

**STATEWIDE NONRESIDENTIAL CUSTOMER
HARD-TO-REACH STUDY**

FINAL REPORT

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*December 2001
P1923-0121*

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EXECUTIVE SUMMARY

Since 1998, California's investor owned utilities (IOUs) have been offering informational, educational and financial assistance programs to encourage the adoption of energy efficiency measures. These programs have been funded through a public's good charge (PGC) collected as part of each customer's energy bill. The purpose of this study was to determine if there are nonresidential customer segments that are under-served (or hard-to-reach) with respect to PGC funded energy efficiency programs. A further objective of this study was to then identify potential program elements that can address the needs of these nonresidential customers to assist them in making decisions regarding energy efficiency and participating in the PGC funded programs.

The CPUC has proposed a number of customer segments believed to be hard-to-reach (HTR) as follows: "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."¹

Historic program participation data and recent telephone survey data were used to determine the extent to which these proposed HTR segments were under-served, if at all. The telephone survey data, supplemented with results from focus groups, were used to identify program elements that HTR customers would find most helpful in order to participate in energy efficiency programs. The telephone survey data were also used to identify the type of information and delivery mechanisms these customers require to make energy efficiency decisions.

Based on the analysis of these data, it appears that the majority of HTR segments proposed by the CPUC have historically been under-served by the PGC funded programs. In particular, this includes the following proposed segments: small customers that have less than 10 employees, businesses in leased space, strip malls, local chain or single-location restaurants, and convenience stores. Of these, the two most significant segments are renters and businesses with less than 10 employees, which combined comprise over 60 percent of the small/medium nonresidential population² in terms of annual energy consumption. Furthermore, these two segments overlap significantly with strip malls, convenience stores and local chain/single-location restaurants.

More recently, however, the IOUs have been targeting efforts towards small customers, which has resulted in significant increases in participation. In fact, participation data from the 2000 and 2001 Express Efficiency program indicates that small customers are not under-served for this program. The Express Efficiency program is perhaps the most important of all Statewide

¹ CPUC decision D.00-07-017, July 6, 2000, ordering paragraph 66.

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

programs because it is the most likely to serve the needs of the hard-to-reach segments, it is the most visible program, and it attracts the largest number of participants.

Based on the analysis of the telephone survey data and focus group results, it is clear 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 information that will provide them with accurate estimates of energy savings and they are interested in having energy audits performed (again, meeting the need for accurate estimates of savings).

Fortunately, the IOUs are currently implementing new strategies that will meet the informational needs of these customers. Historically, much of the information customers have been requesting has been made available by the IOUs, but it has not reached some of the under-served markets as well as others. These strategies also provide a more cost-effective means for delivering this information to the hard-to-reach customer segments. These efforts include utilizing community based organizations and industry/trade groups to assist in delivering the programs, providing more useful and customized program literature, and providing tools for customers to perform their own energy audits.

However, there still is a need to work with renters to overcome participation barriers that are specific to this customer segment. Historically, fewer energy efficiency measures are installed in leased space because building owners generally must pay for the retrofit, but it is the renter that benefits from the energy savings. This provides little incentive on the part of the owner to invest in energy efficiency. Our research shows that renters are 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. We believe 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.

1. OVERVIEW

Since 1998, California's investor owned utilities (IOUs) have been offering informational, educational and financial assistance programs to encourage the adoption of energy efficiency measures. These programs have been funded through a public's good charge (PGC) collected as part of each customer's energy bill. Since the inception of the PGC funded programs, no explicit analysis has been conducted to determine if there exist nonresidential customer segments that have benefited from these programs less than others. Over the past year, the IOUs have been working with the California Public Utilities Commission (CPUC) to determine if there are nonresidential 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 California Statewide Small/Medium Nonresidential Program Area Market Assessment and Evaluation Team has conducted a study on California's nonresidential population of customers with demand under 500 kW with two primary objectives:

1. Determine if the nonresidential HTR segments proposed by the CPUC are under-served, and to what extent.
2. Identify potential program elements that can address the needs of these nonresidential customers to assist them in making decisions regarding energy efficiency and participating in the PGC funded programs.

2. METHODOLOGY

Two separate approaches were used to determine the extent to which the proposed HTR segments were under-served, if at all. First, self-report program participation data was collected via a telephone survey of 767 customers across the state in July 2001. The survey collected information on each respondent that allowed for each customer to be classified into one or more of the proposed HTR segments. By doing so, self-reported rates of program participation could be compared among the proposed HTR segments and the overall nonresidential population.

Second, program participant tracking data could be used to analyze actual participation trends among the Express Efficiency program during 1999 through the first half of 2001 across all four IOUs. California's statewide Express Efficiency program was analyzed because it is the program that is the most likely to serve the needs of the hard-to-reach segments, it is the most visible program, and it attracts the largest number of participants. However, limited information existed in the tracking system that allowed customers to be classified into the various proposed HTR segments. Therefore, only a subset of the proposed HTR segments were analyzed using this approach.

The second objective of this study was to conduct a wants and needs assessment on these customer classes to identify potential program elements that could assist these customers in making decisions regarding energy efficiency and increase participation in the PGC funded programs.

Awareness of the PGC funded programs is obviously an important component for program participation. Therefore, the telephone survey data were used to compare self-reported program awareness rates across the various proposed HTR segments and the overall nonresidential population. Furthermore, comparing self-reported participation rates among the aware population for each segment provides an indication as to whether it is low awareness that is causing low participation, or if there are segment-specific barriers that exist that may be causing lower than average participation.

In addition to the telephone survey, eight focus groups were also conducted with a primary objective being to identify program elements that HTR customers would find most helpful in order to participate in energy efficiency programs. The telephone survey data were also used to identify the type of information and delivery mechanisms these customers require to make energy efficiency decisions.

The remainder of this paper will:

1. Define the proposed HTR segments and identify how the telephone survey and participant tracking data were each used to classify customers into these segments.
2. Determine the extent to which the proposed HTR segments may be under-served, by comparing participation levels among the proposed HTR segments and the nonresidential population based on two approaches: (1) self-reported survey data and (2) historic participation tracking data.
3. Compare self-reported awareness and participation levels among the proposed HTR segments to determine if significant factors outside of awareness exist that hinder participation.
4. Identify program elements, and types of information and delivery mechanisms that would be most helpful in aiding energy efficiency decisions and program participation based on telephone survey and focus group responses.
5. Provide recommendations on potential program design elements that could aid in increasing participation in utility-sponsored programs among the HTR segments.

3. HARD-TO-REACH CLASSIFICATION

The nonresidential HTR definitions proposed by the CPUC are: “For PY 2001 purposes, underserved 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.”³

As discussed above, two data sources were used to classify customers into each HTR segment and analyze participation trends. The first was a telephone survey collected for 767 customers throughout the state, which provided information that allowed us to classify each respondent into any given HTR segment. The survey was conducted on the California nonresidential population of customers with peak demand under 500kW. Traditionally, 500kW has been used as the cutoff to differentiate between “large” and “small/medium” customers. The data were weighted by IOU service territory, business type and GWh. Using the seven proposed HTR segments listed above, we were able to determine the percentage of the under 500kW nonresidential population that fell into each segment, as follows⁴:

- **Renters:** 40% of the under 500kW population rent their facility.
- **Small businesses:** 38% of the under 500kW population are businesses with 10 or less employees.
- **Local Chain or single-location restaurants:** 7% of the under 500kW population are restaurants that have either 1 location, or have less than 5 locations that are concentrated in one part of California.
- **Strip malls:** 10% of the under 500kW population are located in strip malls.
- **Convenience stores:** 1% of the under 500kW population are convenience stores.
- **Rural customers:** 22% of the 500kW population are located in a rural area.
- **“Mom and Pop” restaurant/groceries:** 5% of the 500kW population are single-location restaurants or groceries with 10 or less employees.

The second data source that was analyzed was participant tracking data from the Express Efficiency program during 1999 through the first half of 2001 across all four IOUs. Unfortunately, the data contained in the participant tracking system do not allow us to classify participants into each of these HTR segments. However, it is possible to identify customers

³ CPUC decision D.00-07-017, July 6, 2000, ordering paragraph 66.

⁴ It is important to emphasize that these population percentages are weighted by annual energy consumption.

that are likely to be considered “small” by looking at their electricity consumption. A cutoff of 20kW was used to define this customer class, as this is consistent with the maximum usage associated with non-demand rate schedules. (Therefore, we cannot use a value less than 20kW, as customers under 20kW are not demand metered.) We can also determine the customer’s business type and identify restaurants and groceries, and in particular small restaurants and groceries. The two potential HTR segments analyzed were:

- **Under 20 kW businesses:** 23% of the under 500kW population are businesses with peak demand less than 20 kW.
- **Under 20 kW restaurant/groceries:** 3% of the 500kW population are restaurants or groceries with peak demand less than 20 kW.

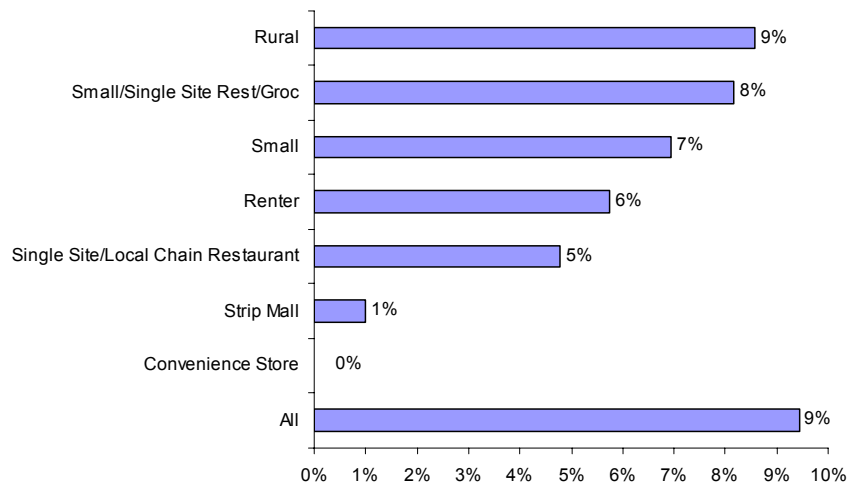
4. PARTICIPATION AMONG UTILITY SPONSORED PGC FUNDED PROGRAMS

As discussed, two separate data sources were used to determine the extent to which the proposed HTR segments were under-served, if at all. First, self-report program participation data was collected via a telephone survey of 767 customers across the state in July 2001. Second, program participant tracking data could be used to analyze actual participation trends among the Express Efficiency program during 1999 through the first half of 2001 across all four IOUs. For each data source, participation rates were compared among the proposed HTR segments and the overall nonresidential population to determine if each proposed HTR segment was in fact under-served, and to what extent.

Self-Reported Participation

Overall, nine percent of the under 500 kW population reported in the telephone survey that they had participated in a utility program over the past year and a half, as shown in Figure 1. In every case, self-reported participation rates among the proposed HTR segments were less than the average, ranging from zero for convenience stores to just under 9 percent for rural customers.

Figure 1
Program Participation by HTR Segment



For the most part, customers were not able to specify the name of the program they had participated in. Of the 9 percent that participated among the overall nonresidential participation, two percent identified having had an energy audit, one percent identified participating in the Express Efficiency program, and less than one percent identified participating in the Standard Performance Contracting program. The remaining six percent knew they had participated, but could not recall the specific program name.

It should also be noted that the results for convenience stores were based on a sample of only 14 customers, small/single-site restaurants and groceries had a sample of 36, and single site/local

chain restaurants had a sample of only 44. Therefore, these results may not be as reliable as for other segments, which all had sample sizes between 163 and 329.

Express Participant Tracking

Participant tracking data over the past two and a half years for the Express Efficiency program show some positive trends for customers with peak demand under 20 kW in general, as well as for under 20 kW customers in the restaurant and grocery segment. Although the under 20 kW group of customers comprise over 80 percent of the number of customers in the under 500 kW population, they only consume about one quarter of the total energy in the population.

Over the past two and a half years, 3.35 percent of the under 500 kW customers have participated in the Express Efficiency program. The program has reduced the entire under 500 kW population's energy consumption by 0.83 percent. Over the same period, 3.26 percent of the under 20 kW customers have participated. However, the program has had a more significant impact on these customers, reducing the under 20 kW population's energy consumption by 1.71 percent, more than double the <500 kW population total.

Customers in the restaurant and grocery segments that are under 20 kW comprise 4.5 percent of the sites and 3.3 percent of the energy consumption among the under 500 kW population. Over the past two and a half years, ten percent of the sites have participated, significantly higher than the population average. Furthermore, the program has reduced total segment energy consumption by 1.5 percent, roughly twice that of the population.

There are a few reasons why the self-reported participation data from the telephone surveys presented above may differ from the participation tracking system findings. First, the survey data are looking at participation in any program, not just Express Efficiency. Therefore, it may be that the under 20 kW customers are less likely to participate in programs outside of Express Efficiency. Second, the two populations we are comparing are not identical. The survey data define "small businesses" as those that have 10 or fewer employees, whereas the Express participation analysis is based on customers under 20 kW. Furthermore, over the past year, the Express Efficiency program has been targeting the under 20 kW market by providing increased incentives and bonuses to contractors. This initiative has done an excellent job in getting the under 20 kW population to participate in the Express Efficiency program.

Comparing 1999 participation trends to those occurring in 2000 and the first half of 2001, we see that there are significantly more under 20 kW customers participating recently. In 1999, 49 percent of the sites participating were among customers under 20 kW. These customers also comprised 31 percent of the energy savings associated with the 1999 program. During 2000 and the first half of 2001, customers under 20 kW comprised 79 percent of the number of sites and 38 percent of the total energy savings associated with the program.

Summary of Findings

Based on the results of the above analysis, there is little evidence that would support **rural** customers being classified as under-served, as their self-reported participation levels are in line with the population average. Similarly, for "**mom and pop**" restaurants and grocery stores, self-reported participation is near average. In fact, Express Efficiency program tracking data

indicate that a similar group of under 20 kW restaurants and grocery stores have significantly exceeded the population average participation level.

The most under-served segments appear to be **strip malls** and **convenience stores**, with a combined self-reported participation level of about a tenth that of the population average, and awareness levels significantly below average. However, combined, these two segments make up only about ten percent of the under 500kW population in terms of annual energy consumption.

Another under-served segment is **local chain or single-location restaurants**, which comprises under seven percent of the under 500kW population in terms of annual energy consumption. Self-reported participation is about half the population average. Combined with strip malls and convenience stores, these three segments comprise about 15 percent of the population. However, these segments are also very likely to be renters and/or small customers. In fact, 13 out of this 15 percent of the population is a renter and/or a small customer.

The two remaining segments are **renters** and **small** (businesses with less than 10 employees) customers. 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.

Although self-reported rates of participation among **small** customers are lower than the population average, the difference is not statistically significant at the 90% confidence level. Furthermore, Express Efficiency tracking data indicate that participation among a similar group of under 20 kW customers is in line with the population on a percentage of sites participating basis, and significantly higher than the population with respect to the amount of energy savings achieved. Over the past year or more, the IOUs have placed greater emphasis on having the Express Efficiency program reach the under 20 kW customer population, as is indicated by the significant increase in participation relative to 1999. As discussed above, comparing 1999 participation trends to those occurring in 2000 and the first half of 2001, we see that there are significantly more under 20 kW customers participating recently. Customers under 20 kW comprised 79 percent of the sites and 38 percent of the energy savings during 2000 and the first half of 2001, compared to only 49 and 31 percent, respectively, in 1999.

Renters are perhaps the HTR segment of most concern, making up about 40 percent of the under 500 kW population in terms of annual energy consumption. Self-reported participation is 40 percent below the population average. This is probably one of the most widely recognized segments as being hard-to-reach, due to the significant split incentives barrier that exists between owners and renters.⁵

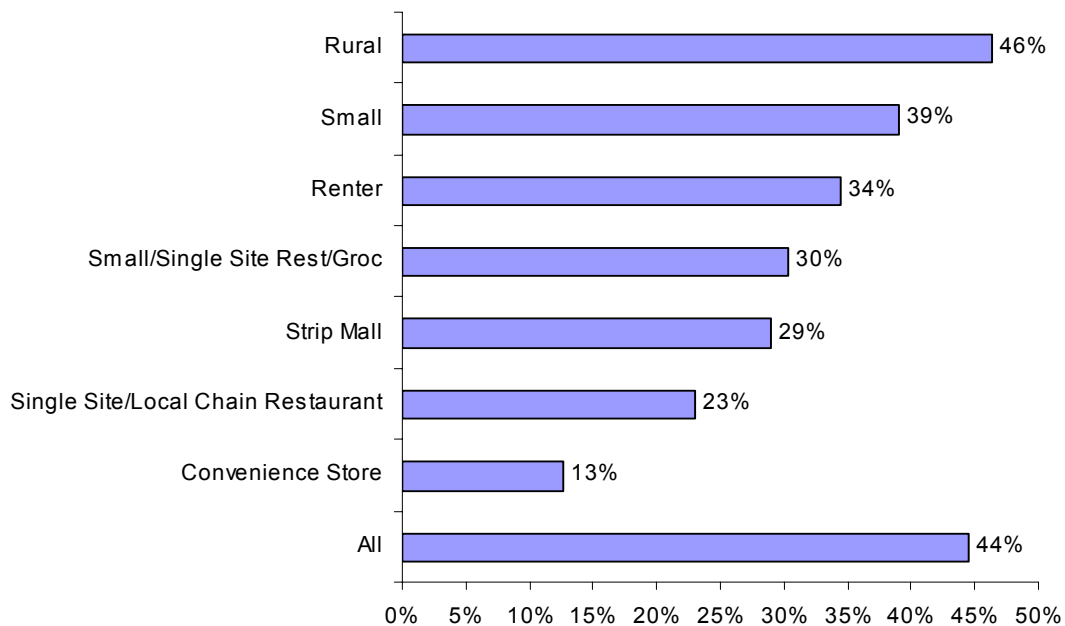
⁵ The split incentives barrier generally refers to when the incentives of the agent charged with purchasing energy efficiency (the building owner) are not aligned with those of the persons who would benefit from the purchase (the renter paying the electric bill). In this case it is the owner that is generally paying for the energy efficiency improvement, but the renter benefiting from the reduced energy bill.

5. AWARENESS OF UTILITY SPONSORED PROGRAMS

Awareness of the PGC funded programs is obviously an important component for program participation. Self-reported awareness rates based on the telephone survey data were compared across the various proposed HTR segments and the overall nonresidential population for two primary purposes. First, to see if awareness was lower among the proposed HTR segments to further support the hypothesis that they are under-served. Second, to compare the self-reported participation rates among the aware population to determine if it is low awareness causing low participation, or if there are segment-specific barriers that exist that may be causing lower than average participation.

Based on the results of the telephone survey, forty-four percent of under 500 kW population of nonresidential customers indicated they are aware of utility programs. As shown in Figure 2, awareness was lower than the population average for every proposed HTR segment except rural customers, further supporting the idea that rural customers are not under-served. Customers in the convenience stores segment are the least aware.

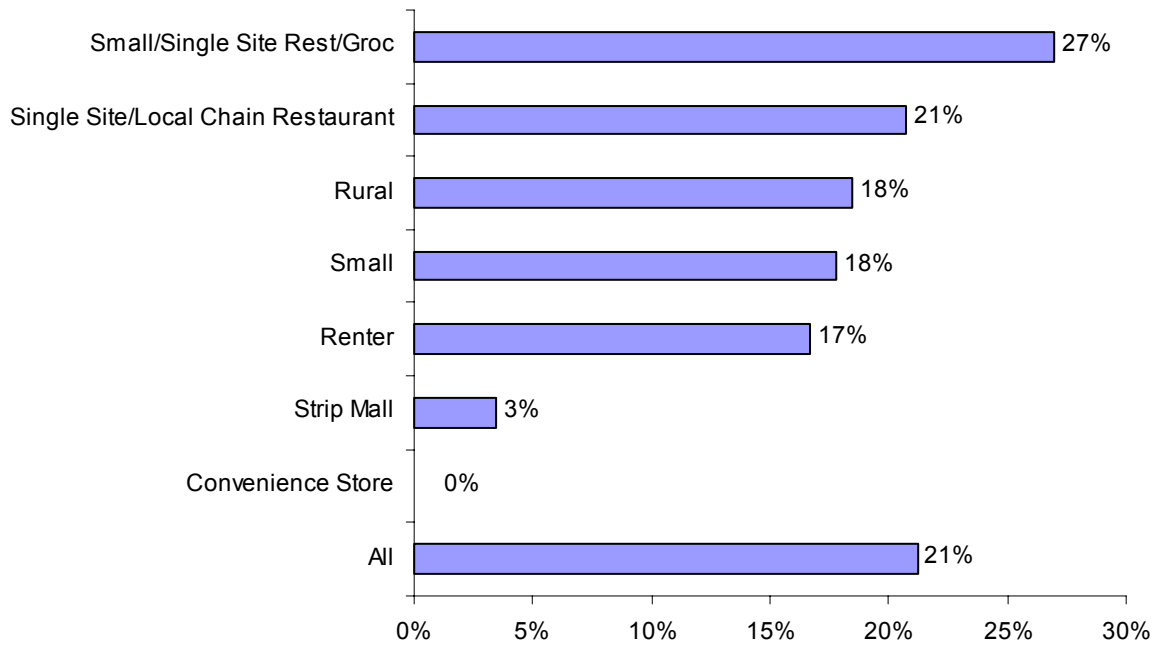
Figure 2
Utility Program Awareness by Proposed HTR Segment



For the most part, the relationship between awareness and participation is fairly consistent across segments. Overall, 21 percent of the aware population reporting participating in a utility sponsored program. Across the proposed HTR segments, the percentage of aware customers that participated was between 17 and 27 percent for all segments, except convenience stores and strip malls. Most of the proposed HTR segments had aware participation levels below the population average, indicating that these segments might have more significant barriers to

participating than the average customer in the population. For example, it is well known that renters have an issue with split incentives between the renter and owner that creates a barrier to investing in energy efficient equipment.

Figure 3
Utility Program Participation Among Aware Customers by Proposed HTR Segment



The next section explores possible program elements and delivery mechanisms that can be used to better attract these customers to energy efficiency programs.

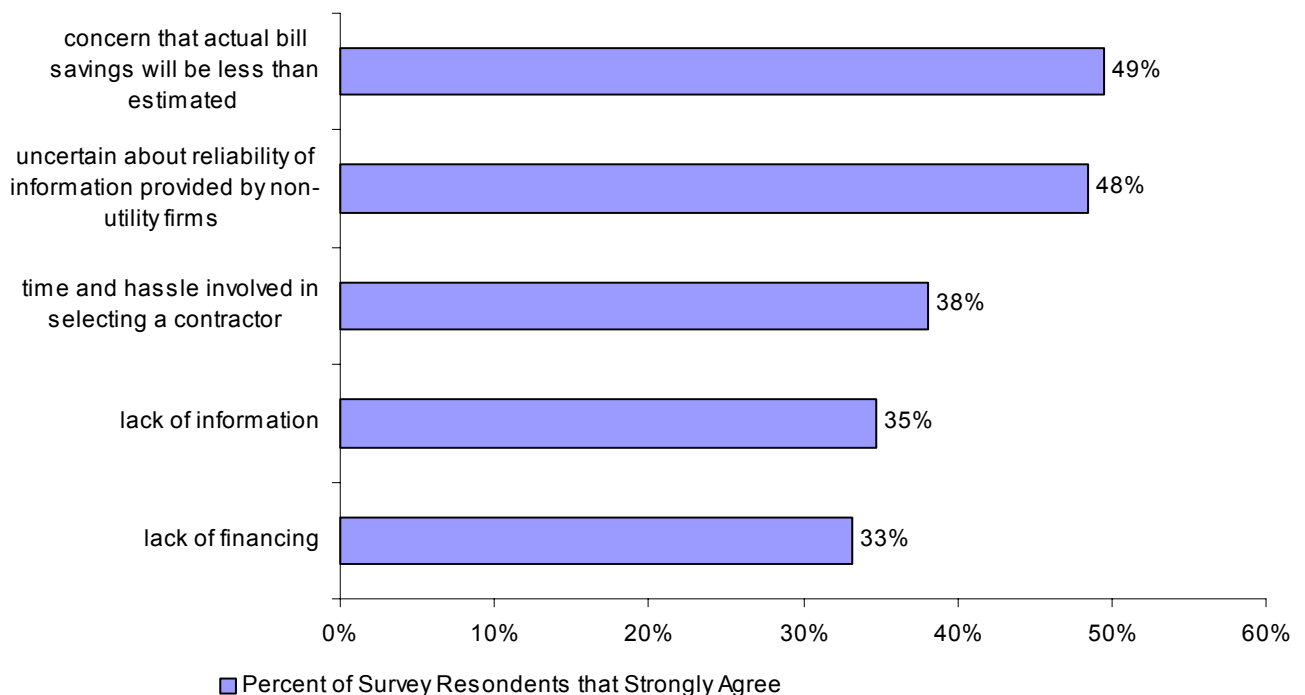
6. CUSTOMER WANTS AND NEEDS AMONG PROPOSED HTR SEGMENTS

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 among customers in the proposed HTR segments.

Barriers to Making Energy-Efficiency Investments

Survey respondents and focus group participants were asked questions in order to identify barriers to making energy-efficiency investments. Both groups pointed primarily to uncertainty about bill savings and the reliability of information provided by ESCOs. Customers also believed lack of information, time and hassle in selecting a contractor, and lack of financing to be barriers to investments in energy efficiency. Figure 4 presents the percentage of survey respondents that strongly agree with statements regarding barriers to energy-efficient investments.

Figure 4
Statements Regarding Energy-Efficiency Investments



For the most part, these findings were consistent across the proposed HTR segments. Relative to the overall population, customers in the proposed HTR segments generally agreed more

with there being barriers to making energy efficiency investments. This is consistent with the fact that the proposed HTR segments typically had lower participation rates in utility sponsored programs, among those customers aware of the programs, as shown earlier in Figure 3.

Desired Program Elements

Focus group participants discussed what types of program elements that they would find helpful in order for them to participate in utility sponsored programs. As shown in Figure 5, 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.

Figure 5
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
<i>N = 80</i>	
<i>Note that ratings are based on a scale from 1=not at all helpful to 10=very helpful</i>	

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. Nearly 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.

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. Overall, 39 percent of customers use the internet for energy-related products and services. We found that

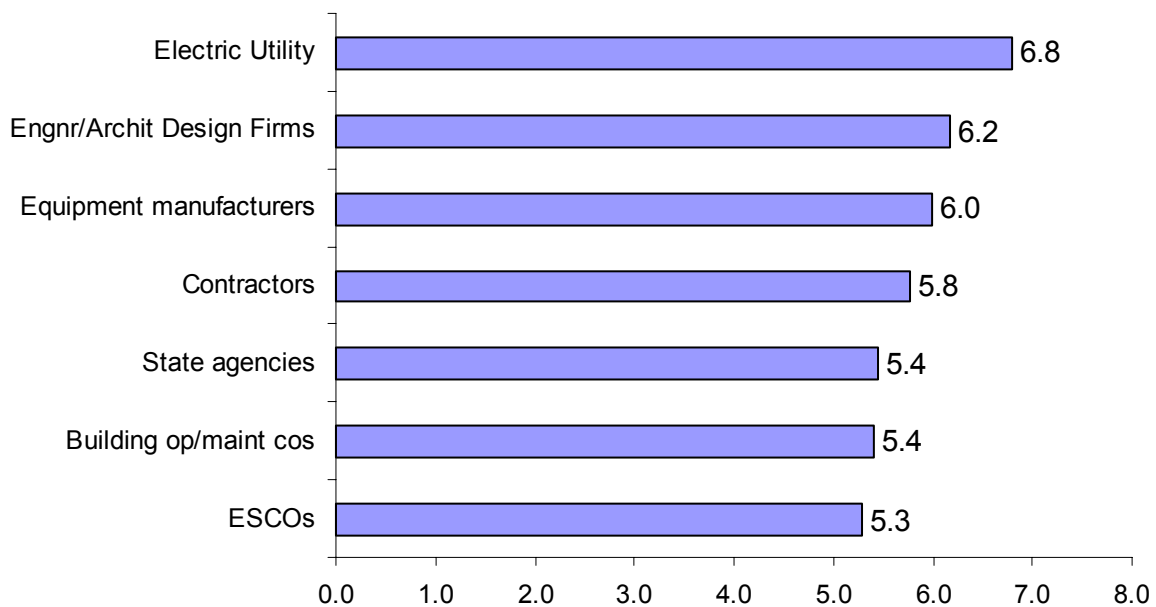
30 percent of the small customer, renters and restaurant/grocery segments use the internet for this purpose.

Customer Perceptions of Utility Credibility

As mentioned above, customers stated that they had concerns over the credibility of the information they received, especially from ESCOs. 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. Energy equipment contractors and installers were second at only 11 percent.

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 Figure 6. ESCOs ranked lowest out of seven different groups of providers.

Figure 6
Credibility of Energy Efficiency Related Information



Finally, survey respondents were asked how helpful their utility was in providing support for their energy efficiency decisions. Overall, 49 percent of customers find their utility very helpful (customers that rated their utility a 7, 8, 9 or 10 out of 10).

Role of Community-Based Organizations

It is clear from the above that customers want more reliable sources of information, coming from a source they find credible. Community-based organizations (CBOs) have been identified as a potential delivery mechanism for the utility sponsored programs. CBOs reach many of the under-served communities, especially smaller 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. Furthermore, 77 percent of customers that belonged to a CBO or trade/industry organization indicated that they believed the organization could be a very effective or somewhat effective source of energy-efficiency related information.

Overcoming Split Incentives

One of the proposed HTR segments that is of most concern is renters, which comprise about 40 percent of the under 500 kW population in terms of annual energy consumption. Self-reported participation is 40 percent below the population average. Aside from convenience stores and strip malls, renters have the lowest self-reported participation rate among aware customers (17 percent versus 21 percent for the population). It is well known that split incentives are a significant barrier facing this customer segment.

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.

Customers were then asked how willing they would be to share in the cost of energy efficiency measures. 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.

7. POTENTIAL PROGRAM DESIGN ELEMENTS

Based on the findings from the wants and needs study, there exist many opportunities that can be used to increase program participation among customers in the proposed HTR 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 information that will provide them with accurate estimates of energy savings and they are interested in having energy audits performed (again, meeting the need for accurate estimates of savings).

Fortunately, the IOUs are currently implementing new strategies that will meet the informational needs of these customers. Historically, much of the information customers have been requesting has been made available by the IOUs, but it has not reached some of the under-served markets as well as others. These strategies also provide a more cost-effective means for delivering this information to the hard-to-reach customer segments. These include:

Vendor Bonuses - Bonuses paid by some IOUs made it more cost-effective for vendors to market to customers in many of the under-served segments, and provide them with the level of attention and service they require. The vendor bonuses have had a significant effect on Express Efficiency program participation among under 20 kW customers.

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 the utility, who is the group customer's perceive to be the most credible source of energy efficiency related information.

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. Self-audits using on-line tools or free software can provide a more cost-effective means for reaching many of the under-served segments. Both on-line tools and free software are either currently being provided or are planned for the near future, in addition to the on-going programs offering telephone and mail audits.

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.

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.

8. CONCLUSION

For the most part, it appears that the majority of HTR segments proposed by the CPUC have historically been under-served by the PGC funded programs sponsored by the IOUs, which include small customers that have less than 10 employees, businesses in leased space, strip malls, local chain or single-location restaurants, and convenience stores. If we were to focus on only two of these proposed HTR segments, we would emphasize renters and businesses with less than 10 employees. Renters comprise about 40 percent of the under 500 kW population in terms of annual energy consumption, and businesses with less than 10 employees comprise 38 percent. Combined, renters and small customers comprise over 60 percent of the under 500 kW population. Furthermore, these two segments overlap significantly with strip malls, convenience stores and local chain/single-location restaurants.

The IOUs have been taking significant steps towards increasing program participation among customers in the HTR segments. In particular, there has been a focus on customers with peak demand under 20 kW (which is strongly correlated with businesses with less than 10 employees), where we have seen dramatic increases in participation in the Express Efficiency program. In fact, participation in the 2000 and 2001 Express Efficiency Program indicates that the small business segment was not under-served. Furthermore, the IOUs are currently implementing cost-effective intervention strategies to meet the informational and educational needs of many of their under-served customers. This includes utilizing CBOs and industry/trade organizations to assist in delivering their programs, providing more useful and customized program literature, and providing tools for customers to perform their own energy audits.

There still is a need to work with renters and building owners to overcome the barrier of split incentives. Our research shows that renters are 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. We believe 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.