondents replaced due to equipment problems/failure. That number is higher for restaurants/groceries, 66 percent of whom reported significant problems with old or failing equipment.

Exhibit 5-12
Condition of Pre-existing Cooling Equipment

Condition of pre-existing cooling equipment	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
New equipment installed did not replace pre-existing equipment	19%	8%	5%	24%	24%	17%	8%	16%	11%	16%
Existing equipment was fully functional	37%	39%	29%	28%	36%	26%	39%	34%	32%	31%
Existing equipment was functioning, but with significant problems	23%	40%	60%	36%	27%	30%	4%	32%	20%	35%
Existing equipment had failed or did not function	17%	12%	6%	11%	13%	25%	49%	17%	33%	16%
Refused	0%	0%	0%	0%	0%	2%	0%	<1%	0%	0%
Don't Know	3%	0%	0%	<1%	0%	0%	0%	<1%	3%	2%
# Respondents	26	20	22	33	21	16	15	153	36	57

Exhibit 5-13 shows that primary types of cooling changes made by small/medium customers were: A/C units (11 percent), HVAC controls (7 percent) and evaporative coolers (2 percent).

Exhibit 5-13
Types of Cooling Equipment Changes

Types of cooling equipment changed	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Split system	5%	3%	5%	9%	5%	3%	3%	5%	2%	2%
Packaged systems	7%	3%	1%	9%	7%	5%	4%	5%	3%	3%
Package Terminal A/C	0%	0%	2%	<1%	4%	0%	0%	1%	0%	1%
Remote Condensing Unit	0%	0%	0%	0%	0%	0%	2%	<1%	0%	0%
Evaporative coolers	<1%	2%	5%	1%	<1%	<1%	0%	2%	1%	1%
Water Chiller	0%	0%	0%	<1%	2%	2%	0%	<1%	0%	<1%
Cooling Tower	0%	<1%	0%	<1%	2%	0%	0%	<1%	0%	<1%
Adjustable Speed Drives	<1%	0%	0%	0%	0%	0%	0%	<1%	0%	0%
Energy Management System	0%	0%	0%	<1%	<1%	0%	0%	<1%	0%	<1%
Reflective Window Film	1%	0%	0%	3%	0%	0%	0%	<1%	0%	0%
HVAC Controls: Bypass Timer	3%	<1%	0%	<1%	0%	4%	0%	1%	1%	<1%
HVAC Controls: Time Clock	4%	0%	<1%	5%	<1%	2%	2%	2%	<1%	1%
HVAC Controls: Set-Back Program Thermostat	10%	8%	1%	4%	6%	0%	<1%	4%	3%	3%
Other	3%	2%	11%	3%	10%	3%	2%	5%	3%	7%
Thermostat (generic)	0%	0%	<1%	2%	0%	0%	0%	<1%	<1%	<1%
Individual A/C or Heat Pump Units	0%	0%	2%	4%	<1%	2%	<1%	1%	<1%	<1%
Window/Wall Units	0%	0%	0%	<1%	0%	0%	0%	<1%	0%	<1%
Don't Know	0%	1%	0%	<1%	5%	<1%	3%	1%	<1%	2%
# Respondents	108	110	110	98	111	111	119	767	324	329

Seventy percent of customers reported that they installed high efficiency air conditioning, according to Exhibit 5-14. Only 30 percent of restaurants/groceries reported installing high efficiency A/C. Miscellaneous commercial businesses (89 percent) and retailers (80 percent) were most likely to install high efficiency.

Exhibit 5-14
Standard or High Efficiency Replacement

Was new A/C unit high efficiency?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Standard efficiency	8%	13%	41%	<1%	7%	0%	0%	7%	9%	10%
High efficiency	78%	80%	30%	72%	67%	89%	61%	70%	87%	53%
Don't Know	14%	7%	30%	27%	26%	11%	39%	22%	3%	37%
# Respondents	10	5	5	13	10	9	7	59	16	16

Customers were asked why they replaced their cooling equipment. Lower energy costs was the primary reason cited by customers who did cooling retrofits, as indicated in Exhibit 5-15. Lowering operating costs drove over two-thirds of both cooling and lighting retrofits. Improving the quality of the merchandising environment played a bigger role in cooling (20 percent) than lighting changes (7 percent). Failing equipment did not play a role in lighting retrofits, but accounted for one-quarter of cooling retrofits.

Exhibit 5-15
Reasons for Cooling Equipment Changes

Types of cooling equipment changed	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Split system	5%	3%	5%	9%	5%	3%	3%	5%	2%	2%
Packaged systems	7%	3%	1%	9%	7%	5%	4%	5%	3%	3%
Package Terminal A/C	0%	0%	2%	<1%	4%	0%	0%	1%	0%	1%
Remote Condensing Unit	0%	0%	0%	0%	0%	0%	2%	<1%	0%	0%
Evaporative coolers	<1%	2%	5%	1%	<1%	<1%	0%	2%	1%	1%
Water Chiller	0%	0%	0%	<1%	2%	2%	0%	<1%	0%	<1%
Cooling Tower	0%	<1%	0%	<1%	2%	0%	0%	<1%	0%	<1%
Adjustable Speed Drives	<1%	0%	0%	0%	0%	0%	0%	<1%	0%	0%
Energy Management System	0%	0%	0%	<1%	<1%	0%	0%	<1%	0%	<1%
Reflective Window Film	1%	0%	0%	3%	0%	0%	0%	<1%	0%	0%
HVAC Controls: Bypass Timer	3%	<1%	0%	<1%	0%	4%	0%	1%	1%	<1%
HVAC Controls: Time Clock	4%	0%	<1%	5%	<1%	2%	2%	2%	<1%	1%
HVAC Controls: Set-Back Program Thermostat	10%	8%	1%	4%	6%	0%	<1%	4%	3%	3%
Other	3%	2%	11%	3%	10%	3%	2%	5%	3%	7%
Thermostat (generic)	0%	0%	<1%	2%	0%	0%	0%	<1%	<1%	<1%
Individual A/C or Heat Pump Units	0%	0%	2%	4%	<1%	2%	<1%	1%	<1%	<1%
Window/Wall Units	0%	0%	0%	<1%	0%	0%	0%	<1%	0%	<1%
Don't Know	0%	1%	0%	<1%	5%	<1%	3%	1%	<1%	2%
# Respondents	108	110	110	98	111	111	119	767	324	329

Customers were also asked who influenced their cooling retrofit decisions. As with lighting retrofits, 66 percent made the decision internally. As shown in Exhibit 5-16, contractors were involved with 22 percent of small/medium customers equipment replacements.

Exhibit 5-16
Who Influenced Cooling Retrofit Decision

Who Influenced Cooling Retrofit Decision Making	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Energy Equipment Contractors and Installers	10%	22%	17%	19%	27%	31%	35%	22%	20%	22%
Energy Service Companies (ESCOs)	0%	6%	0%	0%	0%	0%	1%	<1%	0%	3%
Your electric utility	8%	0%	14%	<1%	7%	0%	32%	8%	2%	5%
Equipment manufacturers	0%	0%	0%	0%	0%	0%	<1%	<1%	0%	0%
Corporate technical staff	15%	12%	2%	3%	5%	32%	12%	11%	15%	8%
Corporate management	0%	0%	<1%	0%	0%	0%	0%	<1%	<1%	<1%
Made decision on my own	31%	25%	48%	17%	18%	10%	19%	25%	46%	38%
In-house Staff	35%	32%	32%	49%	21%	10%	36%	30%	22%	30%
Other	9%	8%	2%	11%	27%	15%	25%	14%	12%	10%
Refused	0%	4%	0%	0%	0%	0%	0%	<1%	2%	1%
Don't Know	3%	0%	0%	<1%	1%	2%	0%	1%	3%	2%
# Respondents	26	20	22	33	21	16	15	153	36	57

5.4 EQUIPMENT CHANGES: GAS APPLIANCES

We also asked customers whether they made changes to their gas appliances. Exhibit 5-17 shows that 9 percent of small/medium customers have installed gas equipment (such as boilers, water heating and furnaces) since 2000.

Exhibit 5-17
Were Gas Appliance Changes Made?

Were gas appliance changes made since January 2000?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	12%	2%	11%	18%	8%	9%	9%	9%	6%	5%
No Change	87%	98%	89%	82%	92%	91%	91%	91%	94%	95%
Don't Know	<1%	0%	0%	0%	0%	0%	<1%	<1%	<1%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Water heaters were the most commonly installed appliance (5 percent). One percent of customers reported changing out boilers and furnaces, as indicated in Exhibit 5-18.

Exhibit 5-18
Types of Gas Appliance Changes

Types of gas appliance changed	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Boiler	0%	0%	2%	2%	3%	0%	3%	1%	1%	<1%
Water heater	11%	1%	5%	8%	5%	6%	<1%	5%	4%	4%
Furnace	1%	0%	0%	6%	<1%	2%	1%	1%	0%	0%
Gas booster for dishwasher	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	<1%	0%	5%	3%	0%	<1%	4%	2%	2%	1%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Don't Know	0%	<1%	0%	0%	0%	0%	0%	<1%	<1%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Exhibit 5-19 shows that seventy-one percent of customers reported installing high efficiency gas appliances. Industrial/utility customers, institutional facilities, restaurants/groceries and renters installed more standard efficiency appliances than other types of businesses.

Exhibit 5-19
Were Gas Appliances High Efficiency?

Was gas appliance high efficiency?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Standard efficiency	6%	0%	38%	51%	46%	5%	5%	24%	13%	40%
High efficiency	83%	100%	57%	48%	41%	95%	91%	71%	77%	56%
Don't Know	10%	0%	5%	0%	13%	0%	4%	6%	10%	4%
# Respondents	12	3	12	11	6	8	9	61	18	13

Customers were also asked if they added or replaced additional equipment that significantly affected their energy consumption. Thirteen percent of customers reported adding or replacing such equipment, as shown in Exhibit 5-20. Restaurants and groceries made more equipment changes than any other type of business.

Exhibit 5-20
Were Other Equipment Changes Made?

Were other equipment changes made since January 2000?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	12%	11%	23%	7%	12%	7%	13%	13%	10%	9%
No	88%	89%	77%	92%	88%	93%	86%	87%	90%	91%
Don't Know	<1%	0%	<1%	1%	0%	0%	<1%	<1%	<1%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

Food service equipment and refrigeration – particularly among restaurants and groceries – topped the list of equipment changes. Exhibit 5-21 shows that motor changeouts were most likely to be made by industrial/utility and retail customers

Exhibit 5-21
Types of Other Equipment Changes

Types of other equipment changed	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Food Service Equipment	2%	<1%	13%	<1%	<1%	<1%	0%	3%	2%	2%
Water Heating	0%	0%	0%	<1%	0%	0%	1%	<1%	0%	<1%
Outdoor Lighting	2%	<1%	0%	0%	0%	<1%	0%	<1%	<1%	0%
Refrigeration	2%	<1%	14%	4%	<1%	0%	<1%	3%	2%	<1%
Motors	2%	4%	0%	1%	4%	<1%	5%	2%	3%	2%
Computers	3%	<1%	0%	3%	0%	<1%	0%	<1%	<1%	<1%
A/C	<1%	<1%	0%	0%	<1%	<1%	<1%	<1%	<1%	<1%
Other	3%	5%	2%	<1%	7%	4%	7%	4%	3%	3%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Don't Know	0%	0%	0%	<1%	0%	<1%	0%	<1%	0%	<1%
# Respondents	108	110	110	98	111	111	119	767	324	329

5.5 ROLE OF ENERGY CRISIS IN EQUIPMENT CHANGES

The role of the energy crisis in driving equipment changes was also explored. Among customers retrofitting equipment, 50 percent cited electricity price as the aspect of the energy crisis that affected their equipment decision, as shown in Exhibit 5-22. Institutional customers were most likely to cite high electricity prices resulting from the crisis as their biggest retrofit drivers. Nearly one-third reported no influence. Eleven percent mentioned civic duty as a reason for equipment change. Blackouts, on the other hand, were a minor concern (5 percent).

Exhibit 5-22
Effect of Energy Crisis on Equipment Changes

Effect of energy crisis reasons on equipment changes	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
High electricity prices	44%	42%	46%	61%	54%	57%	53%	50%	53%	49%
Blackouts	5%	6%	<1%	9%	1%	13%	4%	5%	6%	3%
High demand charges	0%	0%	0%	0%	2%	0%	1%	<1%	<1%	0%
Civic duty/corporate responsibility, response to Governor's call for action	14%	9%	6%	23%	12%	4%	12%	11%	10%	11%
No Influence	32%	34%	43%	20%	31%	25%	21%	30%	26%	34%
Other	8%	3%	<1%	<1%	2%	<1%	19%	5%	4%	<1%
Refused	0%	1%	1%	2%	0%	0%	0%	<1%	<1%	1%
Don't Know	2%	6%	1%	2%	<1%	0%	<1%	2%	4%	3%
# Respondents	55	48	51	58	48	43	52	355	126	133

The energy crisis also encouraged businesses to initiate policies that emphasize the selection of high efficiency versions of energy-using equipment. Exhibit 5-23 shows that 30 percent of customers have a policy that requires or emphasizes the selection of high efficiency versions of energy-using equipment, rather than standard-efficiency versions (versus 26 percent in 1999).

Exhibit 5-23
Energy Efficiency Policy

Energy efficient equipment policy	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	26%	29%	38%	27%	21%	34%	35%	30%	28%	22%
No	73%	69%	54%	71%	77%	61%	63%	67%	70%	74%
Don't Know	1%	2%	7%	3%	2%	4%	3%	3%	2%	5%
# Respondents	108	110	110	98	111	111	119	767	324	329

Thirty-five percent of customers with an energy efficiency policy reported that they established this energy efficiency policy for their business in 2000 or 2001, according to Exhibit 5-24.

Exhibit 5-24
Year Energy Efficiency Policy Established

Year policy implemented	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
2001	20%	19%	14%	40%	24%	21%	4%	18%	18%	24%
2000	16%	23%	23%	11%	12%	15%	16%	17%	11%	26%
1999	7%	7%	29%	<1%	0%	12%	11%	12%	12%	15%
1998	0%	3%	7%	5%	21%	4%	<1%	5%	10%	0%
Before 1998	56%	48%	26%	45%	42%	46%	59%	46%	48%	34%
Don't Know	1%	0%	0%	0%	<1%	<1%	9%	2%	1%	0%
# Respondents	28	32	35	25	23	38	35	216	84	70

The energy crisis played a role in driving new high efficiency policies. Exhibit 4-25 shows that the energy crisis pushed 90 percent of all policies since 2000.

Exhibit 5-25
Did Energy Crisis Affect New Policy?
– Among Policies Initiated Since 2000 –

Did energy crisis affect decision to implement policy?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	78%	94%	98%	80%	94%	100%	75%	90%	91%	94%
No	22%	6%	2%	20%	6%	0%	25%	10%	9%	6%
# Respondents	9	14	15	10	9	13	8	78	30	35

5.6 INTENTIONS

Examining purchase intentions is an important way of gauging customer interest in energy efficient products. Customers were asked whether they would install energy-efficient equipment in the future. Customers who had installed new equipment recently are much more likely to install efficient equipment than those that had not. Institutional changers were most likely to buy high efficiency products in the future; small business changers were least likely.

Exhibit 5-28
Likelihood of Future Energy-Efficiency Equipment Purchases

Likeliness to actively consider installing energy-efficient products for your business in the future (On a scale from 1 to 10)	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters	N
Lighting Changers	7.5	7.6	8.6	8.8	7.7	7.6	8.6	8.0	7.4	7.6	205
Cooling Changers	7.0	7.8	7.4	9.3	7.1	8.0	6.7	7.5	6.8	7.1	149
Non-Changers	5.6	5.5	6.8	7.5	5.7	5.8	5.8	5.9	5.4	5.5	412
Population	6.6	6.3	7.4	8.4	6.5	6.7	6.6	6.8	6.2	6.2	767

Note that ratings are based on a scale from 0=not at all likely to 10=extremely likely

Customers were also asked whether the energy crisis had made them more likely to adopt energy efficient products in the future. Ninety-three percent of customers indicated that the energy crisis had made them more likely to buy energy efficient products in the future. Offices and businesses in the other category were less likely than other segments to buy; renters were the most likely segment to buy energy efficient products in the future.

Exhibit 5-29
Has the Energy Crisis Made You More Likely to Adopt Energy Efficient Products in the Future?

Has the energy crisis made you more likely to adopt energy efficient products in the future?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	88.6	93.3	94.6	96.3	95.9	96.2	84.5	92.7	89.7	97.1
No	11.4	6.7	4.4	3.7	4.1	3.3	14.9	7.0	10.3	2.9
Don't Know	0.0	0.0	<1%	0.0	0.0	<1%	<1%	<1%	0.0	0.0
# Respondents	56	59	67	68	60	67	59	436	159	164

5.7 CONCLUSIONS

Despite a strong desire to reduce operating costs, customers have responded with no cost conservation practices, not investment-grade actions. Lighting is the only significant investment-type action customers are taking. 2001 has been a success story for lighting – both turning lights off and retrofitting them with T-8s, CFLs and controls. Forty-seven percent of the population perceived lighting to be their primary end use – significantly more than cooling. Customers retrofitted their lights in record numbers because that is where they see their greatest source of bill savings. Furthermore, the California IOUs have increased incentive levels and instituted vendor bonuses over the past year, both targeted at the under 500 kW population. This utility program, typically dominated by lighting applications, saw 20,000 people participate in 2000 – an order of 4 to 5 times higher than a typical year.

However, with the exception of lighting retrofits, customers remain reluctant to make energy efficient investments, citing lack of funds. It is money that deters small/medium customers from making bigger investments. Higher electricity prices have not yet removed the first cost barrier.

Utilities can help bridge this gap by educating their customers and providing them the information necessary for them to understand payback analysis. Customers indicated that they want reliable savings estimates from a credible source – their utility, as will be discussed in more detail in Section 7. Utilities can assist customers in understanding how soon energy efficient investment can be paid back through energy savings. This payback analysis may put energy efficient investment within reach of more small/medium customers. As many businesses seek ways to survive a difficult business environment, more favorable payback may offer a key stimulus to cutting costs through energy efficient investment.

6. AWARENESS AND PARTICIPATION

Program awareness and participation are a central element of this study. We find that program participation and awareness have doubled since 1999, suggesting that customers have heeded to California's call for energy efficiency.

Forty-four percent of customers indicated they are aware of utility programs, about twice the level reported in the 1999 study. Fifty-five percent were unaware, a significant drop from 1999, when 66 percent were unaware. Awareness ranges from 57 percent of institutional customers to 29 percent of restaurants and groceries.

Exhibit 6-1
Utility Program Awareness by Business Type

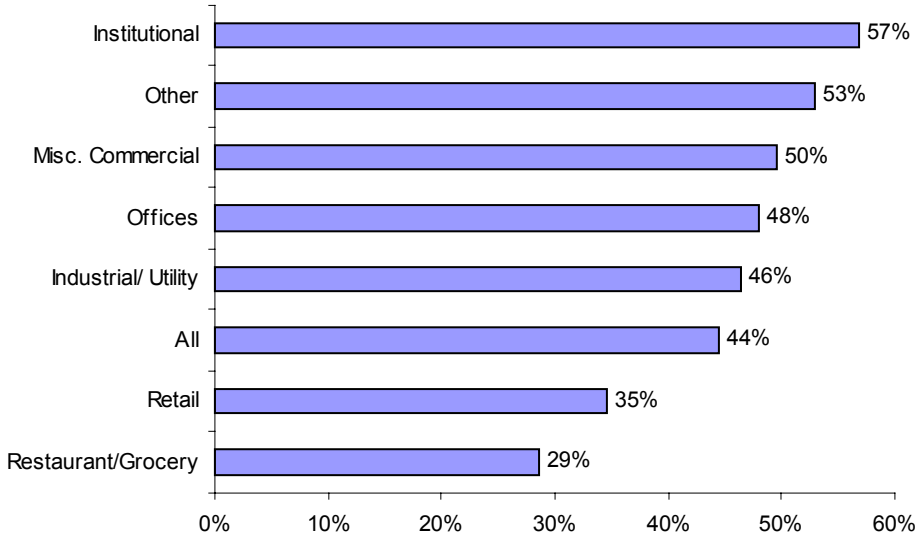
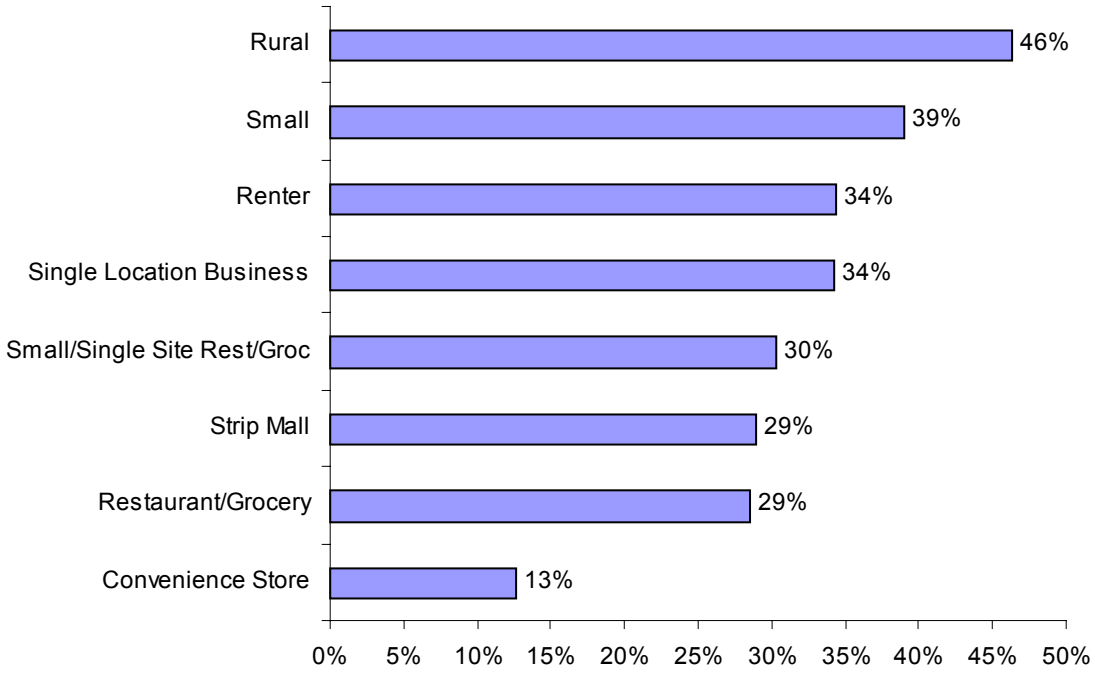


Exhibit 6-2 shows that all HTR segments except rural customers are less aware than the average customer. Restaurants, groceries and convenience stores are the least aware.

Exhibit 6-2
Utility Program Awareness by HTR Segment



Customers mentioned the following programs: rebates (14 percent), audits (3 percent), distributor incentives (2 percent), SPC (1 percent) and Express Efficiency (<1 percent). However, very few were able to recall a utility program by name.

Exhibit 6-3
Specific Mention of Utility Programs

Utility program awareness	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Not aware of utility program	51%	65%	71%	43%	52%	50%	45%	55%	60%	66%
SPC / Standard Performance Contracting	0%	<1%	<1%	3%	<1%	0%	2%	<1%	0%	<1%
Business energy audits	4%	5%	<1%	3%	2%	2%	6%	3%	2%	3%
Distributor incentives	1%	0%	<1%	0%	5%	4%	<1%	2%	1%	2%
Express Efficiency	2%	2%	0%	7%	<1%	1%	<1%	1%	0%	<1%
Rebates/incentives (non-specific)	18%	10%	8%	23%	7%	16%	21%	14%	13%	10%
Other	12%	15%	16%	20%	18%	22%	19%	17%	13%	14%
Refused	0%	<1%	0%	0%	0%	0%	0%	<1%	<1%	<1%
Don't Know Program Type	14%	3%	3%	8%	15%	7%	11%	9%	11%	7%
# Respondents	108	110	110	98	111	111	119	767	324	329

Only 16 percent of customers were aware of state-run energy efficiency programs – less than the IOU programs.

Exhibit 6-4
State-sponsored Program Awareness

State sponsored program awareness	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	15%	14%	11%	37%	15%	13%	22%	16%	13%	7%
No, not aware of any programs	85%	84%	89%	62%	85%	87%	77%	83%	86%	93%
Refused	0%	<1%	0%	0%	0%	0%	0%	<1%	<1%	<1%
Don't Know	0%	<1%	0%	<1%	<1%	0%	1%	<1%	<1%	0%
# Respondents	108	110	110	98	111	111	119	767	324	329

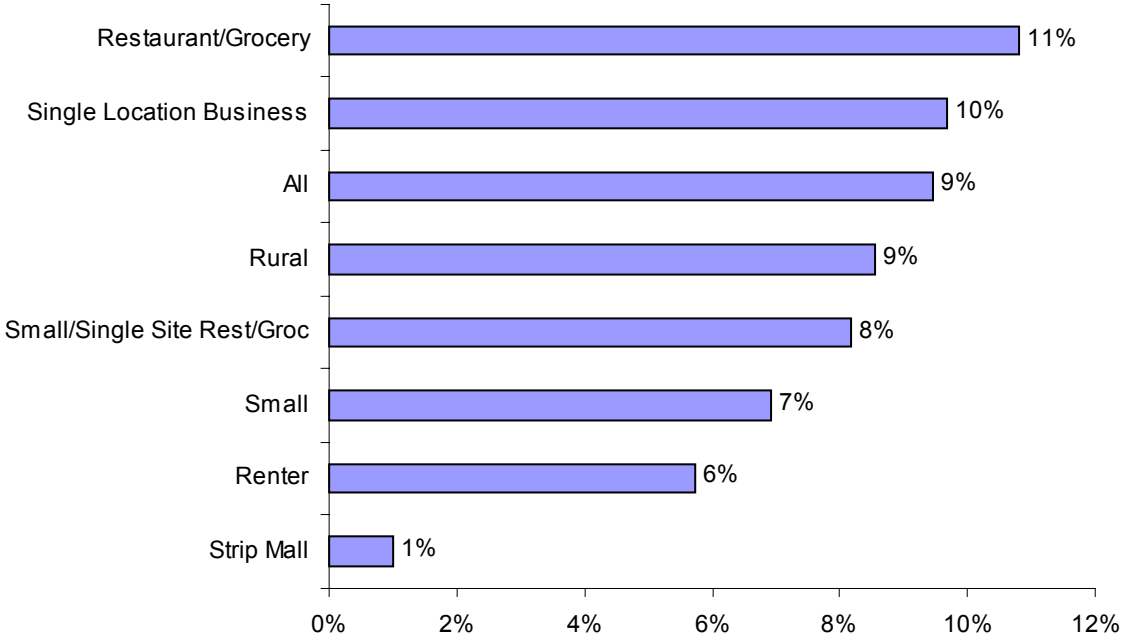
Three percent mentioned Governor Davis' 20/20 program. Three percent could recall rebates and incentives.

Exhibit 6-5
Specific Mention of State-sponsored Programs

State sponsored program awareness	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Not aware of utility program	85%	84%	89%	62%	85%	87%	77%	83%	86%	93%
20/20 Program (Gov. Davis' program implemented through utilities)	4%	2%	4%	<1%	1%	2%	6%	3%	3%	3%
Rebates/incentives (non-specific)	1%	5%	2%	2%	3%	2%	3%	3%	3%	2%
CEC load shifting	0%	2%	0%	<1%	0%	0%	0%	<1%	<1%	<1%
Other	7%	2%	4%	32%	5%	3%	13%	8%	4%	<1%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Don't Know Program Type	3%	6%	<1%	3%	6%	7%	2%	4%	5%	2%
# Respondents	108	110	110	98	111	111	119	767	324	329

Nine percent of customers participated in utility programs, about twice that reported. Restaurants and groceries were most likely to participate; convenience stores least likely.

Exhibit 6-6
Program Participation by HTR Segment



Customers mentioned SPC (3 percent), energy audits (2 percent), Express Efficiency (1 percent) and other programs (6 percent). Again, most do not recall the name of the program.

Exhibit 6-7
Specific Program Participation

Utility program participation in 2000	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes, Express Efficiency	0%	0%	0%	7%	0%	3%	<1%	1%	<1%	1%
Yes, SPC/Standard Performance Contracting	0%	0%	0%	<1%	0%	0%	2%	<1%	0%	0%
Yes, energy audits	<1%	3%	5%	2%	4%	2%	1%	2%	1%	2%
No, did NOT participate in other 2000 programs	84%	90%	82%	73%	88%	78%	77%	83%	84%	86%
Yes, other	8%	0%	6%	4%	5%	6%	13%	6%	5%	3%
Refused	0%	0%	0%	0%	0%	2%	0%	<1%	0%	0%
Don't Know	2%	3%	10%	13%	2%	4%	3%	5%	4%	6%
# Respondents	108	110	110	98	111	111	119	767	324	329

Exhibit 6-8 shows that 53 percent of customer awareness came from utility sources – bill inserts, mailings, representatives, walk-throughs. Another 16 percent of customers became aware through word of mouth. Newspaper or magazine advertising accounted for 9 percent of customer awareness.

Of the utility sources of awareness, utility walk through representatives seemed to have the biggest impact on customers.

Exhibit 6-8
Initial Source of Awareness

Initial source of awareness	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Utility Bill inserts	17%	0%	9%	2%	6%	8%	17%	10%	19%	19%
Utility Mailing	27%	6%	4%	2%	10%	5%	3%	9%	6%	2%
Utility rep	11%	25%	8%	71%	68%	32%	35%	34%	21%	35%
Utility Walk thru representative	0%	0%	21%	0%	0%	0%	0%	2%	4%	1%
Radio advertising	0%	0%	0%	0%	0%	12%	12%	5%	8%	14%
Television advertising	0%	0%	0%	0%	4%	9%	1%	3%	3%	4%
Newspaper or magazine advertising	11%	0%	0%	0%	4%	18%	11%	9%	13%	11%
Newspaper articles	0%	0%	0%	0%	0%	0%	2%	<1%	0%	0%
Word of mouth from friends/family/coworkers	2%	10%	3%	1%	17%	29%	27%	16%	29%	31%
Previous participant	0%	0%	0%	0%	0%	0%	5%	1%	4%	0%
Information from state agencies	9%	0%	0%	0%	0%	0%	0%	2%	0%	0%
Contractor/AC Person	20%	24%	0%	2%	0%	0%	9%	8%	3%	6%
Another utility's DLC program	9%	11%	0%	0%	0%	0%	2%	3%	6%	0%
Other	14%	0%	57%	25%	0%	1%	2%	10%	7%	0%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Don't Know	8%	23%	0%	0%	0%	9%	0%	5%	4%	0%
# Respondents	16	8	7	12	8	15	17	83	32	22

Conclusion

Both participation and awareness have increased significantly, most likely due to the energy crisis. Awareness and participation are lower for HTR segments, with the exception of rural customers. Moreover, most customers cannot recall specific program names.

7. CUSTOMER NEEDS AND WANTS

Needs and wants are central to any assessment of customer behavior. Telephone survey data and focus group results were used to identify program elements, and types of information and delivery mechanisms that would be most helpful in aiding energy efficiency decisions and increasing program participation.

Accurate estimates of energy savings and energy audits topped customers' list of needs. Moreover, customers want accurate savings estimates from a credible source – their utility.

7.1 BARRIERS TO PARTICIPATION

Survey respondents and focus group participants were asked questions in order to identify barriers to making energy-efficiency investments. Both groups primarily pointed to uncertainty about bill savings and the reliability of information provided by ESCOs. On the other hand, Exhibit 7-1 shows that fewer customers found lack of information, time and hassle in selecting a contractor, and lack of financing a significant barrier to investments in energy efficiency.

Exhibit 7-1
Statements Regarding Energy-Efficiency Investments

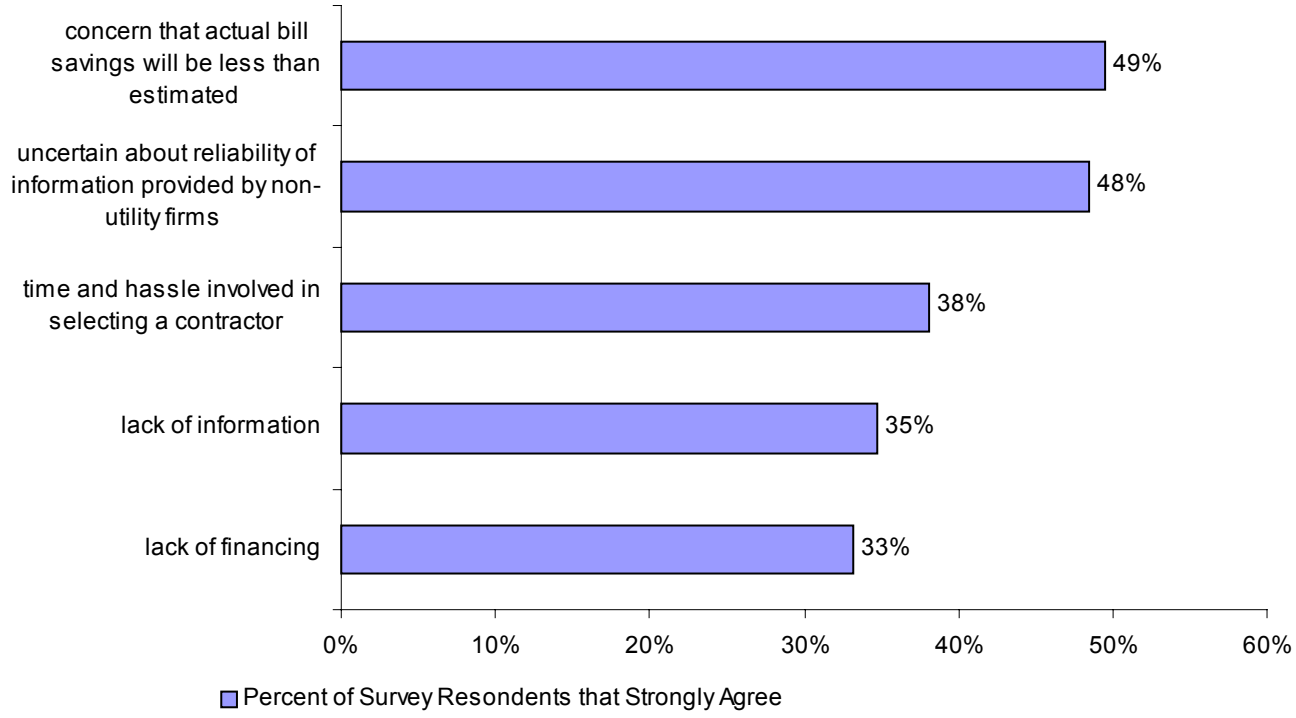


Exhibit 7-2 suggests that restaurants and groceries are most concerned about adequate bill savings. Rural customers were most concerned about lack of information. Only 18 percent of renters indicated that being energy efficient investments don't offer benefits to leaseholders.

Exhibit 7-2
Statements Regarding Energy-Efficiency Investments by HTR Segment

Statements regarding energy-efficiency investments		All	Small	Renter	Convenience Store	Strip Mall	Restaurant/ Grocery	Small/Single Site Rest/Groc	Single Location Business	Rural
When considering a new energy efficiency investment, I am concerned that the actual bill	Strongly Disagree	17%	17%	19%	27%	10%	15%	21%	20%	17%
	Strongly Agree	49%	52%	44%	34%	54%	55%	46%	46%	48%
	Neither	34%	31%	37%	38%	37%	30%	33%	35%	35%
I don't have the information I need to make an informed decision about energy efficient	Strongly Disagree	42%	39%	34%	64%	34%	40%	23%	39%	37%
	Strongly Agree	35%	34%	36%	35%	36%	30%	34%	39%	42%
	Neither	23%	27%	30%	<1%	30%	30%	43%	22%	21%
I feel uncertain about the reliability of information provided by non-utility firms	Strongly Disagree	23%	23%	17%	38%	20%	21%	30%	22%	21%
	Strongly Agree	48%	50%	50%	31%	59%	49%	42%	44%	56%
	Neither	29%	26%	34%	30%	22%	30%	27%	34%	23%
There is too much time and hassle involved in selecting a qualified energy efficiency	Strongly Disagree	43%	37%	34%	61%	41%	48%	40%	37%	44%
	Strongly Agree	38%	44%	44%	13%	33%	34%	44%	39%	34%
	Neither	19%	19%	22%	26%	27%	18%	16%	23%	21%
Lack of financing is a barrier to our organization making energy efficiency investments that we	Strongly Disagree	42%	45%	37%	39%	42%	35%	36%	33%	42%
	Strongly Agree	33%	32%	37%	20%	35%	31%	15%	36%	32%
	Neither	25%	23%	26%	41%	23%	34%	49%	31%	25%
# Respondents		767	324	329	14	81	110	36	401	163

7.2 DESIRED PROGRAM ELEMENTS

Focus group participants discussed what types of program elements they would find helpful in order for them to participate in utility sponsored programs. As shown in Exhibit 7-3, customers ranked 13 different program elements on a 1 to 10 scale, where 10 was considered to be extremely helpful in getting customers to participate in utility sponsored programs.

Consistent with the survey findings, focus group participants desired more accurate estimates of bill savings. Second on the list was energy audits, again consistent with the need for more reliable information.

Exhibit 7-3
Focus Group Customers Rated Program Elements on Helpfulness

Accurate estimates of savings from efficiency measures	8.3
Free energy audits	8.1
Rebates for high-efficiency, energy saving equipment	8.0
Direct installation of efficiency measures	7.6
Independent verification of energy savings promised by contractor	7.2
"How-to" guidebooks on choosing HE equipment and conservation actions	7.0
Low interest financing for high-efficiency energy saving equipment	6.9
Access to experts on energy needs of my business	6.8
Lists of suppliers or outlets for efficient equipment	6.6
Information on solar, wind, and other alternative power sources	6.4
Seminars and workshops	6.2
Lists of pre-qualified contractors	6.1
Sale or lease of backup generators	5.3
N = 80	
Note that ratings are based on a scale from 1=not at all helpful to 10=very helpful	

7.3 INFORMATION DISSEMINATION

Because customers were stating that accurate and reliable information was a necessary component to making energy efficiency decisions and for participating in utility sponsored programs, survey respondents were asked how they would like to have information provided to them. Exhibit 7-4 shows three-quarters of the population stated that they like to receive printed materials, such as brochures. Another 15 percent liked to receive information via the Internet, and 10 percent desired in person conversations. Also, small customers and retail businesses are not big Internet users.

Exhibit 7-4
Preferred Way of Receiving Information

Preferred way of receiving information	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Internet	12%	11%	18%	17%	18%	15%	15%	15%	10%	17%
Printed materials (i.e. brochures and guidebooks)	77%	77%	75%	72%	70%	81%	68%	74%	73%	78%
Phone conversation	0%	4%	7%	2%	2%	2%	3%	3%	3%	3%
In person conversation	9%	11%	10%	19%	10%	9%	12%	11%	13%	9%
Group setting (i.e. seminar)	4%	2%	2%	<1%	0%	0%	4%	2%	3%	2%
Email	4%	8%	5%	9%	2%	4%	4%	5%	3%	5%
Other	5%	7%	2%	2%	4%	4%	8%	5%	7%	5%
Refused	0%	<1%	0%	0%	<1%	0%	<1%	<1%	<1%	<1%
Don't know	2%	1%	1%	<1%	<1%	<1%	<1%	1%	1%	<1%
# Respondents	108	110	110	98	111	111	119	767	324	329

We asked several questions about the use of the Internet for energy-related matters because this information source has received increasing attention from utilities and others. Exhibit 7-5 shows that 39 percent of customers use the Internet for energy-related products and services, an 8 percent increase over the 1999 study. Retail customers remain the least likely to use the Internet to seek energy-related information.

Exhibit 7-5
Use of Internet for Energy-related Products and Services

Use of internet for energy-related products and services	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	34%	20%	30%	66%	46%	45%	47%	39%	30%	30%
No	64%	75%	65%	31%	52%	55%	49%	58%	68%	65%
Don't Know	2%	5%	5%	3%	1%	0%	3%	3%	2%	4%
# Respondents	108	110	110	98	111	111	119	767	324	329

Twenty-five percent of customers surveyed have visited their utilities websites, or about 60 percent of those who use the web for energy-related matters, as indicated by Exhibit 7-6.

Exhibit 7-6
Use of Utilities' Websites

Use of utilities website	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Yes	72%	70%	64%	61%	45%	57%	68%	61%	66%	56%
No	27%	28%	35%	39%	52%	43%	30%	37%	33%	42%
Don't Know	1%	2%	<1%	<1%	3%	0%	2%	1%	<1%	3%
# Respondents	36	23	27	42	41	48	48	265	82	85

When asked what energy-related websites they use, customers most frequently mentioned SCE, PG&E, and CAL-ISO, as indicated in Exhibit 7-7.

Exhibit 7-7
Most Frequently Used Energy-Related Websites

What energy related website do you use most frequently	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All
NONE	6%	0%	17%	0%	0%	<1%	0%	3%
A SEARCH ENGINE	4%	11%	6%	2%	6%	4%	9%	6%
CA GOV	0%	7%	2%	<1%	0%	0%	0%	<1%
CAL ISO	3%	0%	4%	5%	<1%	7%	5%	4%
CEC	0%	0%	0%	9%	0%	0%	0%	1%
CPUC or PUC	0%	0%	0%	6%	0%	4%	0%	1%
GRANGER	2%	0%	0%	<1%	0%	0%	<1%	<1%
PGE	19%	19%	4%	13%	10%	16%	14%	13%
SCE	22%	25%	24%	23%	19%	24%	20%	22%
SDGE	3%	0%	2%	2%	3%	1%	4%	2%
OTHER	12%	14%	10%	13%	11%	20%	16%	14%
REFUSED	0%	5%	0%	0%	0%	0%	0%	<1%
DON'T KNOW	30%	19%	33%	27%	50%	24%	32%	32%
# Respondents	36	23	27	42	41	48	48	265

7.4 CUSTOMER PERCEPTIONS OF UTILITY CREDIBILITY

As mentioned above, customers stated that they had concerns over the credibility of the information they received. Therefore, survey respondents were asked whom they would call first for information about energy efficiency. Utility distribution companies were customers' first call, 60 percent of the time, as indicated in Exhibit 7-8. Customer reliance on utilities for energy efficient help has not changed since the 1999 study.

Exhibit 7-8
First Call for Energy Efficiency Help

First call for energy efficiency help	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Engineering / Architectural Design Firms	2%	0%	<1%	<1%	0%	2%	1%	<1%	<1%	<1%
Energy Equipment Contractors and Installers	13%	17%	4%	9%	17%	8%	8%	11%	10%	12%
Energy Service Companies (ESCOs)	0%	<1%	1%	5%	4%	<1%	2%	2%	<1%	<1%
Your electric distribution company	64%	54%	67%	73%	47%	61%	62%	60%	58%	58%
Companies, besides your electric company	0%	0%	1%	0%	1%	0%	0%	<1%	<1%	<1%
Building operation/maintenance companies	<1%	0%	<1%	0%	0%	4%	0%	<1%	<1%	2%
Equipment manufacturers	<1%	6%	5%	0%	4%	2%	4%	3%	2%	4%
State agencies like the CPUC	0%	1%	2%	6%	2%	1%	<1%	2%	<1%	<1%
Internal - Facilities Manager/Custodian	3%	<1%	2%	3%	5%	2%	3%	3%	4%	1%
Other	3%	4%	1%	<1%	<1%	8%	4%	3%	4%	3%
Refused	1%	0%	0%	0%	<1%	0%	0%	<1%	<1%	0%
Don't Know	12%	16%	15%	3%	19%	10%	15%	14%	18%	18%
# Respondents	108	110	110	98	111	111	119	767	324	329

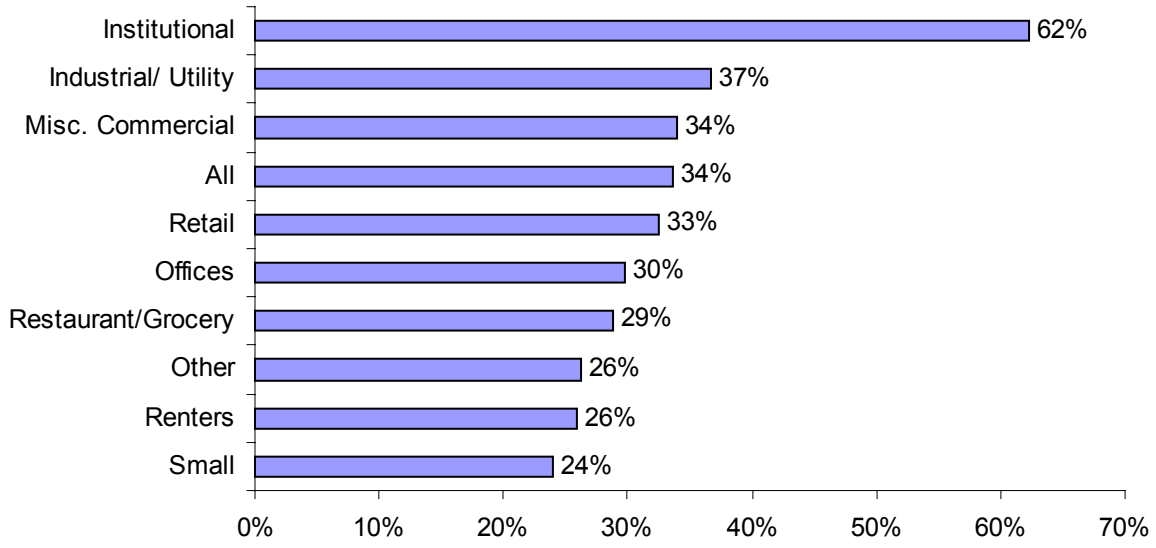
When asked to rate the credibility of different energy service providers, utilities again ranked highest. On a scale of 1 to 10, with 10 being most credible in providing energy-efficiency related information, the electric utilities rated highest at 6.8, as shown in Exhibit 7-9. Customer opinions of ESCO credibility is quite low; ESCOs ranked lowest out of seven different groups of providers. Likewise, focus group participants were suspicious about vendors whose energy efficiency advice was linked to a sales pitch.

Exhibit 7-9
Credibility of EE-Related Information

Credibility of energy efficiency-related information sources	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Engineering/Architectural Design Firms	6.4	5.6	5.7	6.8	6.0	6.5	6.7	6.2	5.8	6.0
Energy Equipment Contractors and Installers	5.8	5.8	5.6	6.1	5.6	6.0	5.8	5.8	5.5	5.6
Energy Service Companies (ESCOs)	5.3	4.8	5.4	6.3	4.8	5.7	5.3	5.3	5.2	5.4
Your electric distribution company	6.7	6.1	6.7	7.7	6.5	7.3	7.0	6.8	6.5	6.6
Building operation/maintenance companies	5.1	5.3	5.2	6.1	5.0	5.8	5.8	5.4	5.1	5.2
Equipment manufacturers	5.7	5.9	5.9	6.3	5.8	6.4	6.1	6.0	5.8	5.8
State agencies like the CPUC	5.4	5.3	5.3	6.5	4.5	6.4	5.3	5.4	5.2	5.4
# Respondents	108	110	110	98	111	111	119	767	324	329

Despite customers' concern about their credibility, ESCOs have approached 34 percent of customers. Exhibit 7-10 shows that ESCOs have targeted institutional facilities over small businesses.

Exhibit 7-10
Offers by ESCOs



Finally, survey respondents were asked how helpful their utility was in providing support for their energy efficiency decisions. Exhibit 7-11 shows that 49 percent of customers find their utility very helpful in providing support for their energy efficiency decisions (customers that

rated their utility 7 or more on a 1-10 scale). Institutional customers found their utility to be more helpful than any other type of business; retailers were least positive.

Exhibit 7-11
How Helpful Is Your Utility in Providing Support for Energy Efficiency Decisions?

How helpful is your utility in providing support for energy efficiency decisions?	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Mean	6.1	5.3	5.9	7.4	5.6	6.3	6.7	6.1	6.0	5.6
1 NOT AT ALL HELPFUL	9%	13%	11%	<1%	17%	11%	7%	10%	9%	12%
2	3%	5%	6%	3%	3%	3%	4%	4%	5%	4%
3	4%	10%	7%	<1%	5%	4%	4%	5%	7%	9%
4	2%	7%	2%	2%	6%	4%	4%	4%	4%	5%
5	17%	20%	18%	12%	14%	18%	7%	15%	17%	18%
6	11%	7%	8%	18%	10%	7%	8%	9%	9%	8%
7	13%	13%	13%	13%	21%	11%	11%	14%	12%	16%
8	21%	11%	14%	20%	10%	15%	30%	17%	16%	10%
9	4%	1%	8%	13%	4%	6%	7%	6%	4%	6%
10 EXTREMELY HELPFUL	9%	11%	12%	18%	10%	19%	14%	13%	13%	10%
Refused	0%	0%	0%	<1%	0%	0%	0%	<1%	<1%	0%
Don't Know	6%	2%	<1%	<1%	<1%	2%	4%	3%	5%	1%
# Respondents	108	110	110	98	111	111	119	767	324	329

8. HARD TO REACH SEGMENTS

This section focuses on the biggest hard to reach segments – renters and small businesses. These are perhaps the two segments where the greatest emphasis should lie, as renters comprise about 40 percent of the under 500 kW population in terms of annual energy consumption, and small customers comprise 38 percent (note that 41 percent of renters are also small). Furthermore, these two segments overlap significantly with strip malls, convenience stores and local chain/single-location restaurants. Combined, renters and small customers comprise over 60 percent of the under 500 kW population, in terms of annual energy consumption.

8.1 RENTERS

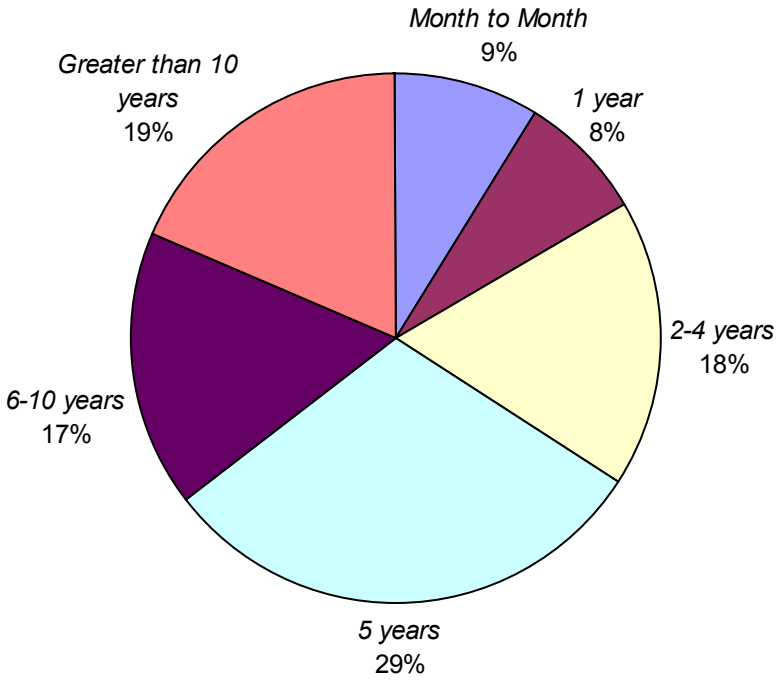
One of the HTR segments that is of most concern is renters, whose self-reported participation is 40 percent below the population average. Furthermore, aside from convenience stores and strip malls, renters have the lowest self-reported participation rate among aware customers (19 percent versus 21 percent for the population).

Renters are less likely to install energy efficient equipment. Their participation is half that of the population and they make fewer lighting and cooling changes outside the program than the population. Aside from renting their business space, these customers are not that different: they are just as likely to conserve, they have similar intentions and similar concerns with bill savings and credibility of information. One promising opportunity for reaching these customers is to develop lease language to overcome split incentive barrier.[3]

Because of this, survey respondents identified as renters were asked a series of questions aimed at identifying ways to overcome the problem of split incentives. The first issue was whether or not customers generally enter into lease agreements that are long enough to make energy efficient investments worth while. Nearly two-thirds of all renters had leases that were at least 5 years in length, in excess of the payback for most energy efficiency measures, as shown in Exhibit 8-1. Institutional customers, restaurants and groceries tend to have the longest leases; retail and small businesses have the shortest lease terms.

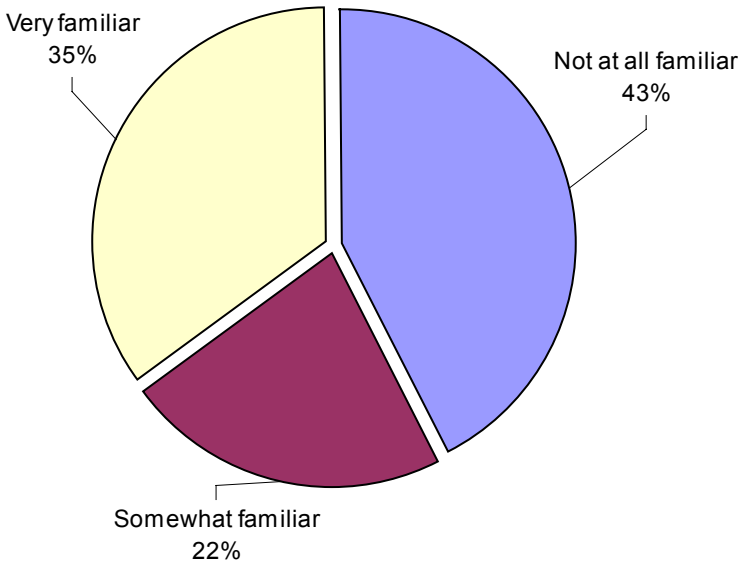
[3] The split incentives barrier generally refers to when the incentives of the agent charged with purchasing energy efficiency (the building owner) are not aligned with those of the persons who would benefit from the purchase (the renter paying the electric bill). In this case it is the owner that is generally paying for the energy efficiency improvement, but the renter benefiting from the reduced energy bill.

Exhibit 8-1
Length of Lease



Next, customers were asked how familiar they are with their lease structure. Exhibit 8-2 shows that 43 percent of renters report that they are not at all familiar with their lease.

Exhibit 8-2
Familiarity with Lease



Customers were then asked how willing they would be to share in the cost of energy efficiency measures. Exhibit 8-3 shows that for measures with a payback period of one year or less, 79 percent of the renters were willing to help the building owner pay for the energy efficiency improvements. For measures with a payback period that was equal to the number of years still left on the lease, 62 percent of the renters were willing to help. This indicates that there is a significant opportunity for utilities to work with both building owners and renters to cooperate and share in the costs and benefits of energy efficiency investments.

Exhibit 8-3
Renter Agreement with Statements
Regarding Energy Efficiency Improvements

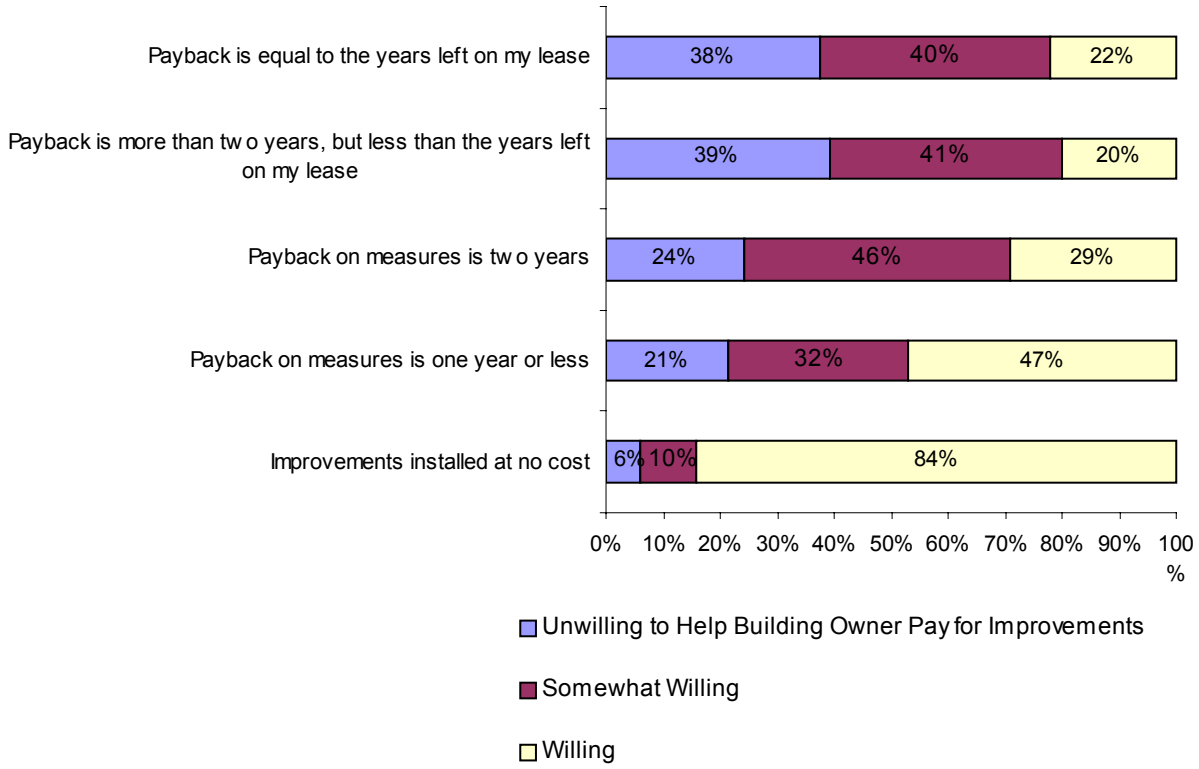


Exhibit 8-4 breaks down renter attitudes on improvements by business type. Offices tend to be more willing to make improvements in a variety of payback scenarios than any other business type.

Exhibit 8-4
Mean Rating of Agreement with Statements
Regarding Energy Efficiency Improvements Among Renters

I am willing to share in the cost of Energy Effiicency Improvements If:	Rating Group	Offices	Retail	Restaurant/ Grocery	Institutional	Industrial/ Utility	Misc. Commercial	Other	All	Small	Renters
Improvements installed at no cost	Unlikely	4%	9%	8%	0%	1%	1%	12%	6%	9%	6%
	Somewhat likely	12%	16%	2%	14%	7%	19%	5%	10%	14%	10%
	Likely	84%	74%	90%	86%	92%	80%	83%	84%	77%	84%
Payback on measures is one year or less	Unlikely	12%	25%	23%	6%	25%	15%	24%	21%	26%	21%
	Somewhat likely	19%	31%	35%	66%	37%	33%	24%	32%	34%	32%
	Likely	68%	44%	42%	29%	38%	52%	52%	47%	40%	47%
Payback on measures is two years	Unlikely	16%	28%	20%	14%	31%	13%	37%	24%	27%	24%
	Somewhat likely	38%	46%	49%	65%	48%	53%	38%	46%	48%	46%
	Likely	46%	26%	31%	21%	22%	34%	24%	29%	25%	29%
Payback is more than two years, but less than the years left on my lease	Unlikely	26%	33%	32%	40%	60%	29%	54%	39%	38%	39%
	Somewhat likely	42%	47%	42%	35%	31%	43%	40%	41%	42%	41%
	Likely	31%	20%	26%	25%	10%	27%	6%	20%	20%	20%
Payback is equal to the years left on my lease	Unlikely	22%	39%	42%	44%	31%	55%	31%	38%	38%	38%
	Somewhat likely	40%	43%	33%	47%	56%	22%	45%	40%	40%	40%
	Likely	38%	18%	25%	9%	13%	24%	24%	22%	22%	22%
# Respondents		24	45	62	21	49	35	33	269	125	269

8.2 SMALL BUSINESSES

Small businesses are the second largest HTR segment, comprising 38 percent of the population. These customers have undertaken fewer energy efficient actions. Small businesses conserve less – they are willing to turn off unused lights, but less likely to reduce lighting levels. They made fewer lighting and cooling changes than the population, and those changes tend to be driven by equipment failure.

Small businesses face more barriers to adoption. They receive less attention from utility representatives, contractors and ESCOs, report more hassle to find contractors, and face capital constraints. They find information sources less credible than the population. They are less likely to be tapped through the Internet.

Small businesses need money and hand holding because they are the most price sensitive and capital constrained group. They want information that is custom, personalized and credible They want adoption to be less of a hassle.

However their participation levels are in line with the population. Small businesses' participation may be driven by bigger Express rebates, which eases their capital constraints and vendor bonuses that encourage sales to small businesses, providing them some hand holding.

Additional non-financial options exist for serving this market:

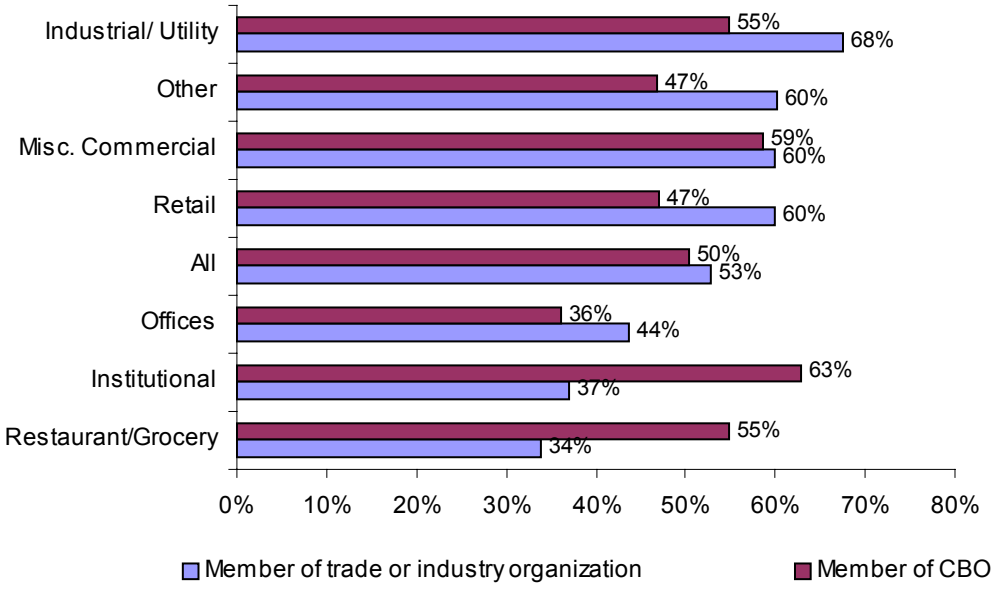
- **CBO's**: can provide credible personalized information
- **New 1-2-3 format:** provides useful information that is more customized, and provides no cost and low cost recommendations
- **Energy audits**: CDs can provide more customized information from a credible source, on-site audits even more so.

9. ROLE OF COMMUNITY-BASED ORGANIZATIONS

It is clear from Section 7 that customers want more reliable sources of information, coming from a source they find credible. Community-based organizations (CBOs) and trade/industry groups have been identified as a potential delivery mechanism for the utility sponsored programs. CBOs reach many of the under-served communities, especially small customers, and therefore can provide a cost-effective means for delivering the programs. CBOs may also be more in touch with a customer's business, therefore allowing the CBO to provide more customized, accurate information regarding energy efficiency.

From the telephone survey, we found that at least 50 percent of customers belonged to either a CBO or a trade/industry organization, as shown in Exhibit 9-1. Industrial and retail businesses were more likely to belong to trade and industry organizations over CBOs, whereas institutions and restaurants/groceries tended to belong to CBOs.

Exhibit 9-1
Organizational Membership by Business Type



However, HTR segments, particularly convenience stores, tend to belong to few organizations. Exhibit 9-2 examines organizational membership by HTR segment.

Exhibit 9-2
Organizational Membership by HTR Segment

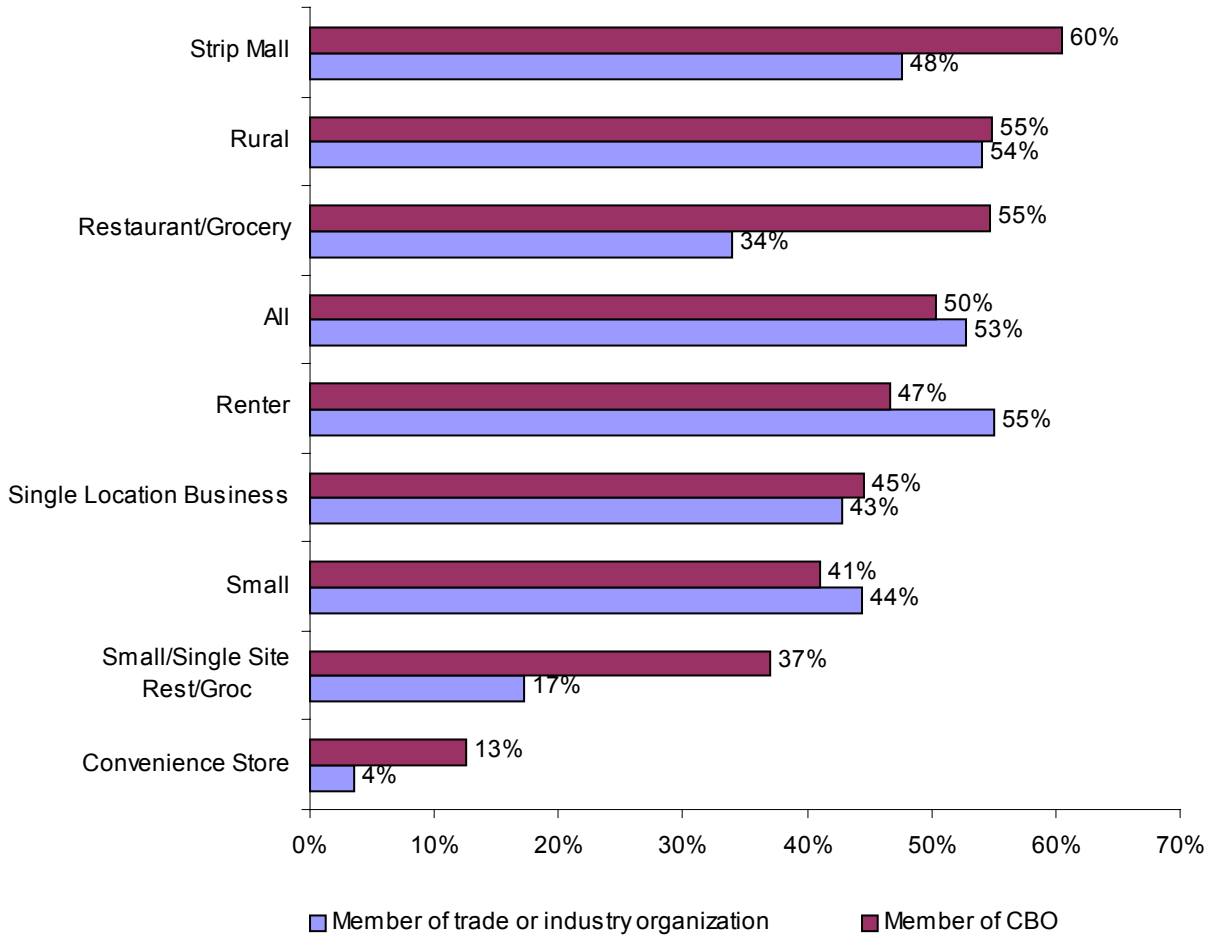


Exhibit 9-3 shows the distribution of organizations that customers mentioned they would be most likely to trust as a source of information on energy-related matters. Appendix C lists the specific organizations that received mention.

Exhibit 9-3
Distribution of Organizational Mentions

Organization mentioned by customer	count	%
Trade/industry organization	140	67%
Utility	21	10%
Community-based organization (service club, church, nonprofit)	12	6%
Government	10	5%
Building trade (engineer, contractor, architect)	4	2%
Other	23	11%
	210	100%

Exhibit 9-4 reports on the perceived credibility of CBOs as sources of energy-related information. Over three-quarters believe CBOs to be a credible information source.

Exhibit 9-4
Credibility of CBOs

Credibility of CBOs as energy-related information sources	All	Small	Renter	Convenience Store	Strip Mall	Restaurant/ Grocery	Small/Single Site Rest/Groc	Single Location Business	Rural
Very effective	27%	31%	29%	100%	39%	27%	26%	27%	25%
Somewhat effective	50%	51%	49%	0%	43%	53%	45%	55%	60%
Not at all effective	19%	16%	19%	0%	13%	14%	22%	16%	13%
Refused	<1%	0%	<1%	0%	0%	0%	0%	0%	0%
Don't Know	3%	1%	3%	0%	5%	7%	7%	2%	2%
# Respondents	514	188	226	3	56	65	15	242	111

10. CONCLUSIONS AND RECOMMENDATIONS

The energy crisis was top of mind for small business customers in 2000. The crisis hit them in the pocketbook – concern about higher energy bills far outweighs customers' fears of blackouts.

An overwhelming number of small/medium customers – 92% – are conserving in order to reduce their energy costs. Small/medium customers are primarily adopting no cost conservation measures such as reduced lighting levels and thermostat adjustment. These efforts are part of the larger conservation success story in California. California officials hoped to lower peak power demand by 2,300 MW when they launched an aggressive push for conservation early in the summer. By mid-August 2001, Californians had reportedly saved as much as 5,500 kW. About one-third of residential customers of the state's IOUs are getting a 20% rebate for reducing their power usage.

In addition, California is beginning to target demand response programs to the under 500 kW marketplace. Forty-one percent of the population is taking demand responsive action on alert days, suggesting an opportunity for both voluntary or incentive-based demand response programs. Furthermore, there is potential to be tapped among demand responsive customers – less than 20 percent of them report turning off lights, turning off unused office equipment, adjusting thermostats and taking other measures

Small/medium customers' conservation efforts underscore the success of public information campaigns launched by the state and the IOUs. The word is out about conservation, customers are listening and they are doing something about it. Moreover, these conservation actions are proactive rather than reactive, as some hadn't even seen bigger bills when this survey was fielded in July.

Customers report that they are doing all they can to reduce usage. Only six percent indicate that they lack information about energy efficient practices, confirming that the state of California and the utilities have done a good job of educating customers about what they can do.

Despite a strong desire to reduce operating costs, customers have responded with no cost conservation practices and lighting retrofits. Unfortunately, lighting retrofits are the only significant investment-type action customers are taking. 2001 has been a success story for lighting – both turning lights off and retrofitting them with T-8s, CFLs and controls. Forty-seven percent of the population perceived lighting to be their primary end use – significantly more than cooling. Customers retrofitted their lights in record numbers because that is where they see their greatest source of bill savings. Furthermore, the California IOUs have increased incentive levels and institute vendor bonuses over the past year, both targeted at the under 500 kW population. This utility program, typically dominated by lighting applications, saw 20,000 people participate in 2000 – an order of 4 to 5 times higher than a typical year.

However, with the exception of lighting retrofits, customers remain reluctant to make energy efficient investments, citing lack of funds. It is money that deters small/medium customers

from making bigger investments. Higher electricity prices have not yet removed the first cost barrier.

A number of opportunities were identified that can be used to increase program participation. It is clear from the survey research and focus group results that customers want more reliable sources of information, coming from a source they find credible. Customers emphasized a need for customized information – in particular, they want better information on energy savings and audits.

In general, the IOUs are implementing new strategies that will meet the informational needs of their small/medium customers. These include:

Customized Literature - PG&E's 1-2-3 program marketing campaign provides information on no cost, low cost and investment level energy efficiency improvements, that are specific to a number of business types. Included are specific actions and information on expected energy savings that can be achieved. This provides the customized information customers are looking for, and it is being delivered by what customer's perceive to be the most credible source of energy efficiency related information.

CBOs - CBOs and trade/industry organizations may be a cost-effective way to serve HTR segments with credible, personalized information. Survey results suggest that approximately half of the small/medium customers belong to a CBO or trade/industry organizations and view these organizations as an effective mechanism for providing energy efficiency related information. Some of the IOUs have initiatives targeted towards utilizing CBOs and trade/industry organizations to deliver their energy efficiency programs.

Energy Audits - Customers expressed interest in energy audits, which have been an extremely effective tool historically. A 1996 study conducted on PG&E's commercial energy audit program found that 52% of customers adopted at least one recommendation from their audit. Small/medium customers reported the greatest benefits from these audits. Self-audits using on-line tools or free software can provide a more cost-effective means for reaching many of the HTR segments. Both on-line tools and free software are either currently being provided or are planned for the near future.

In addition, utilities can educate their customers and provide them the information necessary for them to understand payback analysis. Customers indicated that they want reliable savings estimates from a credible source – their utility, not an ESCO. Utilities can assist customers in understanding how soon energy efficient investment can be paid back through energy savings. This payback analysis may put energy efficient investment within reach of more small/medium customers. As many businesses seek ways to survive a difficult business environment, improved may offer a key stimulus to cutting costs through energy efficient investment.

Although it does appear that there are customer segments that have historically been under-served with respect to the utility sponsored programs, the IOUs have been taking positive steps towards increasing their program participation. This is evident by the significant increases in participation in the Express Efficiency program that have occurred over the past year among the under 20 kW group of customers. One additional strategy that has not been implemented that is relevant only to renters is the following:

Lease Language – As discussed above, renters are very willing to share in the cost of energy efficiency improvements with their building owner when payback periods are less than or equal to the time remaining on their lease. In 1992, the Alliance to Save Energy and the President's Commission on Environmental Quality produced a report on "Guidelines for Energy Efficient Commercial Leasing Practices." These guidelines can serve as a starting point for lease holders and building owners to work together with assistance from the IOUs, to structure agreements that allow for the sharing of both costs and benefits of energy efficiency improvements.

Appendix A
2000 CALIFORNIA SMALL NONRESIDENTIAL PROGRAM
TELEPHONE SURVEY

Q1. Hello, this is <INTERVIEWER NAME> calling from Quantum Consulting on behalf of [UTILITY]. May I please speak with the person at this location who is most knowledgeable about decisions affecting your energy using equipment such as cooling and lighting systems?

[IF NEEDED:] This is a fact-finding survey only – we are NOT interested in selling anything, and responses will not be connected with your firm in any way. Your regulated electric utility, wants to better understand how businesses think about and manage their energy consumption.

[IF NEEDED:] The four investor-owned utilities in California are cooperating on this important study, authorized by the California Public Utilities Commission, to better understand how businesses like yours think about and manage their energy consumption. Your input is very important to the utilities and to the Commission.[DO NOT RECORD INFORMATION FOR INDIVIDUAL AT SOME OTHER BUILDING OR LOCATION. WE WANT THE INDIVIDUAL MOST KNOWLEDGEABLE ABOUT THIS LOCATION, EVEN IF BUILDING IS OWNED BY OFF-SITE MANAGER.]

1	Current individual is best contact	Q45
2	Transferred to best contact	Q45
3	Given best contact's name and number	Record for future contact
99	Don't know/refused	Thank & terminate

[WHEN CORRECT RESPONDENT IS ON-LINE (REPEAT **AS NEEDED** WHEN CURRENT INDIVIDUAL IS BEST CONTACT):]
Q2. Hello, this is <INTERVIEWER NAME> calling from Quantum Consulting on behalf of [UTILITY]. I understand you are the person at this location who is most knowledgeable about decisions affecting the energy using equipment, such as cooling and lighting, at this location.

Today we're conducting a very important study on the needs and perceptions of firms like yours, how businesses like yours think about and manage their energy consumption. This survey should take no more than about 15 or 20 minutes, and it's an important opportunity to make sure your views are represented. We believe you'll find it quite interesting.

Our records show that the address for this business is [ADDRESS.] Is this correct?

IF NOT CORRECT: Could you please tell me the correct address for this business?

[IF NEEDED:] Can I confirm that you're responsible for making energy-related decisions for your firm at [ADDRESS]??

[IF NEEDED:] This is a fact-finding survey only – we are NOT interested in selling anything, and responses will not be connected with your firm in any way. [UTILITY] wants to better understand how businesses think about and manage their energy consumption.

[IF NEEDED:] The four investor-owned utilities in California are cooperating on this important study, authorized by the California Public Utilities Commission, to better understand how businesses like yours think about and manage their energy consumption. Your input is very important to the utilities and to the Commission.

1	Current individual is best contact	Q45
2	Transferred to best contact	Repeat Q2 w/best contact
3	Given best contact's name and number	Record for future contact
99	Don't know/refused	Thank & terminate

Initial Energy Crisis Awareness

I'd like to start by asking you a few questions related to the energy situation in California.

Q45. First, are you aware of what many have called the energy crisis in California?

1	Yes	Q51
2	No	Q23
88	Refused	Q23
99	Don't know	Q23

Q51. And what aspect of the energy crisis would you say has had the most significant impact, if any on your business to date? [READ RESPONSES]

1	No impacts	Q23
2	Higher gas bills	Q51a
3	Higher electric bills	Q51a
4	Blackouts/outages	Q51a
5	Higher bills (non-specific)	Q51a
77	Other (specify)	Q51a
88/99	DK/Refused	Q23

Q51a. In what ways has this aspect of the crisis affected your business?

1	Laid off staff	Q23
2	Curtailed hours of operation	Q23
3	Reduced product/service offerings	Q23
4	Raised prices	Q23
5	Moved or considering moving business	Q23
6	Going out of business	Q23
7	Suppliers are raising prices	Q23
8	None	Q23
9	Decreased profits/loss of money	Q23
10	Higher operating costs	Q23
11	Increased conservation	Q23
12	Other (specify) _____	Q23
88/99	DK/NA/refused	Q23

Q51a_1 First mention
Q51a_2 Second mention

Energy Firmographics

Q23. What percentage of your operating costs does energy account for?

1	Less than 1 percent	Q5
2	1 but less than 2 percent	Q5
3	2 but less than 3 percent	Q5
4	3 but less than 4 percent	Q5
5	4 but less than 5 percent	Q5
6	5 but less than 6 percent	Q5
7	6 but less than 10 percent	Q5
8	10 15 percent	Q5
9	16 to 25 percent	Q5
10	26 to 50 percent	Q5
11	Over 51 percent	Q5
88	Refused	Q5
99	Don't know	Q5

Q5. Approximately how much is your average monthly electricity bill for this location? [IF NEEDED: The amount that YOUR firm pays in an average month.]

Q25. What is your business' primary use of energy?

1	Lighting	Q7
2	Cooling	Q7
3	Computer load	Q7
4	Both lighting and cooling	Q7
5	Refrigeration	Q7
6	Heating	Q7
7	Ag irrigation/pumping water	Q7
8	Cooking/food processing	Q7
9	Motors	Q7
10	Industrial Equipment/Machine processes	Q7
11	Other (Specify)	Q7
88	Refused	Q7
99	Don't know	Q7

Q7. How active a role does your business take in making lighting and climate control equipment purchase decisions at this facility? [READ LIST.]

1	Very active – involved in all phases and have veto power	Q3
2	Somewhat active – we approve decisions and provide some input And review	Q3
3	Slightly active – we have a voice but it's not the dominant voice	Q3
4	Not active at all – we're part of a larger firm	Q3
5	Or, not active at all – our firm doesn't get involved in these issues	Q3
99	DK/NA/refused	Q3

Renter Battery

Q3. Does your business own or lease the facility at [ADDRESS]?

1	Own	R10
2	Lease/rent	R10
99	DK/NA/refused	R10

R10. Do you pay the electric utility bill directly to [utility name]?

1	Yes	Q4
2	No	Q4
99	DK/NA/refused	Q4

Q4. Does your business pay for all, a portion, or none of the electric utility bill for your space at this facility?

1	Pay ALL of bill – NO electric utilities in the lease	R15
2	Pay some portion of electric utility bill – some through lease	R15
3	Pay NONE of bill – ALL electric utilities through lease	R15
99	DK/NA/refused	R15

IF Q3 = 2
R15. How long is the term of your lease?

1	1 year	R20
2	2 years	R20
3	3 years	R20
4	4 years	R20
5	5 years	R20
6	6 years	R20
7	7 years	R20
8	8 years	R20
9	9 years	R20
10	10 years	R20
11	Greater than 10 years	R20
12	Month to month	R20
13	Other (Specify)	R20
99	DK/Refused	R20

IF Q3 = 2
R20. How familiar are you with the terms of your lease regarding energy costs and energy efficiency improvements to the facility you occupy? Would you say you are:

1	Not at all familiar	R60
2	Somewhat familiar	R60
3	Very familiar	R60
99	DK/Refused	R60

IF Q3 = 2
R60. Using a 1 to 10 scale, where 1 is not at all willing and 10 is extremely willing, how willing would you be to help your building owner or property manager pay for the installation of efficiency improvements at your facility under each of the following circumstances:
[ROTATE QUESTIONS]

1	Improvements installed at no cost	CON10
2	Payback on improvements is one year or less	CON10
3	Payback on improvements is two years	CON10
4	Payback is more than two years, but less than the years left on my lease	CON10
5	Payback is equal to the years left on my lease	CON10
9	DK/NA/refused	CON10

Conservation

Next, I'm going to ask you about actions that your business may have taken to reduce or manage your energy use. We're going to start with energy conservation actions that you do every day to reduce your overall energy usage without changing or adding new equipment

CON10. Other than installing new equipment, have you taken any energy conservation actions over the past year to reduce your overall energy use, such as routinely turning off lights or setting the thermostat higher when using the air conditioning?

1	Yes	CON20
2	No	CON59
88	Refused	CON59
99	Don't know	CON59

CON20. What energy conservation actions have you taken? [SELECT ALL THAT APPLY]

1	Turn off office equipment such as PCs, monitors, printers and copiers when not in use, at night and during the weekend	CON25
2	Set thermostats lower when heating and higher when using the air conditioning	CON25
3	Schedule high electrical energy-use processes during off-peak periods where feasible.	CON25
4	Turn off any lights that are not being used, for example, unused offices and conference rooms	CON21
5	Turn down the remaining lighting levels if you can	CON21
6	(If available) Use dimmer switches to lower lights	CON25

7	Set air conditioning thermostats to pre-cool spaces at off-peak times	CON25
8	Establish a system to alert employees of expected high demand days including, but not limited to E-mail, voice mail, or public address announcement to all employees	CON25
9	Reprogram EMS schedule	CON25
10	Turn off your computer if you are out of the office for more than a few minutes	CON25
11	Set computer to low power stand bye mode	CON25
12	Turn off personal appliances, such as coffee pots and radios	CON25
13	Use e-mail to distribute documents instead of faxes and copiers	CON25
14	Make copies double-sided	CON25
15	Wear comfortable business attire. Dress appropriately for warmer temperatures	CON25
16	Run backup generator at times of peak demand	CON25
17	Other (SPECIFY)	CON25

IF CON20=4 OR 5, then ask:

CON21. What percent of your lights that would normally be on during the daytime are you keeping off now?

1	0 to 5 percent	CON22
2	6 to 10 percent	CON22
3	11 to 15 percent	CON22
4	16 to 25 percent	CON22
5	26 to 50 percent	CON22
6	51 to 75 percent	CON22
7	Over 75 percent	CON22
88	Refused	CON22
99	Don't know	CON22

CON 22. And what percent of your lights that would normally be on during evening and night-time hours are you keeping off now?

1	0 to 5 percent	CON25
2	6 to 10 percent	CON25
3	11 to 15 percent	CON25
4	16 to 25 percent	CON25
5	26 to 50 percent	CON25
6	51 to 75 percent	CON25
7	Over 75 percent	CON25
88	Refused	CON25
99	Don't know	CON25

CON25. By roughly how much do you think the conservation actions you've taken have reduced your overall energy usage?

1	0 to 5 percent	CON50
2	6 to 10 percent	CON50
3	11 to 15 percent	CON50
4	16 to 20 percent	CON50
5	21 to 30 percent	CON50
6	More than 30 percent	CON50
88	Refused	CON50
99	Don't know	CON50

CON30. What were the most important reasons that you took energy conservation actions to reduce your energy use? [ACCEPT MULTIPLES]

1	Lower energy (operating) cost	CON50
2	Shift load to off-peak ours	CON50
3	Help avoid blackouts	CON50
4	None	CON50
66	Energy crisis (general, including "civic duty" type responses)	CON50
5	Other (Specify) ___	CON50
88	Don't Know	CON50
99	Proceed to next question	CON50

IF CON10 =1
CON50. And for approximately how long do you think you and your organization are likely to continue the conservation activities you mentioned? Would you say…

1	A few more weeks	CON45
2	A few more months	CON45
3	Up to a year	CON45
4	Up to two years	CON45
5	As long as the crisis lasts or as long as necessary	CON45
88	Refused	CON45
99	Don't know	CON45

CON45. What aspect of the energy crisis, if any, affected your decision to take energy conservation actions? (DO NOT READ, CHECK ALL THAT APPLY)

1	High electricity prices	DR20
2	High gas prices	DR20
3	High demand charges	DR20
4	Blackouts	DR20
5	Civic duty/corporate responsibility/ Response to Governor's call for conservation	DR20
6	No influence	DR20
7	Higher prices (non-specific	DR20
8	Other (specify) _____	DR20
88		DR20
99	Don't know	DR20

CON59. Overall, what are the most important reasons that you haven't taken any conservation actions? [DO NOT READ. ACCEPT MULTIPLES. ALLOW VERBATIM RECORDING.]

1	Would interfere with business operation	DR20
2	Would drive away customers	DR20
3	Don't know what to do	DR20
4	Don't believe it would make a difference	DR20
5	Not possible with our lighting/cooling equipment	DR20
6	Needed more information to make decision or convince management	DR20
7	Too much trouble/hassle	DR20
8	Not worth the effort	DR20
9	Crisis is artificial, no need to conserve	DR20
10	We have backup/alternative power sources	DR20
11	Building owner would not allow it	DR20
12	Crisis will go away	DR20
13	NONE	DR20
77	Other (Specify)_	DR20
88	Don't Know	DR20

DR20. Next, I would like to ask you about actions that you take specifically on alert days when emergency warnings are issued because of extremely low electricity supplies. Are there additional actions you take on alert days, such as shutting off non-critical equipment at midday, turning off more lights than usual, and setting the thermostat even higher than you normally would.

1	Yes	DR30
2	No	BR020
88	Refused	BR020
99	Don't know	BR020

IF DR20 = 1

DR30. What actions have you taken on days when alerts are announced?

1	Turn off office equipment such as PCs, monitors, printers and copiers wh in not in use	DR35
2	Set thermostats lower when heating and higher when using the air conditioning	DR35
3	Schedule high electrical energy-use processes during off-peak periods	DR35
4	Turn off any lights that are not being used, for example, unused offices ar conference rooms	DR35
5	Turn down the remaining lighting levels if you can	DR35
6	(If available) Use dimmer switches to lower lights	DR35
7	Set air conditioning thermostats to pre-cool spaces at off-peak times	DR35
8	Establish a system to alert employees of expected high demand days including, but not limited to E-mail, voice mail, or public address announcement to all employees	DR35
9	Reprogram EMS schedule	DR35
10	Turn off your computer if you are out of the office for more than a few minutes	DR35
11	Set computer to low power stand bye mode	DR35
12	Turn off personal appliances, such as coffee pots and radios	DR35
13	Use e-mail to distribute documents instead of faxes and copiers	DR35
14	Make copies double-sided	DR35
15	Wear comfortable business attire, dress appropriately for warmer temperatures	DR35
16	Run backup generator	DR35
77	Other (SPECIFY)	DR35

IF DR30 ne 88 or 99

DR35. What is the primary reason you have taken these actions?

1	Lower energy bill	BR020
2	Reduce strain on grid	BR020
4	Be less vulnerable to outages / risk management	BR020
5	Avoid Blackout	BR020
6	Civic Duty	BR020
5	Other (specify)	BR020
88	Refused	BR020
99	Don't know	BR020

HE Equipment

Next we're going to talk another way that businesses can reduce their energy use -- by installing more energy efficient equipment. Since one of the factors that influences energy use is the kind of lighting, cooling, and other equipment a business has, we would now like to ask you about what kinds of equipment purchases you have made since January 2000.

BR020. Since January 2000, have you made any changes in indoor lighting equipment at your facility other than the routine replacement of burned out bulbs? This would include changes to fixtures or ballasts, and the addition of reflectors or lighting controls.

1	Yes		BR025
2	No Change		BR025
88	Refused		BR025
99	Don't Know		BR025

IF Q3 = 2

BR025. Since January 2000, has your property manager or building owner made any changes in indoor lighting equipment at your facility other than the routine replacement of burned out bulbs?

1	Yes	BR020
2	No	BR099
88	Refused	BR099
99	Don't know	BR099

IF BR020 = 1 or BR025 = 1, THEN BR099
ELSE GOTO CR020

BR099. What type of fixtures or ballasts were installed as part of the lighting retrofit? [SELECT ALL THAT APPLY, AFTER EACH RESPONSE, PROMPT WITH,] Did you install any other reflectors, lighting controls, or lighting fixtures?"

[SELECT ALL THAT APPLY]

1	T8 Fixtures (1" diameter)	&BR102	BR31
2	T10 Fixtures	&BR105	BR31
3	T12 Fixtures (1.5" diameter)	&BR108	BR31
4	HID (High Density Discharge) Fixtures, Compact	&BR110	BR31
5	Compact Fluorescent, Screw-in Modular	&BR111	BR31
6	Compact Fluorescent, Hardwire	&BR112	BR31
7	Incandescent	&BR113	BR31
8	Exit Signs, Compact Fluorescent	&BR114	BR31
9	Exit Signs, LED	&BR115	BR31
10	Halogen	&BR116	BR31
11	Install Reflectors	&BR117	BR31
12	Electronic Ballast	&BR118	BR31
13	Magnetic Ballast	&BR119	BR31
14	Lighting Controls, Time Clock	&BR120	BR31
15	Lighting Controls, Occupancy Sensor	&BR121	BR31
16	Lighting Controls, Bypass/Delay Timers	&BR122	BR31
17	Lighting Controls, Photocell	&BR123	BR31
18	Other (PLEASE SPECIFY)	&BR124	BR31
65	Other Fluorescent	&BR125	BR31
66	Fat/Thick Tubes	&BR126	BR31

77	Skinny/Thin Tubes	&BR127	BR31
28	T5 Fixtures (5/8" diameter)	&BR130	BR31

BR31. Overall, which of the following statements best describes the performance and operating condition of the lighting equipment before you replaced it? [READ LIST]

1	New equipment installed did NOT replace pre-existing	Q50
2	Existing equipment was fully functional	Q50
3	Existing equipment was functioning, but with significant problems	Q50
4	Or, existing equipment had failed or did not function	Q50
99	[DO NOT READ:] DK/NA	Q50

IF BR099 NOT 3, 7, OR 13, THEN Q50

Q50. Some of the lighting equipment you mentioned installing is considered to be high efficiency. What were the most important reasons that you installed high efficiency lighting equipment? [DO NOT READ. ACCEPT MULTIPLES. ALLOW VERBATIM.]

Q50		
1	Lower energy (operating) cost	BR40
2	Enhance productivity	BR40
3	Improve quality of worker or merchandising environment	BR40
4	Take advantage of rebates offered by utilities	BR40
5	Reduce organization's environmental impact	BR40
6	Improve organization's environmental image	BR40
7	Company policy to install such lighting	BR40
8	Recommended by contractor	BR40
9	NONE	BR40
66	Energy crisis (including civic duty responses)	BR40
77	Other (Specify) ___	BR40
88	Don't Know	BR40
99	Refused	BR40

BR40. Who was most influential in helping you make this decision? [Accept multiple]

1	Energy Equipment Contractors and Installers (e.g., lighting, HVAC)	CR020
2	Energy Service Companies, often referred to as ESCOs	CR020
3	Your electric utility (e.g., PG&E, SCE, SDG&E)	CR020
4	Equipment manufacturers	CR020
5	Corporate decision	CR020
6	Corporate management	CR020
7	Made decision on my own	CR020
8	In-house staff	CR020
77	Other_____	CR020

99	[DON'T READ] Don't Know/ Refused	CR020

CR020. Since January 2000, did you make any changes related to cooling at your facility, including air conditioning units, programmable thermostats, or HVAC controls?

1	Yes		CR025
2	No Change		CR025
88	Refused		CR025
99	Don't Know		CR025

IF Q3 = 2

CR025. Since January 2000, has your property manager or building owner made any changes related to cooling at your facility, including air conditioning units, programmable thermostats, or HVAC controls?

1	Yes	CR099
2	No	CR099
88	Refused	CR099
99	Don't know	CR099

IF CR020 = 1 or CR025 = 1, THEN CR099
ELSE GO TO GS020

CR099. What types of equipment were installed as part of the cooling retrofit? [SELECT ALL THAT APPLY, AFTER INITIAL RESPONSE, PROMPT WITH] 'Did you install any other items such as air conditioning units, programmable thermostats, or HVAC controls?'

[SELECT ALL THAT APPLY]

1	**Split system** (two components; compressor is separate from the supply air fan)	&CR100	CR080
2	**Packaged systems** (one component)	&CR101	CR080
3	**Package Terminal A/C** (e.g., Hotel/Motel units)	&CR102	CR080
4	**Remote Condensing Unit**	&CR103	CR31
5	**Evaporative coolers** (swamp coolers)	&CR104	CR31
6	**Water Chiller**	&CR105	CR31
7	**Evaporative Condenser**	&CR106	CR31
8	**Cooling Tower**	&CR107	CR31
9	**Adjustable Speed Drives**	&CR108	CR31
10	**Energy Management System**	&CR109	CR31
11	**Reflective Window Film**	&CR110	CR31
12	**HVAC Controls: Bypass Timer**	&CR111	CR31
13	**HVAC Controls: Time Clock**	&CR112	CR31
14	**HVAC Controls: Set-Back Programmable Thermostat**	&CR113	CR31

15	**Other** (SPECIFY)	&CR114	CR31
71	**Individual A/C or Heat Pump Units** (e.g., Rooftop units, Unitary Equipment, Central A/C with multiple/single unit) **NOTE:(ask if split or package system)**	&CR115	CR080
72	**Window/Wall Units**	&CR116	CR31

IF CR099 = 1, 2, 3 or 71

CR080. Was the AC unit that you installed standard or high efficiency?

1	Standard efficiency		CR31
2	High efficiency		CR31
88	Refused		CR31
99	Don't know		CR31

IF CR020 = 1 OR CR025 = 1, THEN CR31

CR31. Overall, which of the following statements best describes the performance and operating condition of the cooling equipment before you replaced it? [READ LIST]

1	New equipment installed did NOT replace pre-existing equipment	Q52
2	Existing equipment was fully functional	Q52
3	Existing equipment was functioning, but with significant problems	Q52
4	Or, existing equipment had failed or did not function	Q52
99	[DO NOT READ:] DK/NA	Q52

IF CR020 = 1 OR CR025 = 1, THEN Q52

Q52. What were the most important reasons that you installed new cooling equipment [DO NOT READ. ACCEPT MULTIPLES. ALLOW VERBATIM.]

1	Lower energy (operating) cost	CR40
2	Enhance productivity	CR40
3	Improve quality of merchandising environment	CR40
4	Take advantage of rebates offered by utilities	CR40
5	Reduce organization's environmental impact	CR40
6	Improve organization's environmental image	CR40
7	Standard company practice to install HE	CR40
8	Contractor recommendation	CR40
10	NONE	CR40
11	Old equipment wasn't working properly	CR40
66	Energy crisis	CR40
77	Other (Specify) ___	CR40
99	Don't Know	CR40

CR40. Who was influential in helping you make this decision?

1	Energy Equipment Contractors and Installers (e.g., lighting, HVAC)	GS020
2	Energy Service Companies, often referred to as ESCOs	GS020
3	Your electric utility (e.g., PG&E, SCE, SDG&E)	GS020
4	Equipment manufacturers	GS020
5	Corporate technical staff	GS020
6	Corporate management	GS020
8	Other_____	GS020
99	[DON'T READ] Don't Know/ Refused	GS020

GS020. Since January 2000, did you make install any gas appliances at your facility, such as a boiler, water heating, furnace, gas booster for dishwasher?

1	Yes	GS099
2	No Change	OTH20
88	Refused	OTH20
99	Don't Know	OTH20

IF GS020 = 1

GS099. What types of gas appliances were installed?

[SELECT ALL THAT APPLY]

1	Boiler		GS080
2	Water heater		GS080
3	Furnace		GS080
4	Gas booster for dishwasher		GS080
77	Other (specify)		GS080
99	Don't know/refused		GS080

IF GS020 = 1

GS080. Was the gas appliance that you installed standard or high efficiency?

1	Standard efficiency		OTH20
2	High efficiency		OTH20
88	Refused		OTH20
99	Don't know		OTH20

OTH20. Since January 2000, have you added or replaced other equipment that that would significantly affect overall energy consumption?

1	Yes	OTH5
2	No	OTH30
88	Refused	OTH30
99	Don't know	OTH30

IF OTH20 = 1

OTH5. Which of the following types of equipment were affected? (READ FIRST FIVE THEN ASK FOR OTHER)

1	Food Service Equipment	OTH10
2	Water Heating	OTH10
3	Outdoor Lighting	OTH10
4	Refrigeration	OTH10
5	Motors	OTH10
77	Other (SPECIFY)	OTH10
88	Refused	OTH10
99	Don't Know	OTH10

IF CR020 = 1
IF BR020 = 1
IF GS020 = 1
IF OTH20 = 1

OTH30. What aspect of the energy crisis, if any, affected your decision to install this equipment?

1	High electricity prices	Q49
2	Blackouts	Q49
3	High demand charges	Q49
4	Civic duty/corporate responsibility, response to Governor's call for action	Q49
77	Other (Specify)	Q49
88	Refused	Q49
99	Don't Know	Q49

Q49. How likely will you be to actively consider installing energy-efficient products for your business in the future? Please give me a rating from 1 to 10, where 10 means you're EXTREMELY likely to consider energy-efficient products, and 1 means you're NOT AT ALL likely to consider energy-efficient products.

#		

IF Q49 < 5, GOTO DM2
IF Q49 $\geq$ 5, ASK

OTH40. Has the energy crisis made you more likely to adopt energy efficient products in the future?

1	Yes	DM2
2	No	DM2
88	Refused	DM2
99	Don't know	DM2

DM2. Does your organization have a policy that requires or emphasizes the selection of high efficiency versions of energy-using equipment, rather than standard-efficiency versions? (INTERVIEWER NOTE: For example, a policy requiring all new fluorescent lighting systems to be T8 lamps with electronic ballasts, or that all new motors be premium efficiency).

1	Yes	DM3
2	No	Q54
99	DK/NA/Refused	Q54

IF DM 2 = 1

DM3. When did you implement this policy?

1	2001	DM4
2	2000	DM4
3	1999	Q54
4	1998	Q54
5	Before 1998	Q54
99	DK/NA/Refused	Q54

IF DM 3 = 1, 2 and IF Q45 ne 2

DM4. Did the energy crisis influence your decision to implement this policy?

1	Yes	Q54
2	No	Q54
88	Refused	Q54
99	Don't know	Q54

Q54. Since January 2000, were there any opportunities to improve energy efficiency by installing energy-saving equipment or reduce energy use through conservation at your facility that were identified <u>but not undertaken</u>?

1	Yes	Q55
2	No	T1
88	Refused	T1
99	Don't know	T1

IF Q54 = YES THEN ASK Q55

Q55. And, overall, what were the most important reasons that you did not take these energy saving opportunities? [DO NOT READ. ACCEPT MULTIPLES. ALLOW VERBATIM RECORDING.]

1	Other priorities for capital spending	T1
2	Amount of savings did not justify added investment costs	T1
3	No funds available for investment	T1
4	Energy savings were too uncertain	T1
5	Could not obtain financing for investment	T1
6	Needed more information to make decision or convince management	T1
7	Not enough management time to oversee project	T1
8	Would have took too much time to get a convincing analysis	T1
9	Uncertainty created by deregulation	T1
10	Expectation that energy prices would decrease	T1
11	Building Owner would not allow it	T1
12	Crisis will go away	T1
13	NONE	T1
77	Other (Specify)_	T1
88	Don't Know	T1
99	Proceed to next question	T1

Barriers

T1. Now I'd like to read a brief series of statements and I'd like you to tell me how well each statement describes your beliefs about energy efficient investments. We'll again use a 1-to-10 scale, where 1 means you DON'T AGREE AT ALL with the statement, and 10 means you AGREE COMPLETELY with the statement. The first/next one is … [RANDOMIZE, READ AND OBTAIN A RATING FOR EACH. WHEN SEQUENCE COMPLETE, GO TO T5.]

1	When considering a new energy efficiency investment, I am concerned that the actual bill savings will be less than what was estimated.	T5
2	The energy crisis has provided me with an opportunity to advance the cause of energy efficiency in my business.	T5
3	I don't have the information I need to make an informed decision about energy efficient investments.	T5
4	The energy crisis has forced me to take expensive or time consuming actions that I would not otherwise have taken.	T5
5	I feel uncertain about the reliability of information provided by non-utility firms proposing energy-efficient investments for my business.	T5
6	I am satisfied with the energy conservation decisions I have made in my business.	T5
7	There is too much time and hassle involved in selecting a qualified energy efficiency contractor.	T5
8	Lack of financing is a barrier to our organization making energy efficiency investments that we want to make.	T5
9	I don't see benefits to energy efficiency because I am a leaseholder.	T5

EFFICIENCY OFFERS

Now I'd like to ask you a question about energy efficiency service offers you may have received.

T5. Since January 2000, has your organization been approached by any companies offering to provide services to improve the efficiency of your facility's energy usage?

1	Yes	T6
2	No	T6
88	Refused	T6
99	Don't know	T6

Needs Assessment & Program/Web Awareness

T6. If you needed help or information related to energy efficiency or energy conservation, what type of company would you typically call first:

[Do NOT READ LIST, Enter Verbatim, Upcode afterwards]

1	Engineering / Architectural Design Firms	T7
2	Energy Equipment Contractors and Installers (e.g., lighting, HVAC)	T7
3	Energy Service Companies, often referred to as ESCOs	T7
4	Your electric distribution company (e.g., PG&E, SCE, SDG&E)	T7
5	Companies, **besides your electric distribution company**, that provide electricity supply, referred to also as ESPs (Energy Service Providers)	T7
6	Building operations and maintenance companies	T7
7	Equipment manufacturers	T7
8	State agencies like the California Public Utilities Commission	T7
9	Internal – Facilities Mnager/Custodial	T7
77	Other_____	T7
99	[DON'T READ] Don't Know/ Refused	T7

T7. On a scale from 0 to 10 where 0 is NOT AT ALL CREDIBLE and 10 is EXTREMELY CREDIBLE, please rate each of the following types of companies with respect to how credible you think they are as a source of energy-efficiency related information.

1	Engineering/Architectural Design Firms	T8
2	Energy Equipment Contractors and Installers (e.g., lighting, HVAC)	T8
3	Energy Service Companies, often referred to as ESCOs	T8
4	Your electric utility (e.g., PG&E, SCE, SDG&E)	T8
5	Building operation and maintenance companies	T8
6	Equipment manufacturers	T8
7	State agencies like the California Public Utilities Commission	T8

T8. Again using a 1 to 10 scale, where 1 is NOT AT ALL HELPFUL and 10 is EXTREMELY helpful, how helpful would you say that your utility is in providing support for your energy efficiency decisions and actions?

1		CB1

CB1. Is your business a member of a community-based organization, such as the local chamber of commerce, a business district group, or a service organization, like the Lions or Kiwanis?

1	Yes	CB2
2	No	CB2
88	Refused	CB2
99	Don't know	CB2

CB2. Is your business a member of a trade or industry organization?

1	Yes	CB3
2	No	CB3
88	Refused	CB3
99	Don't know	CB3

CB3. How effective do you think these community or trade groups could be as a source of information on conservation, energy efficiency, and coping with the energy crisis? Would you say they could be…..

1	Very effective	CB4
2	Somewhat effective	CB4
3	Not at all effective	Q93a
88	Refused	Q93a
99	Don't know	Q93a

IF CB3 =1 or 2

CB4. What organization or organizations that you belong to would you be most likely to trust as a source of information on energy-related matters? (Enter verbatim)

_____		Q93a

Q93a. If you were looking for information on how to reduce energy usage at your business, in what form would you prefer to receive energy-related information? (Do not read, accept multiple)

1	Internet	Q95
2	Printed materials (i.e. brochures and guidebooks)	Q95
3	Phone conversation	Q95
4	In person conversation	Q95
5	Group setting (i.e. seminar)	Q95
6	Email	Q95
77	Other (specify) _____	Q95
88	Refused	Q95
99	Don't know	Q95

Q95. Are you aware of any programs or resources provided by [UTILITY] in 2000 or 2001 that were designed to promote energy efficiency for businesses like yours? [IF YES:]

1	Yes	Q95YES
2	No, not aware of any programs	Q95a
99	Refuesd/Don't know	Q95a

IF YES to Q95

Q95YES. What types of programs can you recall? [RECORD ALL MENTIONS.]

1	SPC / Standard Performance Contracting	Q95a
2	Business energy audits	Q95a
3	Distributor incentives	Q95a
4	Express Efficiency	Q95a
5	Rebates/incentives (non-specific)	Q95a
77	Other programs [SPECIFY:]_____	Q95a
88	Don't know	Q95a
98	No, not aware of any programs	Q95a
99	DK/refused	Q95a

Q95a. Are you aware of any programs or resources provided by the state of California in 2000 or 2001 that were designed to promote energy efficiency for businesses like yours? [IF YES:]

1	Yes	Q95aYES
2	No, not aware of any programs	Q93
99	Refused/Don't know	Q93

Q95aYES. What types of programs can you recall? [RECORD ALL MENTIONS.]

1	20/20 Program (Gov. Davis' program implemented through utilities)	Q93
2	Rebates/incentives (non-specific)	Q93
3	CEC load shifting	Q93
4	Other programs [SPECIFY:]_____	Q93
88	Don't know	Q93
99	DK/refused	Q93

Q93. Has your firm ever used the internet or the Web to obtain information about or purchase energy-related products and services?

1	Yes	Q94a
2	No	Q98
9	DK/NA	Q98

IF Q93 = 1

Q94a. What energy-related website do you use most frequently?

IF Q93 = 1

Q94. Have you used your utility's website?

Q98. What information or services would you like to see on online that would help you make decisions related to your organization's use of energy?

1	None	Q96
2	Don't use computer/go online	Q96
3	Enter information here	Q96
4	Refused/DK	Q96

Q96. Did this facility participate in any energy efficiency programs offered by [UTILITY], in 2000 or 2001? [RECORD ALL MENTIONS]

1	Yes, Express Efficiency	Q96a
2	Yes, SPC/Standard Performance Contracting	Q96a
3	Yes, energy audits	Q96a
4	Yes, other [SPECIFY:] _____	Q96a
5	No, did NOT participate in other 2000 programs	Q83
99	DK/refused/no more	Q83

IF Q96 = 1-4

Q96a. How did you hear about these programs?
[DO NOT READ CATEGORIES, INDICATE UP TO 3 RESPONSES]

1	Utility Bill inserts	Q83
2	Utility Mailing	Q83
3	Utility rep	Q83
4	Utility Walk thru representative	Q83
5	Radio advertising	Q83
6	Television advertising	Q83
7	Newspaper or magazine advertising	Q83
8	Newspaper articles	Q83
9	Word of mouth from friends/family/coworkers	Q83
10	Previous participant	Q83
11	Information from state agencies	Q83
12	Contractor/AC Person	Q83
13	Another utility's DLC program	Q83
77	Other: _____	Q83
88	Refused	Q83
99	Don't Know	Q83

Firmographics

Q83. Which of the following categories describes the number of employees your firm has at this location?

1	1 to 5	Q91
2	6 to 10	Q91
3	11 to 20	Q91
4	21 to 50	Q91
5	51 to 100	Q91
6	Or, over 100	Q91
9	[DO NOT READ:] DK/NA/refused	Q91

Q91. How many locations does your firm have?

1	1	Q10
2	2 to 4	Q90
3	5 to 10	Q90
4	11 to 25	Q90
5	Over 25	Q90
9	[DO NOT READ:] DK/NA/refused	Q90

Q90. And which of the following statements best describes the location of your firm's facilities?

1	Our facilities are concentrated in one part of California	Q10
2	Our facilities are located in various parts of California, but not outside the state	Q10
3	Our facilities are located both within and outside California	Q10
4	Other (specify) _____	Q10
99	[DO NOT READ:] None of the above	Q10

Q10. Is this facility located in a community that is urban, suburban or rural?

1	Urban	Q20
2	Suburban	Q20
3	Rural	Q20
88	Refused	Q20
99	Don't know	Q20

Q20. What is the main activity at your business?

1	Office	Q30
2	Retail (non-food)	Q30
3	College/university	Q30
4	School	Q30
5	Grocery store	Q30
5a	Convenience store	Q30
6	Restaurant	Q30
7	Health care/hospital	Q30
8	Hotel or motel	Q30
9	Warehouse	Q30
10	Personal Service	Q30
11	Community Service/Church/Temple/Municipality	Q30
12	Industrial Process/Manufacturing/Assembly	Q30
13	Condo Assoc/Apartment Mgmt	Q30
14	Other (SPECIFY)	Q30
99	DK/Refused	Q30

IF Q20 = 1, 2,3, 4, 5, 5a, 6, 7, 10, 11, 15, THEN Q30

Q30. Are you located in a strip mall?

1	Yes	Q40
2	No	Q40
88	Refused	Q40
99	Don't know	Q40

IF Q20 = 5 and Q83 = 1, 2, or 3 THEN Q40

Q40. Would you describe your business as a convenience store?

1	Yes	Q84
2	No	Q84
88	Refused	Q84
99	Don't know	Q84

Q84. Can you estimate the total square footage of your facility at this location to be …?

1	Less than 2,500 square feet	Q97
2	2,500 but less than 5,000 square feet	Q97
3	5,000 but less than 10,000 square feet	Q97
4	10,000 but less than 20,000 square feet	Q97
5	20,000 but less than 50,000 square feet	Q97
6	50,000 but less than 100,000 square feet	Q97
7	Ag/Non-facility – Outdoors	Q97
99	Don't know	Q97

Q97. And finally, based on what we've discussed today, what other comments or suggestions do you have regarding energy-efficient products and practices, or utility programs that support energy efficiency? [RECORD VERBATIM]

May I please record your name, simply for verification purposes – a supervisor will confirm a small percentage of the interviews I've done.

Thank you very much for your participation in this very important survey, you've been extremely helpful. I hope you found the process interesting and enjoyable. Thanks again, and have a great day.

APPENDIX B. FOCUS GROUP RESULTS

1. INTRODUCTION

This report presents the findings from a set of focus groups conducted with small to mid size non-residential customers across California from June 18-21, 2001 to obtain insights into customer awareness of and response to the energy crisis. Eight groups were conducted -- two each in Berkeley, Fresno, Orange City, and San Diego. Participants were recruited from Dun and Bradstreet (D&B) lists based on SIC codes to ensure the desired mix of business types and sizes, and a screener (Appendix A) was administered to verify that the recruited respondent in fact played a role in decisions related to energy use and the selection of energy using equipment. Specific market segments recruited for each group are summarized below.

Location	Date	Type of Group
Berkeley #1	Mon, Jun 18	customers less than 10 employees; not part of a major chain or franchise
Berkeley #2	Mon, Jun 18	customers with 10-99 employees
Fresno #1	Tues, Jun 19	customers less than 10 employees; not part of a major chain or franchise
Fresno #2	Tues, Jun 19	customers with 10-99 employees
Orange City #1	Wed, Jun 20	customers that are lease holders/renters (no size limits)
Orange City #2	Wed, Jun 20	customers that are owners
San Diego #1	Thurs, Jun 21	Customers with less than 24 employees that are either restaurants, grocery stores or retail establishments and are not part of a major chain or franchise
San Diego #2	Thurs, Jun 21	Customers with 25-99 employees

The discussion for each group followed a discussion guide (Appendix B), which was structured along the basic topic headings shown in this report. In the remainder of this report, overall conclusions about the perceptions and actions of small nonresidential customers across all service territories and business types are discussed first, followed by significant differences that were found between business types, ownership (rent vs. own; direct payment vs landlord payment of utility bills), and service territory. Illustrative

quotations are used where to give the reader a better understanding of how small business decision makers view these issues.

2. OVERALL AWARENESS AND IMPACT OF THE ENERGY CRISIS

One of the most striking findings of the focus groups is that there is universal awareness of the energy crisis and – as a result – interest in energy-related issues, including conservation and energy efficiency. Across business types, renters and owners, and utility territories, almost all participants who pay their utility bill were aware of their own energy costs; and even renters whose utility costs are bundled in their rent were cognizant of their primary end uses and how they affect overall consumption.

Even though most of the businesses said that energy costs are just a few percent of their overall operation costs, participants were more likely to view sharp price increases than blackouts as a serious threat to their business – perhaps because relatively few (less than one fourth) have experienced blackouts. A significant minority, however, are very concerned about blackouts.

- Most restaurants, retailers, and service businesses see themselves as "dead in the water" when faced with a blackout. Virtually all retailers face a loss of revenue when the power goes out, compounded by the continuing cost of payroll and the uncertainty about when power will be restored. Some retailers also worry that any customers they turn away may find a competitor who is open and take their business there permanently.

- In addition, food stores and restaurants face the very real threat of a loss of product to spoilage when refrigeration goes out for more than a very brief interval.

  - "I could survive an hour or so before the ice cream starts to melt. And milk is a consideration because once it goes up to a certain point, the milk goes bad."

  - "I've got sixteen draft beers in a box that I keep at around 37 degrees. If that goes on for a couple hours and the temperature goes to about 45, the beer's going to foam up."

  - "You cannot take a chance. Look at the disaster we had with Jack in the Box. It took them five years to come back. A little company like me, I'm out of business if that happens to me. So it's not a chance that you can take. You just have to accept the fact and go feed the trash can and all the apologies from SDG&E that they come up with are not going to do me one bit of good."

- A few stores and restaurants have managed to stay open during blackouts, shifting to natural lighting or manual record-keeping to keep their business going.

  - "When the lights go out, we go outside and sell. And we've started to do keep more hand-written records." (flower shop)

  - "We're developing a cold food menu that we can serve when the power goes out." (restaurant)

- Some offices see blackouts as little more than an inconvenience, with the main impact being the need to decide whether to send people home. Others see the loss of telephone and computer access as cutting off their business lifeline – although a few in this group felt they could "work around" blackouts if given notice, by switching to cell phones, backing up computers, etc.

- Industrial businesses also tended to see blackouts as a prime concern. In addition to lost revenue and idled production staff, interrupted production processes can either mean loss of a batch of product ($5-10,000 for a yogurt producer in Oakland) or raise safety issues (the threat of fire without the means to control it in a Fresno paper processing plant).

Industrial customers were most likely to see advance notification as a useful tool in helping them cope with outages, since they could reschedule production or – even with 15-30 minutes notice – go through a controlled shut-down of their process. Office-based businesses also said that advance warning – preferably of more than a day – would allow them to schedule their employees and make alternative communication arrangements. Most retailers and restaurants, however, said that advance warning would not allow them to stay open and therefore would not address their greatest blackout-related concerns.

Other than those in San Diego, most participants appeared not to have been hit by the dramatic increase in their bills that will result from the retroactive rate increase; a few pointed out to other members in their group that such an increase was coming. In contrast to the SDG&E groups, most of the PG&E and SCE discussants reported electricity price increases of 30-40 percent over the past year. As one Fresno participant noted, "We're waiting for the other shoe to drop on electricity. It's up about 30% from last year. But gas is up over 200% from last year."

In PG&E's service territory, several participants cited this dramatic increase in natural gas prices last winter as having had a major impact on their business; many participants said their organization budgets for utility bills a year in advance, and that increases in natural gas prices had already caused them to exhaust their budget allocation for this year. (This was particularly true for nonprofits, social service agencies, and churches.)

In SDG&E's service territory, where sharp rate increases first hit a year ago, participants were more acutely conscious of the impact of rising electricity prices. Increases of up to several hundred percent were reported, although most said that conservation had allowed them to offset the increases to some extent. Comments in San Diego included:

- "I was paying about $600-700 on a good month, and bad months it would get to about $900-1000. Now this is totally out of sight: about $1900 for the electric." (restaurant/bar)

- "I was budgeted for about $250 to $300 a month, and I'm climbing right around $750 right now." (small market)

- "In the last twelve months we've reduced consumption between 25 and 30%, and our bills are still up 50%." (social service agency)

- "I submitted a budget for, I think like $45,000 for the year, and I'm going to be using that in probably four and a half months, without a doubt." (software development firm)

While a few businesses said they simply incorporate higher energy costs into their own fee or pricing structure, most of the small businesses of all types who participated in the groups say their ability to pass on increases in energy prices is limited by competitive factors; as a result, price increases directly affect their bottom line. Even though energy costs may be just a few percent of the total, the low profit margins for many of these businesses mean that a doubling of energy costs from, for example, 1 to 2 percent could reduce net profits from 5 to 4 percent – a 20 percent reduction.

Several San Diego retailers reported having raised prices to help cover higher energy costs, but said they had reached the limit of their ability to do so. Typical comments include:

- "I didn't have a price increase for eight years, and now I've had two within a year, year and a half. So that's a pretty tough road." (restaurant)

- "We can pass along so much, but when it reaches a certain point, it's a very cutthroat business." (deli)

- "I had to go from 3 to 3.25 to 3.50 for a pint draft beer. I'm getting 3.75 now. And people really don't complain, but sometimes they don't complain but then you never see them again." (restaurant/bar)

Across the state, a handful of businesses (in lodging, distribution, and pest control) said they either had imposed or would impose an energy surcharge; a larger number of participants said that their suppliers had already done so.

- One hotel that has imposed a surcharge has met only minimal resistance from customers, but nevertheless is considering rolling the increased costs into higher room rates. "Because we're already adding the surcharge, we can't really ask people to then go out of their way to conserve energy."

- A pest control company has imposed a $2 energy surcharge on all its monthly contract fees, but is encountering significant customer resistance. "They're saying, 'well, I can't charge anybody a surcharge.' So they're canceling their service at a record rates."

A few participants said they had been able to hold their utility bills steady through aggressive conservation actions, but they doubt their ability to continue to do so as prices continue to rise.

Particularly for retail businesses, there is a perception that the combination of utility rate increases and the threat of blackouts is contributing to reduced demand for products and services.

- "We've had people concerned about coming to this area because they think a rolling blackout is like an earthquake. And increased costs have kept individual homeowners from going out one more time a week." (restaurant)

- "People psychologically just aren't in as much of a mood to spend; people just seem to be burned out, and business is down 7 percent over last year." (fabric store)

- "We're also starting to feel it in the use of the customers coming in….They're starting to save and hang on to their money a little bit more because they have to pay more bills." (floor covering retailer)

A few businesses said they had laid off workers, but more said they had put off hiring new people because of their rising energy bills.

- "The high costs have caused me to unfortunately let people go." (restaurant)

- "We haven't laid anyone off. We just aren't filling open positions." (national retailer)

- "If we get caught mid-stream with volatile utility rates, that translates directly to a reduction in services and personnel." (charity)

Several of the churches and social service agencies said that both gas and electric price increases directly affect their ability to serve their clients and fulfill their mission.

- "Last winter, attendance suffered because we couldn't keep the buildings warm enough." (boys and girls club)

- "Because of the increase in the utility bills, we try to lower our thermostat in winter and put it higher in summer. In our congregation, it's mostly older people, and it's real uncomfortable for them." (church)

- "The biggest effect of the energy crisis for us is not rolling blackouts, but that it undermines our service mission to improve the lives of low-income seniors; 350 people work at low pay to that end, and its very disheartening to have the mission undermined." (senior housing agency)

3. CONSERVATION ACTIONS

The extent to which customers report having adjusted their usage in response to the energy crisis was impressive. Across the state, almost all of the businesses participating in the focus groups have taken significant actions to conserve energy – including owners and renters who directly pay their utility bill as well as renters whose utilities are included in the rent.

Typical steps taken across the board include changing the thermostat or simply turning the AC on less frequently (reported by over two-thirds of renters and owners), turning off up to half the lights in the facility or turning off lights in unoccupied spaces (reported by over half of both groups), turning off unattended computers and other office equipment, turning off outside lights and signs, and removing old refrigerators.

A few businesses reported having undertaken training for their employees to raise energy awareness and encourage such conservation actions as turning off lights, not lowering thermostat settings, and if possible turning off the AC in unoccupied areas.

- "After the energy crisis I started putting a control on the hours the stylists could work. I used to have one girl that would come in at 6:00 in the morning and one that would leave at midnight. So I shrunk it down and said 'no girls, from now on it's between these hours.' And I knocked about $200 a month off my bill just by doing this. " (hair styling salon)

- "We've taken pains to educate our staff about the importance of conserving, turning off lights, keeping the AC off, and so on." (restaurant)

- "I've basically been just working on behavior changes with the employees. That they have to turn off their computers and printers and copiers, whereas before, especially copiers, they want to keep them running." (nonprofit)

- "We've trained the staff to go in and systematically turn off lights and AC in all vacant rooms two times a day." (hotel)

Almost half (roughly) of participants reported having taken equipment-related actions to reduce energy use. The most frequently cited examples cited included de-lamping (with or without reflectors), installation of compact fluorescent bulbs (CFLs) to replace incandescents, installation of either 32-watt or T8 fluorescent lights, and installation of occupancy sensors or timers. Less frequent actions included replacement of old air conditioners (in a few cases), installation of solar panels (even fewer cases), motor replacements, and installation of new windows (in one case, double-paned low-e windows for an apartment building, in another, windows that could be opened to take advantage of natural ventilation for a retail store in a coastal setting.)

Estimating the reduction in usage as a result of conservation actions was difficult for most participants. The majority track the dollar cost of their utility bill rather than their usage, and many see their bills going up despite their conservation efforts.

- "You can only save so much on electricity usage. If every time we save 10 cents they raise it 10 cents or 20 cents, we're getting nowhere and sooner or later we hit bottom on what we can save." (restaurant)

- "We really haven't been tracking usage. Just the cost of it. So it's been about staying about the same." (retail)

- "Honestly I just look at the dollar sign. I can imagine how bad the bill would have been if we would have had lights on all over the place. So I honestly, I don't care. I mean, it comes down to the bottom line, how much is it." (software developer)

- "I deal with 20-30 suppliers, I can't track the kWh usage. The harder I try, it catches up on me. When I save, rates go up " (restaurant)

Some customers in a variety of industries have consistently used energy saving technologies over the years to offset gradually rising rates.

- "Usage has gone up 10-12 percent a year, but I've kept the bill stable, until the last bill, which was about 30 percent higher than I anticipated – all due to price." (industrial)

- "Price increases so far have not been that big a deal for us, and increased efficiency has offset them." (fabric store)

A few participants in several groups were explicitly striving to reduce their usage to qualify for a rebate, and were therefore tracking their consumption carefully.

- "We're going to save it right now. It's going to help a lot and it's a long-term investment. So we've relied a lot on our employees and right now, if you save 15% usage you get 20% back on your bill." (large retail store)

- "Right now we're really on a push to get the SDG&E 20% rebate with the 15% reduction. We're already down 20-30% over last year." (charity)

Other participants said they felt they were being penalized for their past conservation efforts by approaches that would reward those businesses that can sharply reduce their usage over year-ago levels.

- "I'm afraid we'll be penalized for the conservation we've done in the past. It doesn't make sense that they're strapped for money and then giving some people back this bone." (restaurant)

- "PG&E says they're going to give 25% discounts or whatever to people that cut their bills back. Well, it's not going to be me. I did it many years ago." (property manager)

No more than three or four businesses explicitly said that they had not changed either their actions or equipment as a result of the energy crisis, although a somewhat larger number said they could take only limited action to reduce their usage because of their specific situation or the nature of their business.

- "I do more energy saving at home than I do at work. I walk in there, I kick that sucker (the AC) on. I've got four computers going, fax machine on all day. I don't really do anything...." (distributor)

- "We run a retail establishment and we have to, we feel we have to, maintain a comfortable atmosphere. And also my dad is in poor health, so we can't have him suffer." (vacuum cleaner store)

- "Not a whole hell of a lot you can do in a restaurant to cut electricity or gas: the grill has to be on, the oven has to be on. And the more business I create to help offset the rising costs, the more AC that's required." (restaurant / night club)

While most participants said they felt relatively well qualified to take energy saving actions, knowledge of specific EE technologies is limited. Few participants know what a T8 bulb is, and respondents sometime used fluorescent and high efficiency interchangeably. Similarly, there is a perception that all newer equipment is energy efficient (which is, of course,

generally true relative to existing systems), whether it be AC, copiers and office equipment, or refrigerators.

Business size, as measured by number of employees, was not a good predictor of either how knowledgeable participants were or how actively they managed their energy usage. Some of the businesses that were most knowledgeable about energy usage, technologies, and programs had fewer than 10 employees. Conversely, a few participants who make usage and equipment selection decisions for larger facilities said they did not know their monthly usage and cost because bills are sent to corporate headquarters.

Only a very few participants said that they take specific energy saving or demand shifting actions on alert days.

- "I leave the lights in my office off every day. On alert days, I go into my brother's office and my assistant's office and ask them to turn off their lights." (property manager)

- "I put off doing laundry on alert days." (retailer)

- "When I hear it is a stage two, I just go around and ask the girls to turn off or don't use any more blow dryer, whatever, than you what you have to." (styling salon)

Businesses are more likely to have taken action to mitigate the damage associated with a blackout. One or two per group have battery backups for their computers and/or phone systems; a few have purchased generators. (Several respondents with contacts in the business say even $250,000 generating units are being snapped up.) Since the loss of computer data is one of the main concerns associated with blackouts, almost all respondents say they encourage their employees to save and backup work more frequently on days when blackouts are possible. Several people said that they have changed their overall business pattern to avoid the effects of blackouts; two industrial users have moved to a night shift, and one restaurant has developed a cold food menu that will allow them to stay open during temporary blackouts.

A few group participants said they have taken all the conservation and energy efficiency behavior actions they can reasonably take. Most recognize, however, that there are additional energy saving opportunities in the installation of new equipment, but they are unwilling or unable to make the needed investment.

- New air conditioners, a complete lighting retrofit, and installation of more efficient refrigeration equipment were all cited as equipment replacement actions that could reduce energy use, but that would require too large a capital outlay.

- In some cases, the business either lacks access to funds or places a higher priority on investments that will increase revenue rather than those that reduce costs. As a hotel manager explained it: "With bigger rebates, we would replace our boilers. We also didn't do T8s. Our maximum payback is 6 years, and we couldn't quite meet that. We usually look for 2-3 years with minimal cash outlay; anything over 50K is big to us."

Some customers said they have calculated the payback from a potential energy efficiency investment and decided it was too long; most owners said that a 2-year payback was acceptable, a few would accept up to 5-7 years. A few business owners said the uncertainty surrounding future energy prices makes payback calculations of any kind suspect.

A small percentage of businesses said they simply pursue energy conservation/efficiency as one of their business goals, without calculating paybacks.

- "We need to achieve those savings long term anyway. It works better for us and it puts more money into our services. And also in our facilities, which have always been the poor cousin in the nonprofit community." (social services)

- "I'm in it for the long haul. I know it will save in the long run." (auto repair)

- "Everything in the last five years, I've always tried to push energy efficient, just to save a penny here and a penny there. I mean, we're not looking at a payback on that. That's just, you got to have it, you got to have it. There's not even a payback issue." (testing lab)

Even renters said that they would be willing to make energy efficiency investments that have a payback of a year or less. Essentially all renters said that they would make investments with a one year payback, and a few would go as high as three years. On the other hand, renters showed no interest in paying a higher rent per square foot for a more energy efficient facility.

- "When lights go out, I do go to the more energy efficient ones and I do the replacements." (general contractor)

- "I'm responsible for the air conditioner and we're working on putting in a new one right now. And I am looking into energy efficient, which I will right now if they're going to put it in for me. I would take a three year payback. But I would not take higher rent per square foot." (styling salon)

4. INFORMATION SOURCES AND PROGRAMS

Across California, the perception that the energy crisis is either being manufactured or caused by mismanagement has created deep distrust of the utilities – particularly of top management. Most of the groups had at least one or two participants who offered unsolicited opinions about the role of utility executives in "creating" the energy crisis. At the same time, most participants are skeptical about claims regarding potential energy savings from other sources, and utilities continue to be cited as the information source that small business people are most likely to seek out first. While the utilities are perceived to be large, somewhat unresponsive bureaucracies (particularly when approached through call center contact numbers), the actual utility representatives with whom participants have had contact are valued and highly regarded. This pattern held across the state and across industries.

4.1 Information Sources

As noted previously, customers in all segments and service territories are ambivalent about their utility. Even after complaining about the utilities' role in the energy crisis, many business people still said they would go to the utility for information about energy efficiency and energy using equipment – although some of them apparently do so more reluctantly than they would have in the past. The quotes below illustrate the confusion customers feel toward the utilities.

- "In the past, I felt you could trust PG&E to give you unbiased information. But that level of service hasn't been there in the past year and a half. You can't get much service now." (restaurant)

- "Ultimately I guess it has to be SDG&E, but do you trust them and what kind of information are you going to get?" (small grocery)

- "Although I don't trust at a certain level, I believe in SDG&E, but I don't trust SDG&E but frankly some of the others that are coming in, I have a history with SDG&E. And I don't trust the others even more. I mean, so it's maybe a catch 22." (restaurant)

- "All my life, forty years, I've always been served by Edison. So yeah, it's a natural kind of pull there to go there. But now on the other hand, you hear these things about the power and the power companies and the possibility of things happening and what is the real reason behind the power crisis and this and that. And it causes some grayness to creep in there as to where should my loyalty really be." (distributor)

In addition to this ambivalence, small business customers appear to find utilities more difficult to contact today than they were in the past, with several citing long holds, telephone ping pong, and operators who do not have the necessary information.

Although utilities are still perceived to have the most expertise, people responded favorably to having information or programs delivered by community based organizations (CBOs).

- CBOs are seen as attractive information sources because they are perceived to be aware of sector-specific concerns and they are not perceived to have a vested interest in offering certain solutions. Several participants noted, however, that the CBOs would need to obtain and confirm technical information from other sources, since they typically lack expertise in energy-related issues.

- A majority of businesses are members of some sort of organization; for retailers these tend to be chambers of commerce, for most others they tend to be industry trade organizations, such as the California Restaurant Association or, for nonprofits, the United Way. Some of these organizations are already active in energy-related issues, having invited not only the California utilities, but alternative energy suppliers to make presentations to their membership. Examples of information being provided include the following.

    - "Just like when you get your electric bill you get a little bulletin, helpful hints, the chamber with its monthly newsletter sends out helpful hints and notices of rebate

programs, etc. And then we belong to like a national association for animal hospitals. And they do things that are more specific to our needs." (animal hospital)

- "We have gotten a few mailings; we belong to a few chambers of commerce and they've sent some information to us." (restaurant)

- "United Way does it (provides energy-related information) for nonprofits. That's the connection." (charity)

State organizations tended to be viewed with knee-jerk hostility by many small businesses, although some participants recognized them as potentially valuable sources of unbiased information. In general, nonprofit organizations and participants in the Berkeley groups were more likely to view public sector agencies as potentially useful information or program delivery channels.

On average, one or two businesses in each group had established relationships with lighting, HVAC, or other contractors that they rely on for information on energy efficiency. Most participants, however, are suspicious of any vendors whose advice can be linked to purchase of one of their products or services.

Energy service companies and other energy consultants were generally viewed with suspicion across the board. A number of participants said they are routinely contacted by such vendors, but that they are skeptical of their savings claims.

- "I've had everyone telling me, well we'll come in and we'll take care of you: energy service companies, generator companies, every wholesale lighting house in the western United States, lots and lots of different —like I said, snake oil salesmen." (testing lab)

- "We all get these phone calls where someone calls up and says all I need is 20 minutes of your time. I get 20 of those calls a day…If we can save a few bucks and it makes sense, then we'll do it. But we're not going to give some Johnny-come-lately salesman trying give us his pitch because he's Mr. Cool and he drives a brand new Mercedes or something. That's not going to sell us on it. We're going to check him up one side, down the other first." (car wash)

There was no unanimity on the form in which customers prefer to receive energy-efficiency-related information. One-on-one contact with a trusted source of information is highly regarded, but many people report difficulty getting through to someone knowledgeable at their utility. Seminars were suggested by several San Diego participants as a good vehicle for providing businesses with information, providing they are provided at no or minimal cost and are scheduled at a time that does not interfere with business operations (e.g., in the evening).

Printed material is seen as valuable if it is direct, clear, and bottom-line oriented. Some participants said they are now more likely to read bill inserts than they would have been in the past; direct mail, however, tends to get lost in the vast amount of "junk mail" these businesses say they receive.

Almost half of participants have used the internet for energy-related issues, but only one or two in each group use it regularly for that purpose. Several people noted that they would like to be able to access tables comparing the energy performance and other characteristics of equipment.

4.2 Program Participation

Less than one-fourth of the businesses in the groups had participated in any utility energy efficiency programs within the past several years. Lighting retrofits (primarily T8s and CFLs, sometimes installed at low or no cost) were most commonly mentioned, but other businesses reported receiving rebates for air conditioners, motors, industrial equipment, and refrigerators or washers for office or apartment use.

About 20 percent reported having had audits at their business. These audits, in particular, were recalled by group members as being helpful, even when they were done years ago.

- "Frankly, I found SDG&E was real helpful as far as the audit and the suggestions and directives to who I might go to." (restaurant)

- "We had Edison years ago go through, and they were actually really great. This guy we had was excellent, and he came through and surveyed all our stores and showed us where we could cut back." (car wash)

- "I've used PG&E extensively for audits as well as for information and rebates" (industrial)

A handful of participants (about 3 or 4 total for all the groups) actively seek out utility and other programs to help manage energy usage for their nonprofit housing or social service agencies.

- "I look for rebates wherever I can. We serve low income people and we need free things." (social service agency)

- "I look on the internet for available programs." (charity)

No one volunteered the name of either the Express of SPC programs, and only a few had even heard of either program. Several group members recalled participating in utility programs 5-10 years ago. The overall perception among the groups was that utility rebate programs are a thing of the past.

Several businesses who have actively pursued energy efficiency opportunities in their business nevertheless said they have not participated in any of the utility programs, citing paperwork, restrictive lists of covered equipment, and the need to get approval before installing the measure.

- "The PG&E rebate program -- maybe someone is better at this than I -- but it's just a joke. It was so onerous and hard to follow, hard to understand. The rebate program just frankly never worked for us. Either we were too late or too early or we were putting in the wrong style bulb …" (property manager)

- "There's too much paperwork and too many hoops. They want too much information and are too restrictive in the equipment they cover." (industrial)

- "It always seems that I have to replace equipment and then six months later I get the rebate form and it's already replaced and done." (testing facility)

4.3 Rating Program Elements

When group participants were given a list of EE programs and services and asked to rate them on a 1 to 10 scale, accurate estimates of savings were perceived as the most helpful, followed by energy audits and rebates (see below). Those who rent their facility rated both accurate estimates of savings and free energy audits higher than did owners. Renters also showed greater interest in direct installation of efficiency measures and the availability of guidebooks, suggesting that renters are more interested in relatively basic information. Owners, on the other hand, gave higher average ratings to access to experts and lists of equipment suppliers, supporting the hypothesis that owners may be somewhat more sophisticated overall than renters in their knowledge of energy using equipment.

	All (n=80)	Own (n=37)	Rent (n=33)
Accurate estimates of savings from efficiency measures	8.3	8.0	8.5
Free energy audits	8.1	7.9	8.3
Rebates for high-efficiency, energy saving equipment	8.0	8.0	7.9
Direct installation of efficiency measures	7.6	7.2	7.9
Independent verification of energy savings promised by contractor	7.2	7.3	7.0
"How-to" guidebooks on choosing high-efficiency equipment and taking energy conservation actions	7.0	6.8	7.3
Low interest financing for high-efficiency energy saving equipment	6.9	6.8	6.9
Access to experts on energy needs of my business	6.8	7.1	6.5
Lists of suppliers or outlets for efficient equipment	6.6	7.1	6.0
Information on solar, wind, and other alternative power sources	6.4	6.5	6.3
Seminars and workshops	6.2	6.2	6.3
Lists of pre-qualified contractors	6.1	6.1	6.0
Sale or lease of backup generators	5.3	5.1	5.5

In comparing the ratings of program elements by city below, note the generally lower ratings assigned by the Fresno groups. Their mean rating was lower than or equal to those of the other groups for everything except accurate estimates of savings and sale or lease of backup generators. While the limited numbers (about 20 per site) limit our ability to draw conclusions, these low ratings may reflect a general lack of interest in utility or other programs, or they may reflect the fact that the second Fresno group was dominated by relatively large, knowledgeable, commercial and industrial users. The latter might explain, for example, why the Fresno groups assigned such a low value (compared to other groups) to direct installation of energy measures and to "how-to" guidebooks.

	All	Berk.	Fres.	Orn.	SD
Accurate estimates of savings from efficiency measures	8.3	8.2	8.5	8.5	7.9
Free energy audits	8.1	8.4	7.5	8.7	7.6
Rebates for high-efficiency, energy saving equipment	8.0	8.5	7.2	8.2	7.9
Direct installation of efficiency measures	7.6	8.6	6.3	7.2	8.1
Independent verification of energy savings promised by contractor	7.2	7.2	6.5	7.9	6.9
"How-to" guidebooks on choosing high-efficiency equipment and taking energy conservation actions	7.0	7.8	5.9	7.6	6.7
Low interest financing for high-efficiency energy saving equipment	6.9	7.0	6.7	6.8	7.2
Access to experts on energy needs of my business	6.8	6.3	6.3	7.3	7.7
Lists of suppliers or outlets for efficient equipment	6.6	6.4	5.9	7.2	6.9
Information on solar, wind, and other alternative power sources	6.4	6.8	5.7	5.7	7.4
Seminars and workshops	6.2	6.1	5.6	6.3	6.9
Lists of pre-qualified contractors	6.1	6.7	5.2	7.4	4.8
Sale or lease of backup generators	5.3	4.8	6.1	5.5	4.7

5. CONCLUSION

In conclusion, the energy crisis has clearly gotten the attention of small business users across California. Far more than has traditionally been the case, small business decision makers have energy and energy efficiency on their radar screen, and are actively looking at ways to reduce their energy usage and cut their utility bills. While the energy crisis has brought with it a growing suspicion of utility actions and motives, most users still appear to regard the utilities as their best source of information on energy-related matters. Partnerships with CBOs could help to build on the perceived strength of utilities and add the credibility and business-specific knowledge of local or industry-based associations to deliver information and programs that are perceived as helpful by the small business community. In addition, any information that the utilities can provide to address the uncertainty these customers now face (for example, designating only one or two specific days of the week on which rolling blackouts could occur for a given area) would be welcomed.

Appendix C
Community Based Organizations Mentioned by Customers in Survey

Count	Percent	Response
45	21%	Chamber of Commerce
17	8%	Utility Company (SCE, PG&E, SCGE)
9	4%	Farm Bureau
9	4%	Trade Association - non-specific
6	3%	service organizations (Rotary, Lions, Kiwanis)
5	2%	state of California
4	2%	municipal utilities
3	1%	church (diocese, National First Assembly of God, church trustee board)
3	1%	California Restaurant Association
2	1%	independent consumer organization (Consumer Reports, Consumers Union)
2	1%	unions (i.e. National Organization for AC/Heat Local 40)
2	1%	federal agencies
2	1%	county organizations (I.e. Los Angeles County Office of Education)
2	1%	contractors
2	1%	BOMA: Building Owners and Management Association
2	1%	Better Business Bureau
2	1%	National Restaurant Association
2	1%	ICSE: International Council of Shopping Centers
2	1%	Printing Industries of Northern California
1	0%	An energy audit company
1	0%	ACWA
1	0%	AFCEA
1	0%	ASHRAE
1	0%	AWWA
1	0%	CAI
1	0%	Deli Concepts
1	0%	Enron
1	0%	Federation of Independent Businessmen
1	0%	Joint Commission on Accredition of Hospitals
1	0%	Kee Kitayama
1	0%	NAIS
1	0%	NFIB: National Foundation of Independent Business
1	0%	Parent company
1	0%	SESDDC
1	0%	Soroptimist
1	0%	The US Franchise Systems
1	0%	Transload Association
1	0%	bed and breakfast
1	0%	Friends of the American Legion
1	0%	Marina Business District
1	0%	Yucca Vally Council
1	0%	Public Utility Commission (CPUC)
1	0%	architects
1	0%	engineering companies
1	0%	AAEE: American Association of Energy Engineers
1	0%	ARDA: American Resource Development Association
1	0%	American Institue of Baking
1	0%	American Library Association
1	0%	American Public Works Association
1	0%	American Society of Architects
1	0%	American Veternarian Med Association
1	0%	Association of California School Administrators
1	0%	Association of California Water Agencies
1	0%	Association of Legal Administrators

Community Based Organizations Mentioned by Customers in Survey (Cont.)

Count	Percent	Response
1	0%	Auto California Association
1	0%	Automobile Dealers Association
1	0%	BIA: Building Industry Association
1	0%	Building Contractors Association
1	0%	Business District Group
1	0%	CASBO: California School Business Officials
1	0%	CASH: California Coalition for Adequate Schools and Housing
1	0%	CCRA: California Cartridge Remanufacturers Association
1	0%	CGA: California Grocers Association
1	0%	CMA: Calfornia Manufacturers Association
1	0%	California Association of Realtors
1	0%	California Association of Water Agencies
1	0%	California Cast Metals Association
1	0%	California Creamery Operators
1	0%	California Energy and Agriculture Association
1	0%	California Health Care
1	0%	California Hotel and Motel Association
1	0%	California Library Association
1	0%	California Motor Car Dealers Association
1	0%	Car Dealers Association
1	0%	Christian School Association
1	0%	Grocer's Association
1	0%	Home Furniture Association
1	0%	Industry Manufacturers Council
1	0%	International California Grocers Association
1	0%	International Facilities and Building Maintenance Association
1	0%	International Racket Sports Association
1	0%	Laundry Owners Association
1	0%	Montebello Board of Realtors
1	0%	Motor Car Dealers Association
1	0%	NSSF: National Shooting Sports Foundation
1	0%	National Association of Purchasing Managment
1	0%	National Automobile Association
1	0%	National Bicycle Dealer Association
1	0%	National Energy Management Institute
1	0%	Sheetmetal and Air Conditioning Contractors Organization
1	0%	National Finance Administration Council
1	0%	Northern California Franchise Association
1	0%	Property Management Organization
1	0%	Restaurant Association
1	0%	SDCDMA Vet Med Association
1	0%	STAF: Specialty Tools and Association
1	0%	San Diego County Apartment Association
1	0%	San Diego Grocers and Retailers
1	0%	Santa Ana Merchants Association
1	0%	Small Business Organization
1	0%	Society for American Florists
1	0%	Sonoma County Farm Bureau Sonoma County Grape Growers
1	0%	Superintendent's Association
1	0%	The Fluid Ceiling Association
1	0%	The Maintenance Supervisors Association
1	0%	The South Coast Metro Alliance Chamber
1	0%	Western Car Wash Association
1	0%	Wine Institute
210	100%	