

# Southern California Edison

## *2009-2011 Low Income Energy Efficiency (LIEE) High Usage Needs Assessment*

Prepared for:

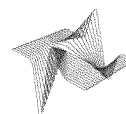
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HINER & PARTNERS, INC.  
MARKETING DIAGNOSTICS AND STRATEGIES

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# ***Acknowledgements***

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**This research was completed by HINER & Partners, Inc., Long Beach, California under the contract direction of Southern California Edison, Rosemead, California.**

**The results and recommendations are not intended to be binding, in part because this research did not include a process evaluation. All recommendations need to be considered within the context of feasibility, cost effectiveness, and any other relevant criteria.**

# *Introduction and Background*

# ***Introduction and Background***

**During the 2009-2011 program cycle, the Commission Decision 08-11-031 authorized Southern California Edison (SCE) to conduct a study to understand and identify potential causes and needs of high-tier<sup>1</sup> CARE customer energy use in temperate climate zones. The study should inform different aspects of LIEE program delivery including: potential measure installations, communication vehicles for marketing and education, and potential recommendations regarding best energy efficient practices for this group of customers.**

1.High usage is defined as household electricity use in the top quintile (e.g., the top 20 percent) in each climate zone in SCE's service territory. The top 20 percent were defined as high users because this creates a relatively large pool for analysis (and subsequent recommendations), yet is not too broad so as to remain undifferentiated from the rest of the low income population. High usage was also defined within climate zone because of the wide variation in climate areas and climate-driven electricity usage throughout SCE's service territory. Without this constraint, the majority of high users would be located in the hot, inland climate zones, leaving relatively few in temperate areas for analysis.

# ***Introduction and Background*** *(continued)*

While the High Usage Needs Assessment focused on high electricity usage customers in temperate climate zones, it was anticipated that the findings would inform understanding of the needs and energy-inefficient practices of low-income customers in all usage groups and climate zones in order to identify any continuity of needs and energy efficient practices among “low income high usage households” that are not reflected by climate-sensitive measures.

It was expected that the results of the study would be predictive (e.g., how do we identify who these customers are), descriptive (e.g., what distinctive characteristics do these customers have), and prescriptive (e.g., what can we do for them?).

# Objectives

The key objectives of the SCE High Usage Needs Assessment Study are to:

- Identify energy inefficient practices and beliefs that are likely to contribute to unusually high energy usage among this group of low-income customers, particularly in temperate climate zones.
- Identify energy-inefficient appliances, electronics and household characteristics (e.g., age or style of home) that are likely to contribute to unusually high energy usage among this group.
- Identify the barriers to changing energy inefficient attitudes and behavior.
- Outline messages, information and strategies that are likely to be successful in reaching and communicating with high usage customers.

# *Methodology*



# Methodology Overview

To achieve the High Usage Needs Assessment objectives, the research team followed a five-phase approach:

Data Source	Type	Number	Dates	Purpose
Low Income (CARE) Customer Population	SCE Database: utility, geographic, and census data	200,000 analyzed	Aug 2010	Determine usage quintiles; profile quintile groups on additional variables
CARE Customers: temperate climate, non-temperate climate, high usage	Focus Groups	6 groups (2 high usage)	Feb 2010	Understand attitudinal and perceptual issues for quantitative survey
CARE Customers: stratified by segments	Telephone Survey	1,536 interviews	Oct/Nov 2010	Profile quintile groups based on survey data
High Usage CARE Customers: 3 temperate areas and 2 non-temperate areas	In-Home Qualitative and Observational	29 interviews	Dec 2010	Determine reasons for high usage based on observation and discussion
CARE Customers: high and moderate interest segments	Focus Groups	3 groups	Feb 2011	Discuss barriers to LIEE program and messaging

# Methodology Details

With the exception of the qualitative in-home visits, the phases of research for the High Usage Needs Assessment were completed in conjunction with the LIEE Segmentation Research. Additional details for each of the five phases include:

1. Database analysis based on SCE customer data, including electricity usage, program participation, bill payment history and disconnects, climate zone, and other variables. The purpose of the database analysis was to create distinct electricity usage groups, where “high usage” is defined as those in the top 20% (top quintile) within a climate zone.

- Database of 2,000,000; random 10% (200,000) analyzed
- CARE population was used to represent the population of LIEE-eligible customers: eligibility requirements for the two programs are similar, and the population of CARE participants is estimated to include a high percentage all CARE-eligible customers
- The service account-level data included several types of data: utility-billing and usage records, utility program participation data, geographic data, and census-derived data
- Each service account was assigned to an electricity usage quintile within its respective climate zone, then all of the quintiles were compared across *all* of the dataset variables

# Methodology Details

2. Qualitative discussions completed during initial focus groups. The purpose of this qualitative research was to understand customer issues, concerns, attitudes, and experiences to be used to inform development of the quantitative instrument.

Date	Location	Group Composition	Language
Feb 2, 2010	Long Beach	LIEE Participants	English
Feb 2, 2010	Long Beach	Non-Participants	English
Feb 3, 2010	Los Angeles	High Usage	English
Feb 3, 2010	Los Angeles	High Usage	Spanish
Feb 4, 2010	Palm Springs	Non-Participants	Spanish
Feb 4, 2010	Palm Springs	LIEE Participants	English

# Methodology Details

3. **Quantitative telephone survey** completed among a randomly drawn sample from Southern California Edison's low income customer population to gather additional information concerning demographics, home characteristics, appliances and electronics, energy usage behaviors, and LIEE knowledge and experiences.

The telephone survey data were used to profile the five electricity usage-based quintile groups to identify key behavioral, attitudinal, circumstantial, situational, and demographic variables that differentiate between high users and the other usage level groups. In this way, the survey data was used to validate usage group differences identified by the initial dataset variables, as well as identify relevant behavioral, attitudinal and demographic variables that contribute to differences among the usage groups.

# Methodology Details

3. (continued) There were 350 interviews among high usage customers (belonging to the top usage quintile) in the sample of 1,536 total interviews (completed for the segmentation). An additional oversample of 186 interviews among high users proportional to their representation within the eight segments was completed to yield a total high usage sample size of 536. The same weighting that was applied based on segment membership was used in the usage quintile analysis to ensure that each quintile was representative across the population. For the usage quintile analysis, unweighted and weighted sample sizes are shown below.

Quintile	Sample Size (unweighted)	Sample Size (weighted)	Margin of Error (95%)
Top 20%	536	445	+/- 4.6%
2 <sup>nd</sup>	294	267	+/- 6.0%
3 <sup>rd</sup>	303	322	+/- 5.4%
4 <sup>th</sup>	286	320	+/- 5.5%
Bottom 20%	303	368	+/- 5.1%
<b>Total</b>	<b>1,722</b>	<b>1,722</b>	

# Methodology Details

4. **Qualitative in-home interviews** designed to more clearly understand the unique circumstances and beliefs or attitudes that are the main contributors to a household's high energy use, and to define subgroups among the high usage segments.
- The research involved visiting 29 “high usage” homes and conducting 2-3 hour in-depth interviews and observations
  - Twenty-one interviews were completed with customers in temperate locations (clustered in four different geographic areas)
  - 8 interviews were completed in non-temperate areas (clustered in two geographic areas)
  - Respondents were pre-recruited from randomly generated lists of low income households in each of the geographic clusters.

# Methodology Details

## 4. (continued) Interviews were completed as follows:

Date	Location	Climate	Number	Language
Nov 23, 2010	Long Beach	Temperate	4	English
Nov 30, 2010	Lancaster	Non-Temperate	4	English
Dec 1, 2010	San Bernardino	Non-Temperate	4	English
Dec 7, 2010	Anaheim/Orange	Temperate	4	English
Dec 8, 2010	Garden Grove	Temperate	4	English
Dec 10, 2010	Oxnard	Temperate	4	English
Dec 14, 2010	Oxnard	Temperate	3	English
Dec 15, 2010	Long Beach	Temperate	2	English

As might be expected, these observations and interviews generated insights into behaviors that are not commonly garnered via traditional self-reported data. For example, when asked how much TV the household watches, respondents reported a couple of hours, but when the observer is there, there are 3 or 4 TVs that are left on unattended with no one watching.

# Methodology Details

5. Qualitative discussions completed during post-quantitative focus groups. The purpose of these focus groups was to identify marketing barriers and issues specifically concerning the LIEE program among selected “high” and “moderate” interest segments.

Date	Location	Group Composition	Language
Feb 16, 2011	Riverside	High & Medium Interest	English
Feb 17, 2011	Los Angeles	High Interest	English
Feb 17, 2011	Los Angeles	Medium Interest	English

Because the number of groups was limited to 3, the program team had identified segments from the segmentation project) that were “higher interest,” “medium interest,” and “lower interest” in terms of the team’s desire for more information from the different segments.



# *Key Differentiators of High Usage*

# ***HUNA Results Overview***

**Results are discussed in two sections:**

**(a) a description of the overall profile of the “high usage customers” as defined by the top usage quintile and how these customers are different from the remaining 80% of low income customers, and**

**(b) a breakdown of the “overall high usage customers” into a number of sub-groups that are differentiated in key ways which will allow program management to better identify, target and meet the unique needs of specified high usage groups.**

**Based on significant difference testing between low income high electricity users (top quintile) and moderate to low electricity users (bottom 4 quintiles) across the variables from the dataset and telephone survey, low income high users as a whole, in both temperate and non-temperate climate zones, are characterized by the following characteristics related to their energy consumption (next page).**

# **High Usage vs. Moderate/Low Usage**

- More likely homeowners who live in physically larger homes (44-65 years, not retired, higher income).
- More electricity-consuming appliances and electronics of all types (extra refrigerators, dishwashers, pools, etc.; multiple TV's, game systems, DVR's, etc.)
- More people in the household (more children, more related and unrelated adults), and more trouble controlling others in the home.
- Not as diligent about trying to save energy – leaving things on when not using them (and among higher income customers, less willing to do without the benefits of electricity usage).
- Less knowledgeable about what to do – not knowing what uses a lot or what behaviors are problematic.
- Concerned about the cost of energy and some struggle to pay their energy bills.
- For some, a disability or medical condition of a household member imposes additional energy needs – for heating or cooling, medical equipment, more TV use, etc. – beyond simply being housebound.

# High Usage vs. Moderate/Low Usage

Based on these distinctions, three main conclusions or “needs” regarding reducing their energy usage emerge. High usage low income customers need:

(1) More control since they have more people, more appliances and electronics, and more space (for heating and cooling).

(2) More education about what they can do to manage and reduce their energy use.

(3) Greater reach into the household so that more household members can be informed.

# High Usage vs. Moderate/Low Usage

Based on high users' reasons for *not* participating in LIEE in the past along with some of the differentiators previously discussed, it might be that high users are less likely to have responded to LIEE marketing in the past compared to lower usage groups.

High users, with their larger homes and somewhat higher incomes, might not consider themselves qualified for or in need of the program. It is also likely that program measures do not currently address the root cause of their particularly high energy consumption – which is primarily related to having lots of appliances and electronics, lots of people in the household using these things, and a lack of cooperation (and control) over wasteful practices.

# High Usage Distinctions: Demographics

Characteristics that define high users (compared to lower usage groups) are described below.

## •Demographics.

- Householder Age and Household Size: High users are more likely to be headed by someone who is middle-aged (45-64, probably not retired), and are more likely to have larger household sizes – yet not just with those under 18 or over 65, suggesting that high users are also more likely to have other adults in the home (e.g., roommates or boarders, related extended family members such as adult children living at home).
- Income and Education: High users have higher household income and education (although over half are still very low with HHI under \$33,000/year).
- Disability: High users are more likely to have a disabled person living in the home, and in particular someone with a mobility disability.

# High Usage Distinctions: Demographics

<b>"In what year were you born?"</b>	<b>High Users</b>		<b>Low/Moderate Users</b>
	<b>(n=445)</b>		<b>(n=1,277)</b>
18 to 44 years	33%		36%
45 to 64 years	42%	>	32%
65 years or older	21%		26%
Refused	3%		5%

<b>"How many people live in your home at least 6 months out of the year?"</b>	<b>High Users</b>		<b>Low/Moderate Users</b>
	<b>(n=445)</b>		<b>(n=1,277)</b>
Mean	4.3	>	3.2
How many are under 18 (mean)	2.3		2.3
How many are 65 or older (mean)	1.5		1.5

<b>"Which of the following categories best describes your annual household income?"</b>	<b>High Users</b>		<b>Low/Moderate Users</b>
	<b>(n=445)</b>		<b>(n=1,277)</b>
Less than \$33,000	56%	<	67%
\$33,000 to less than \$53,000	23%	>	12%
\$53,000 or more	10%	>	6%
Refused or Don't Know	11%		15%

<b>"Which of the following best describes your education?"</b>	<b>High Users</b>		<b>Low/Moderate Users</b>
	<b>(n=445)</b>		<b>(n=1,277)</b>
High school or less	39%	<	46%
Some college	36%	>	31%
College graduate	23%		21%
Refused	2%		2%

# High Usage Distinctions: Demographics

"Do you or does anyone in your household have a permanent disability related to mobility, hearing, vision, cognitive, psychological, or chronic disease?"	High Users (n=445)		Low/Moderate Users (n=1,277)
Yes	38%	>	28%
No	60%	<	68%
Refused	2%		4%



# High Usage Distinctions: Home Characteristics

- Home Characteristics.

- Type of Home: High users are more likely owners in single family homes, so their homes are larger and they tend to have lived there a longer time.
- EE Features: High users are *more* likely to have more energy efficient features (ceiling fans, programmable thermostats, adequate insulation and weatherstripping, etc.) and they are more likely to have installed it while living there. High users are also more likely to have taken additional actions to make their home more energy efficient, including appliances and insulation.
  - It is likely that because they tend to be homeowners and to have higher income they tend to make EE improvements to their homes more frequently than lower usage groups.
- AC: High users are more likely to have central AC, and AC of any type (particularly those in non-temperate zones, but this applies to temperate as well).
- All Electric: High users are more likely to be all electric, although just 16% of high users are in this category. The majority of all electric homes are apartments and condominiums located in temperate climate zones.

# High Usage Distinctions: Home Characteristics

“What type of home do you live in?”	High Users		Low/Moderate Users
	(n=445)		(n=1,277)
Single Family	74%	>	55%
Apartment	11%	<	25%
Mobile Home	6%		6%
Duplex	2%		5%
Condominium	3%		5%
Townhouse or Row House	4%		4%
Don't know	<1%		<1%

“Approximately how many square feet is your home?”	High Users		Low/Moderate Users
	(n=445)		(n=1,277)
Mean (square feet)	1,851	>	1,440

“To the best of your knowledge, which of the following does your home have?” (multiple responses)	High Users		Low/Moderate Users
	(n=445)		(n=1,277)
Ceiling fan	75%	>	64%
Programmable thermostat	70%	>	62%
Double pane windows	54%		50%
Attic insulation	51%	>	39%
Weatherstripping	40%	>	35%
Whole house fan	27%	>	22%
Motorized attic vents	20%	>	13%
CFL's more than 50%	54%		52%
Number of EE Features (mean)	3.4	>	2.8

# High Usage Distinctions: Home Characteristics

<b>“What type of air conditioning does your home have?” (multiple responses)</b>	<b>High Users</b>		<b>Low/Moderate Users</b>
	<b>(n=445)</b>		<b>(n=1,277)</b>
Central AC	57%	>	44%
Window or wall AC	17%		20%
Evaporative or swamp cooler	13%		13%
Heat pump	4%		3%
Fans	20%		19%
Portable AC	3%		4%
None	11%	<	16%
Don't know	1%		2%

<b>“Is your home all electric or do you have both electricity and natural gas?”</b>	<b>High Users</b>		<b>Low/Moderate Users</b>
	<b>(n=445)</b>		<b>(n=1,277)</b>
All Electric	16%	>	11%
Electricity and Gas	83%	<	88%
Don't know	1%		<1%

# High Usage Distinctions: Appliances & Electronics

- **Appliances and Electronics.**

- Appliances: High users tend to have more appliances of all types: refrigerators, standalone freezers, clothes washers and dryers, dishwashers, window AC, plug-in electric heaters, and pools and spas). Also, high users in non-temperate zones have more appliances of all types than those in temperate zones. Non-temperate homes tend to be newer and larger since they are in areas of more recent development, so are more likely to have more major appliances (such as a dishwasher or second refrigerator).
- Electronics: High users are also more likely to have substantially more electronics of all types: TV's desktop and laptop computers, cable/DVR boxes, and video game consoles. Perhaps this is related to the number of people in the home as well as to somewhat higher incomes. For example, in many cases these homes have 5+ TV's, 3 or 4 video game consoles, and multiple desktop and laptop computers, monitors, and other peripherals.

# High Usage Distinctions: Appliances & Electronics

"How many of each of the following does your household have?" (means)	High Users		Low/Moderate Users
	(n=445)		(n=1,277)
Refrigerators	1.4	>	1.2
Standalone freezers	0.3	>	0.2
Clothes washers	0.9	>	0.8
Clothes dryers	0.9	>	0.7
Dishwashers	0.5	>	0.4
Window AC	0.2		0.2
Plug-in electric heaters	0.4	>	0.3
Pools or spas	0.2	>	0.1
Total	4.8	>	3.8

"How many of each of the following does your household have?" (means)	High Users		Low/Moderate Users
	(n=445)		(n=1,277)
TVs	3.1	>	2.3
Desktop computers	1.0	>	0.6
Laptop computers	0.9	>	0.5
Cable/DVR console	1.9	>	1.2
Video game console	0.8	>	0.5
Total	7.7	>	5.1

# High Usage Distinctions: *Energy-Related Attitudes*

- **Energy-Related Attitudes.**

- The telephone survey data shows that relative to those who use less energy, the households that use more energy tend to be less likely to say they always try to save and less likely to think they have been successful.
- High users are also more interested in being comfortable and productive and less interested in improving the environment (especially those in non-temperate zones) when compared to lower usage quintiles. These results suggest that high users are a bit less motivated to save and they have more barriers to success when they try.
- Qualitative data supports this idea with some high usage customers indicating it is their “right” to use what they want if they pay for it, and while saving energy would be nice, they do not want to sacrifice personal comforts – so they keep their house cool in the summer, their spa hot, and their beer cold in the spare refrigerator.

# High Usage Distinctions: Energy-Related Attitudes

“How would you describe your household’s efforts to save energy in your home?” “How successful do you think you have been?” (Top 2 Box)	High Users		Low/Moderate Users
	(n=445)		(n=1,277)
Always try to save	78%	<	84%
Have been successful	54%	<	68%

“Tell me which of the following is more important to you by allocating 10 points between each of the three options.” (means – 10 point allocation)	High Users		Low/Moderate Users
	(n=445)		(n=1,277)
Save money on the bill	5.2		5.1
Improve the environment	2.7	<	3.0
Be comfortable and productive	2.2		2.0

# High Usage Distinctions: *Energy-Related Attitudes*

- **Energy-Related Attitudes (continued).**
  - Regarding obstacles to saving energy, high usage households (with more people) report that cooperation from others is their main obstacle to saving energy – suggesting the bill payer may face resistance from other members who do not share their attitudes.
  - Additionally, high users are: more concerned about the cost of energy and being able to pay their energy bill, more likely to think about how much energy they use at home , and less likely to think they have done all they can to save energy – which implies that energy use weighs on their minds.
  - At the same time, they are less knowledgeable about how they can save - suggesting that they recognize their high usage situation but don't have all the information needed to make a change.



# High Usage Distinctions: Energy-Related Attitudes

"What obstacles do you face in trying to save energy in your home?" (multiple responses)	High Users		Low/Moderate Users
	(n=445)		(n=1,277)
Cooperation of others	29%	>	16%
Condition of home	11%		9%
Cost	9%		9%
Too many things	8%		8%
Heating or cooling	9%		8%
Renting	4%		3%
Don't know what to do	2%		3%
Age of home	4%		3%
Construction of home	3%		2%
Lack of time	1%		1%
Medical needs	3%		1%
Pool or spa	2%		<1%
Work at home	<1%		<1%
Other	11%		10%
Don't know	25%		40%

# High Usage Distinctions: Energy-Related Attitudes

"How much do you agree with the statement ... " (% Strongly Agree)	High Users		Low/Moderate Users
	(n=445)		(n=1,277)
Cost of energy makes me want to conserve	79%	>	72%
I am very concerned about the environment	63%	<	68%
I am very knowledgeable about things I can do to save	56%	<	61%
I've already done everything I can to save energy	47%	<	56%
I sometimes worry if there is enough money to pay my energy bill	59%	>	52%
I do more than most people to reduce my impact on the environment	35%	<	48%
I don't often think about how much energy I use in my home	15%	<	24%
Someone in my household is dependent on energy for health reasons	27%	>	21%
I am often the first among family and friends to purchase new appliances	26%	>	22%

# High Usage Distinctions: Energy-Related Behaviors

- **Energy-Related Behaviors.**

- Energy Usage: High usage customers (in both temperate and non-temperate climate zones) are higher users of electricity across all times of year (based on quarterly usage), suggesting that high usage is not predominantly climate-related. In fact, high users' summer-winter ratio (summer energy usage divided by winter energy use) is 1.36 compared to 1.42 for the remaining 80% of the low income population (the lower 4 quintiles). High users load is heavy year-round and their summer AC usage is proportionally even a little lower than among the lower usage groups. Most differences between temperate and non-temperate high users are also found among lower usage groups – so these differences are a function of other “non-climate or geography-based” usage variables.

Electricity Usage (average monthly kWh from SCE data)		High Users (n=445)		Low/Moderate Users (n=1,277)
Winter	(Q1 2009)	908	>	358
Spring	(Q2 2009)	840	>	334
Summer	(Q3 2009)	1234	>	507
Fall	(Q4 2009)	912	>	365
Overall	(2009)	925	>	386

# High Usage Distinctions: Energy-Related Behaviors

- **Energy-Related Behaviors (continued).**

- Behaviors Within the Home: Consistent with their self-described lack of knowledge, high users are less likely to follow energy efficient practices at home: turning off lights and TVs, powering down computers, unplugging chargers, and using fans on hot days. High usage is not just because of their environment or the physical condition of their home and appliances. It is also about their behaviors. Across high usage households, it reflects a lack of understanding of what to do, a lack of cooperation among household members, or it can be “more trouble” to act in ways that would reduce energy use (e.g., turning off TV’s that are not in use or only washing full loads).

“How often do you ...” (% who “always” do this)	High Users (n=445)		Low/Moderate Users (n=1,277)
Turn off lights	73%	<	79%
Power down computer	61%	<	68%
Unplug chargers	54%		59%
Turn off TV	69%	<	76%
Run appliances full	77%		74%
Use fans on hot days	40%	<	45%
Raise/lower thermostat	33%		32%
Clothing for warmth	59%		59%
Close ducts	51%		52%
Lower hot water temp	29%		31%

# High Usage Distinctions: *Energy-Related Behaviors*

- **Energy-Related Behaviors (continued).**
  - Energy Bill Payment. High usage customers have more bill payment problems. This is likely a reflection of their relatively higher usage as well as a number of different things related to energy attitudes and behaviors: In part, this group is less “conscious” and less vigilant about saving energy, with “comfort” as the dominant motivator relative to “saving” as is the case with other low income customers. In addition, this group includes larger households have other demands for their resources as well, including the needs of children and household members with disabilities.
  - Participation in Utility Programs. High users tend to have higher participation in the Summer Discount Plan, perhaps because they are more likely to have central AC and because they are motivated to try to lower their energy bill. Non-temperate high users also have higher participation in ARP and EE Rebates – probably related to their higher ownership rates for appliances.

# High Usage Distinctions: Energy-Related Behaviors

Bill Payment Events (means – from 3 years of SCE data)	High Users (n=445)		Low/Moderate Users (n=1,277)
Number of payment-related contacts with SCE	2.42	>	0.74
Number of overdue fees	0.54	>	0.31
Number of disconnects	0.24	>	0.13

“Which of the following programs have you participated in?” (if ever participated)	High Users (n=205)		Low/Moderate Users (n=587)
Appliance Recycling	44%	>	37%
EE Rebates	38%	>	27%
Home Energy Surveys	34%	>	27%
Summer Discount Plan	34%	>	24%
Energy Management Assistance (EMA/LIEE)	36%	>	32%

# High Usage Distinctions: Information Source Prefs

- Information Source Preferences.**

- Probably related to their demographics and socio-economics (higher income levels compared to lower usage groups), high usage low income customers more likely to be online and to want to interact with SCE online (they are more likely to want information from SCE through the Internet and email, and they are more likely to be “My Account” users).

“What is the best way for SCE to get information to you about saving energy or about their programs?” (multiple responses)	High Users (n=445)		Low/Moderate Users (n=1,277)
SCE Separate Mail	69%		68%
SCE Bill or Inserts	37%	<	42%
Phone	17%		19%
Internet/Website	15%	>	11%
News: TV/Radio	5%		7%
Email	11%	>	6%
SCE Employees/In-Person	5%		5%
SCE Advertising: TV/Radio	4%		4%
SCE Website	4%		3%
Newspapers	2%		2%
Word of Mouth	2%		2%
Community/Assistance Org.	<1%		1%
Contractors	<1%		<1%
Stores/Retailers	-		<1%
None	1%		1%

# High Usage Distinctions: LIEE Past Participation

- **LIEE Awareness and Past Participation.**

- High user's awareness and participation in the LIEE program also has implications. High users are less likely to say they participated in LIEE to get the free refrigerator – perhaps because they tend to have newer units already. Regarding reasons for not participating (among those aware of it who have not participated), higher users are more likely to think they don't need it.
- These results suggest that high users are less likely to respond to LIEE marketing. It is possible that high users, with their larger homes and somewhat higher incomes, do not consider themselves qualified for the program or they don't think they need it. It is also possible that the program does not address the root causes of particularly high energy consumption for some high users – which is related to having lots of appliances and electronics, lots of people in the household using these things, and a lack of cooperation (and control) over wasteful practices.



# High Usage Distinctions: LIEE Past Participation

EE Programs Participated In (SCE data)	High Users (n=445)		Low/Moderate Users (n=1,277)
LIEE Participant	8%	<	12%
My Account	31%	>	22%
Medical Baseline	7%		5%
Level Payment Plan	12%	>	7%

“Have you heard of this ‘emma’ program that includes weatherstripping, insulation, refrigerators, and such?” (among non-participants)	High Users (n=286)		Low/Moderate Users (n=863)
Yes	34%	<	39%
No	63%	>	58%
Don’t know	3%		2%

“Which of the following are reasons you’ve not signed up for the ‘emma’ program?” (among those aware who have not participated)	High Users (n=41)		Low/Moderate Users (n=125)
Not sure how to sign up	41%		45%
Don’t think you would qualify	38%		39%
Don’t think your home needs it	45%	>*	32%
Someone else need it more than you do	39%		37%
Doubt the workmanship	14%		17%
Doubt appliance quality	14%		14%
Some other reason	19%		19%

# ***Temperate vs. Non-Temperate***

**An initial hypothesis was that temperate climate high users had different characteristics and/or needs from non-temperate high users regarding the causes of their higher electricity usage – based on the premise that while AC load drives high usage in hot inland areas, other factors must account for high usage in coastal areas.**

**Significant difference testing between low income high electricity users in temperate and non-temperate climate zones across the variables from the dataset and telephone survey found that there are some differences between the two groups, however, these differences are not nearly as substantial as the differences across these same variables between the high users as a group overall compared to the moderate and low usage groups. In other words, high users in temperate and non-temperate climate zones are much more similar than they are different from each other when examined in the context of all electricity usage groups.**

# ***Temperate vs. Non-Temperate***

**A main implication is that marketing strategies and program features can be relatively consistent for all high users no matter where or in which climate zone they are located – with a few possible exceptions:**

- Central AC measures offered through the LIEE program should find more candidates in non-temperate areas, while window AC replacement (offered through the LIEE program) should find more candidates in temperate areas.**
- An environmental message might be more effective in temperate areas.**
- Control devices might have somewhat lesser appeal or impact in temperate areas (since these customers have smaller households and are less likely to need cooperation from others).**

# *Subgroups Among High Users*

# High Usage Subgroups

The research demonstrates that while there is an overall profile of the high usage customers, high usage customers can be further distilled into a handful of subgroups that are differentiated by a number of the variables previously reviewed.

Subgroups	Percent of High User Population	Sample Size
		(n=445)
Declining Health / Wealth	27%	120
Divided Household	26%	117
Hostage to Domicile	24%	108
Concerned But Uninformed	19%	83
Merry Users	13%	57
Undetermined	26%	118

The main differentiating characteristics of these subgroups were first identified from the in-home interviews – based on interviewer observations and discussions with the customer. Characteristics most prominent in distinguishing between the in-home qualitative respondents included factual information, observed and stated behaviors, and attitudes and beliefs.

# High Usage Subgroups

Distinguishing factual characteristics are:

- Number of people in the household
- Age of the householder
- Someone in the household has a medically-based and/or age-based need for cooling, or is house-bound so is always there, etc.
- Age and condition of the home, and without the resources and/or ability (such as renters) to improve the physical condition
- The number of energy-consuming items in the household (but no specific items stood out)

Distinguishing observed and stated behaviors are:

- Leaving electronics (e.g., TVs) and appliances (e.g., air conditioning) on for extended periods vs. diligently turning things off

# High Usage Subgroups

Distinguishing attitudes and beliefs that are major barriers to reducing usage include:

- Gaining cooperation from others in the household
- Condition of the home
- Not interested in the effort to conserve or not wanting to give up the benefits of electricity usage
- Lack of knowledge about what to do to reduce energy usage, or lack of understanding the impact of usage behaviors on the bill

All of these characteristics are variables in the quantitative survey, so parameters for these key variables in the quantitative survey were established that divided the high user survey sample population into these five subgroups. Each subgroup was then profiled across all the variables in the quantitative survey and from the SCE dataset (that included billing, geographic, and census data).

# ***Declining Health/Wealth: Description***

**Current energy consumption is tied to changes in the health and/or economic situation of someone in the household.**

- A very high proportion say that someone with a disability lives there, and they have the highest proportion of all the subgroups on Medical Baseline (a rate-based program for customers with a medical need for higher electricity usage). Declining wealth can be attributed to retirement, or related to the disability.
- Demographically, they tend to be older, to have lived in their home longer, and to have the lowest income. They have the smallest households (in terms of number of people) and the fewest electronics, but the highest electricity usage of all the subgroups, too.
- They believe they try hard to save energy, and that they are successful, but they feel energy dependent – suggesting that they conserve in areas where they can but are constrained either by their medical needs or by characteristics of their home that are no longer affordable (e.g., a swimming pool, more rooms or square footage). They are the least likely subgroup to think they could reduce their energy use further.
- Their efforts are evidenced by the fact that they are more likely to participate in other utility energy efficiency programs. Those who know about the LIEE program do tend to participate.
- Main barriers to reducing energy use are the need to maintain heating or cooling, medical needs of someone in the home, and the cost of repairs or new appliances.



# Declining Health/Wealth: Supporting Data

	Declining Health/Wealth		High Users Total
Demographics	(n=120)		(n=445)
Someone with disability living in home	88%	>	38%
Household income less than \$33,000	67%	>	63%
Age (mean)	59.4	>	51.9
Number living in the home (mean)	3.6	<	4.3
<b>Electricity Usage (SCE data)</b>			
Quarterly usage (mean)	1044	>	975
<b>Efforts to Save (1 to 5 scale)</b>			
Always try to save (% rating 4-5)	89%	>	78%
Have been successful (% rating 4-5)	65%	>	54%
<b>Energy Efficiency Program Participation</b>			
Appliance Recycling Program (ARP)	28%	>	21%
EE Rebates	24%	>	17%
Home Energy Efficiency Surveys (HEES)	24%	>	16%
Summer Discount Plan (SDP; AC Cycling)	22%	>	16%
Energy Management Assistance (EMA/LIEE)	21%	>	17%
<b>Obstacles to Saving Energy</b>			
Maintain comfort / heating / cooling	12%	>	9%
Cost of new appliances	12%	>	9%
Medical needs	10%	>	3%

# Declining Health/Wealth: Supporting Qualitative

	Qualitative Comments
<b>Respondent</b>	"My challenge is how to afford energy... I'm on fixed income... I can't tolerate hot temperatures, especially when trying to sleep [because of my sleep apnea]... I need to use the A/C."
<b>Observer</b>	Many of the respondent's consumer electronics are old, pre-Energy Star era devices, including a older plasma TV, laser disc player, turntable, stereo receiver and amplifier.
<b>Respondent</b>	"The energy bill is high. I'm trying to cut down. The pool is a big energy use....I'm recovering from a heart attack and my wife is not working. I need the A/C because of my heart attack. [The heat makes it race.]"
<b>Observer</b>	The home is two-stories, fully appointed, with a pool and entertainment area outside, though only two people live in it. To cool both levels, the couple uses the A/C heavily.

# ***Declining Health/Wealth: Recommendations***

## **How does the current LIEE program meet their needs?**

The LIEE program does address the needs of some of these households (particularly those that overlap with the Hostage to Domicile subgroup) – in so far as weatherization can reduce their heating and cooling demands, and/or replacement refrigerators can be provided.

## **Recommendations**

Ensuring that these customers are aware of and participate in other relevant utility programs such as “medical baseline” may be beneficial. A “prepare-for-retirement” message to encourage customers to make their homes more energy efficient *before* they reach “declining health/wealth” could also be considered. Program marketing might work through county health organizations, which are routinely in contact and even in the homes of this low income group, in order to specifically identify more of these households. To enhance the current LIEE program offering, an implementation team that specializes in medically-dependent households might identify other energy-related needs of the household’s specific medical situation.

## ***Divided Household: Description***

**This sub-group is characterized most by larger households with members who act independently, and sometimes contrarily, with regard to their attitudes and behaviors related to energy use. For example, each person might watch the same show but on their own TV, or the bill payer might be the only one in the household who is takes actions to save energy.**

- Cooperation from others in the household is the number one stated barrier, and is a defining characteristic – contributing to their low frequency of energy efficient behaviors (second only to Merry Users), and a reason why they believe they try hard to conserve but feel they have less success.
- This group includes households with more appliances and electronics, so they need to be more diligent to keep their energy consumption in check.
- Demographically, they are younger, in larger households with children or other adults in addition to the head of household, a high proportion are Spanish-speakers, and they are more likely to be renters.
- They have a higher incidence of disconnects, likely a result of having many other demands for their limited resources (because of the number of people in the household).

# Divided Household: Supporting Data

	Divided Household		High Users Total
<b>Obstacles to Save Energy</b>	(n=117)		(n=445)
Cooperation of others in the home	100%	>	29
<b>Appliances and Electronics</b>			
Number of appliances (mean)	5.1	>	4.8
Number of electronics (mean)	9.0	>	7.7
<b>Demographics</b>			
Age (mean)	47.9	<	51.9
Number living in the home (mean)	5.3	>	4.3
Renters	46%	>	38%
<b>Energy Efficient Behaviors</b>			
Turn off lights	62%	<	73%
Turn off TV	62%	<	69%
Unplug chargers when not home	42%	<	54%
Close heating / cooling ducts	42%	<	51%
<b>Payment History</b>			
Disconnects	0.29	>	0.24

# Divided Household: Supporting Qualitative

	Qualitative Comments
<b>Respondent</b>	<p>“The house uses above average energy because of the borders...The more people, the more energy is used.”</p> <p>“The Internet [computer and Internet connection] is on all the time for them.”</p>
<b>Observer</b>	Of seven household members, five are boarders.
<b>Respondent</b>	“We use a lot of energy. Most of our appliances are electric. I don’t like using a lot—it’s a necessary evil...We have three household members...and we use TVs and space heaters [in our rooms].”
<b>Respondent</b>	“The renters don’t have much activity. They watch TV in their rooms....To achieve energy efficiency, “you must get the [boarders] to help.”
<b>Respondent</b>	“Since we got teenagers with their own TVs, Ipods, video games and PlayStations, they leave things on a lot...The microwave is used a lot. I wish the kids would make a sandwich and not just heat frozen food.”
<b>Observer</b>	This appears to be a highly dysfunctional family with each person using energy independently.

# ***Divided Household: Recommendations***

## **How does the current LIEE program meet their needs?**

The existing LIEE program, which offers weatherization, efficient lighting, and new refrigerators along with some educational information, does meet the needs of this subgroup, but with opportunities for enhancement.

## **Recommendations**

One aspect in particular stands out. Customers from this group complain that they cannot get cooperation from other members of the family or household, so there may be creative and innovative ways to address this. For example, consider creating targeted educational and marketing materials that are written to or for the children and teenagers in the household in a manner and format that *they* identify with. Provide tips and strategies for the bill-payers (aka parents) that might get uncooperative teenagers, roommates, or boarders on board. One customer gave an example of how she “incentivized” her teenager by telling the teen that every time she found that the TV was left on she would take \$5 off what she agreed to pay for her daughter’s cell phone bill.

# ***Divided Household: Recommendations***

## **Recommendations (continued)**

The program may also be able to assist this group with improving cooperation through increased bill payer control – smart power strips and “parental control” devices (e.g., programmable thermostats that require an access code) could be added to program measures. It also may be possible to create educational materials or measures that assist the other uninformed or disinterested adults in the home in reducing energy use.



# ***Hostage to Domicile: Description***

**The home's structure, condition, and/or appliances are factors that compel the household to use significant electricity in the ways they now do.**

- Demographically, they have the second longest tenure in residence, and they are the second oldest subgroup by age and the second lowest subgroup by income – all after Declining Health/Wealth.
- Not surprisingly, they are in the oldest homes, they have the lowest proportion of energy efficient features in their home, and the oldest refrigerators and air conditioners.
- Likewise, main barriers to reducing energy use are the condition, construction, and age of their home, as well as the high cost of repairs and new appliances.
- They have average participation but the lowest awareness among non-participants of the LIEE program – suggesting that those who know about LIEE tend to participate, but they are less likely to know about it.

# Hostage to Domicile: Supporting Data

	Hostage to Domicile		High Users Total
<b>Demographics</b>	(n=108)		(n=445)
Household income less than \$33,000	71%		63%
Age (mean)	53.2		51.9
Years in home (mean)	15.0		13.8
<b>Home Characteristics</b>			
Year home was built (mean)	1964	<	1970
Age of refrigerator (mean)	8.7	>	6.4
Age of AC 10+ years old	40%	>	27%
<b>Obstacles to Saving Energy</b>			
Condition of home	44%	>	11%
Cost of new appliances	13%	>	9%
Age of home	15%	>	4%
Construction of home	10%	>	2%
<b>Energy Efficiency Program Participation</b>			
Appliance Recycling Program (ARP)	18%		21%
Energy Management Assistance (EMA/LIEE)	15%		17%
EE Rebates	11%		17%
Summer Discount Plan (SDP; AC Cycling)	12%		16%
<b>Aware of EMA/LIEE</b>	(n=73)		(n=286)
Yes	29%		34%

# Hostage to Domicile: Supporting Qualitative

	Qualitative Comments
<b>Respondent</b>	"We turn off the lights, the computer... the TV to help save energy. I read energy labels before buying electronics. But refrigerator and freezer (in the kitchen) are old and probably inefficient."
<b>Observer</b>	The apartment is drafty and has few electronic devices. At least one of two residents is in the home 95% of the time. To keep warm during the day they spend time in the kitchen, which doubles as an "office." They let their large dog outside several times per day, losing significant kitchen heat each time the door is opened.
<b>Respondent</b>	"I'm trapped. There's not much I can do. There's energy being wasted."
<b>Observer</b>	The all-electric kitchen, the drafty apartment and the weak central heat are beyond the renter's control to change or improve. She does not appear able to afford newer, more efficient appliances.
<b>Respondent</b>	"Aging appliances and A/C are the biggest energy-related issues facing me personally. Financially, it's not a good time... The insulation and weatherizing are bad."
<b>Observer</b>	Customer says he's facing a layoff and can't afford more efficient appliances. He doesn't want to jeopardize his landlord relationship by asking for upgrades.
<b>Respondent</b>	"The A/C is on 24-7 because the house doesn't cool down. The insulation is inadequate... The fridge is old."
<b>Observer</b>	The homeowners intend to divorce, but neither wants to invest more in the house because the other will benefit. So, they accept the house and its appliances as they are.

# ***Hostage to Domicile: Recommendations***

## **How does the current LIEE program meet their needs?**

At its core, the low income weatherization programs were designed for this customer group, so by and large, the program meets the energy-related needs of this group.

## **Recommendations**

While for the most part the program meets the needs of these customers, increasing the relevance and knowledge of what can be done (from a behavioral standpoint) would be beneficial for this group as well, as is the case with many of the “high usage customers.” Moreover, since this group shows only “average” LIEE program participation rates relative to the other groups, it would be advantageous to increase customer awareness of the program and target these “ideally suited” customers. One caveat, however, is that SCE, as an electric-only utility, is limited in the weatherization measures that can be provided, so these customers might be better candidates for the regional gas utilities who provide services for the gas/heating related measures.

## ***Concerned But Uninformed: Description***

**These households seem to desire greater efficiency using electricity, but lack knowledge, guidance, or information. They are very much aware of their energy usage and might even believe that they are energy conservers, but they are not conservation minded in the sense that they do not really know what they can do to reduce their usage.**

- Demographically, this subgroup is younger, less educated, and they tend to be Spanish speakers.
- They are more likely to be renters and to have the shortest tenure in their residence.
- They have a higher incidence of disconnects and billing related contacts with SCE – suggesting greater energy burden as well.
- Main barriers to reducing energy use are cooperation from others, and they don't know what to do.

# Concerned But Uninformed: Supporting Data

	Concerned But Uninformed		High Users Total
<b>Demographics</b>	(n=83)		(n=445)
Age (mean)	47.1	<	51.9
Spanish speakers	25%		24%
College graduate or higher	18%		23%
Years in home (mean)	10.3	<	13.8
<b>Home Characteristics</b>			
Renters	52%	>	38%
<b>Billing Issues (SCE data)</b>			
Number of disconnects (mean)	0.27		0.24
Number of billing contacts (mean)	25	>	21
<b>Obstacles to Saving Energy</b>			
Cooperation from others in home	40%	>	29%
Don't know what to do	11%	>	2%

# Concerned But Uninformed: Qualitative

	Qualitative Comments
<b>Respondent</b>	"I turn off lights and check on the others to turn off lights." Strongly agrees: "I am very knowledgeable about things I can do around my home to save energy."
<b>Observer</b>	Because the apartment has minimal lighting there are relatively few bulbs to turn out. But it does have five tube/plasma TVs and two game consoles. Two TVs were on during the visit with no one watching.
<b>Respondent</b>	"We all need to do our bit to save energy...I don't think we have any energy issues. We open doors to get a breeze and we don't have A/C."
<b>Observer</b>	The home has a spa and a large number of incandescent light fixtures and bulbs.
<b>Respondent</b>	"December is the most expensive time of the year, so I decided not to put up Christmas lights...We use more than my sister, who lives two blocks away..."The kids watch TV [in their rooms] while I cook."
<b>Observer</b>	All household members appear to make heavy use of the TV and attached consumer electronics, which often are left on.
<b>Respondent</b>	"I'm very particular about not leaving lights on when not in the area. I've replaced old bulbs with CFLs."
<b>Observer</b>	Many incandescent bulbs have been replaced with CFLs. Fear of gas asphyxiation has led to the habit of always keeping a window open, requiring supplemental heating & cooling. The array of consumer electronics and up-sized appliances probably draw above average amounts of power.

# ***Concerned But Uninformed: Recommendations***

## **How does the current LIEE program meet their needs?**

This group warrants more attention. Similar to the Divided Household subgroup, existing LIEE program measures are likely to have minimal impact with the Concerned But Uninformed.

## **Recommendations**

Enhanced education may be considered. In particular, educational materials that are relevant and especially meaningful to the needs of this group may assist in generating greater “concern,” greater understanding about “cause and effect” (e.g., leaving a TV on for 6 hours costs \$x.xx), increased personal action, and ultimately savings on energy bills and reductions in energy usage. Interestingly, while it may seem futile to attempt to move the unconcerned to concerned, some “unconcerned” customers reiterated that while they were not very concerned about doing much to save energy, it was in part because they did not realize the effect it could have on their savings and that it was not going to significantly impair their lifestyle to make relevant efficiency changes.



# ***Concerned But Uninformed: Recommendations***

## **Recommendations (continued)**

This group may also benefit from the addition of measures that are more appropriate for this more transient renter population. Portable or plug-in energy control devices (e.g., timers, smart power strips) that don't require landlord approval and CFL's with the ability to receive replacement CFLs (when the original bulbs burn out) are two ideas.

## ***Merry Users: Description***

**The household does not pay attention to the amount of energy used, and doesn't seem to care.**

- The most affluent and educated subgroup, they are the most likely to be living in a single-family home and to reside in a temperate climate zone. As such, they are the least likely to be motivated to save money on their energy bill.
- They are the least likely to try hard to save energy, and least likely to think they've been successful. They do not pay attention to their energy usage nor do they try to conserve, evidenced by the lowest frequency of energy efficient behaviors.
- Consistent with their more affluent circumstances, they have high participation in energy efficiency (e.g., appliance) rebates, but low for other programs.

# Merry Users: Supporting Data

	Merry Users	High Users Total
<b>Demographics</b>	(n=57)	(n=445)
College graduate or higher	32%	23%
Household income \$53,000 or more	31%	12%
<b>Home Characteristics</b>		
Single family home	78%	74%
Temperate climate zone	63%	55%
<b>Efficiency Effort</b>		
Number of EE behaviors endorsed as "always"	3.9	5.2
Effort to save energy in home (% 4-5 rating)	56%	78%
<b>Energy Efficiency Program Participation</b>		
Appliance Recycling Program (ARP)	14%	21%
Energy Management Assistance (EMA/LIEE)	11%	17%
EE Rebates	19%	17%
Summer Discount Plan (SDP; AC Cycling)	13%	16%
Home Energy Efficiency Surveys (HEES)	10%	16%

# Merry Users: Supporting Qualitative

	Qualitative Comments
<b>Respondent</b>	"Neighbors and friends have larger houses and somewhat higher energy bills, so my bill is appropriate...We use the TVs and DVDs a lot, especially in the evening ...and sometimes leave them on when not in the room."
<b>Observer</b>	The garage contained a 2nd refrigerator, stereo and a compressor that was used occasionally. The main TV is plasma and had surround sound; each of the four bedroom TVs is used daily, two of which were tube style.
<b>Respondent</b>	"I look at the energy bills, but not too close. The bills are high, over what you'd like to spend." "Sometime my mother uses the TV to fall asleep... The family uses the TV and PlayStation a lot...The electronics are on about 12 – 13 hours a day." "They don't teach how to save energy."
<b>Respondent</b>	"I don't give energy use a second thought. I think of my grand kids. I leave it on for my puppies...when I'm gone." She somewhat agrees that "having the benefits I get from using energy is more important than saving energy."
<b>Observer</b>	Home has a large number of incandescent bulbs and six TVs, two with game consoles.
<b>Respondent</b>	"My needs are more important than conserving. If I need it now, I'm going to use it...Why should I have to wear a sweater in my house? When my kids visit, I want the house warm...We use the clothes washer and dryer daily."
<b>Observer</b>	The home has six TVs, including an old, large rear projection-type with PlayStation. A mounted LED/LCD TV remained on during the site visit.

# ***Merry Users: Recommendations***

## **How does the current LIEE program meet their needs?**

The current program can do little to address the crux of their issues, since their usage is driven primarily by attitude and behavioral choices.

## **Recommendations**

While this group may be considered relatively lower priority in terms of a target group, to the extent that the program can enhance the educational and marketing materials to increase relevance, awareness, and knowledge it may be possible to interest these customers in making more energy efficient choices that are beneficial to them. Again, we found in the focus groups that sometimes the “merry users” or “unconcerned” could be moved to a place of interest and concern (and behavior change) if given information in a way that was relevant and meaningful to them. Since they overlap with Divided Households, some Merry Users might be served through the recommendations for this other subgroup. Marketing will need to break through their lack of interest or motivation – perhaps through tie-ins with home improvement or appliance retailers.

# *Conclusions*

# Conclusions

A variety of different factors contribute to high usage. These include behavioral, knowledge or attitude-based factors, as well as circumstantial factors related to the household or home itself. By and large, high usage is driven by having physically bigger homes, more people in the homes, more appliances and electronics, and more challenges associated with controlling energy use.

High usage households are characterized by having less concern and less knowledge with regard to implementing more energy efficiency practices – which can include daily behaviors such as turning off lights and TVs or making decisions regarding new appliance purchases or getting rid of ill-performing appliances and electronics. While in many cases these households struggle to pay their bills, they also tend to skew higher on income and are less likely to make personal “sacrifices” in service of comfort, as is often the case with the low income lower usage households. In other words, the idea of reducing electricity usage by doing without is a turn-off.

# Conclusions

Three main conclusions or “needs” regarding reducing their electricity usage emerged. High usage low income customers may benefit from:

- More control since they have more people, more appliances and electronics, and more space (for heating and cooling).
- More education about what they can do to manage and reduce their energy use.
- Greater reach into the household so that more household members can be informed.

The research also determined that the majority of low income high usage customers can be allocated to five main subgroups: Declining Health/Wealth, Divided Household, Hostage to Domicile, Concerned but Uninformed, and Merry Users. The existing LIEE program meets some but not all of the needs of each of the subgroups.



# Recommendations

Specific recommendations for program enhancements include:

- Develop and target educational materials at other members of the household, such as children and roommates.
- Enhance cooperation within a household through increased bill payer control, for example, smart power strips and “parental control” devices can be added to program measures.
- Identify energy-related needs that a specific medical situation requires through a specialized implementation team for medically-dependent households.
- Add measures that are more appropriate for the more transient renter population that do not require landlord approval, such as portable or plug-in energy control devices and replacement CFLs.

# Recommendations

**Program marketing should speak more directly to these subgroups.**

**•Each subgroup represents a unique scenario that can be the focus of different creative executions. For example:**

- Messaging targeted to Divided Households can recognize that getting cooperation from others in the household is a major barrier.
- Outreach aimed at Declining Health/Wealth households could include a prepare-for-retirement message to encourage energy efficiency improvements before they reach the stage of declining health and wealth.
- Messages for the Concerned But Uninformed and the Merry Users could include factual information about the cost of leaving TVs or other electronics on, or the cost of running a Central AC when no one is home.

**•Tactics to reach subgroups can also be employed. For example:**

- Work through county health organizations to reach Declining Health/Wealth.
- Work through schools for education and distribution of portable program measures to reach Divided Households, Concerned But Uninformed, and Merry Users.