Momentum
Market Intelligence

Statewide Pricing Pilot: End-of-Pilot Participant Assessment

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SOUTHERN CALIFORNIA EDISON
Pacific Gas and Electric Company
SDGE
A Sempra Energy utility

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Executive Summary

Background & Objectives

- **The Statewide Pricing Pilot (SPP) was designed to capture information that will be critical to deciding if time-differentiated pricing options should be offered to residential and small business utility customers in California, and if so, how those options should be designed and implemented.**

- **The End-of-Pilot (EOP) survey was intended to provide the team with information and insight regarding participant reactions to the experience of having been involved in the pilot electricity pricing program.**

- **The EOP survey is a follow-up to the End-of-Summer (EOS) survey conducted in Fall 2003 and, as such, covers some of the same issues addressed in that survey, though the EOP survey has a greater focus on behavioral response to pricing signals as well as information about how this response might have changed over the course of the pilot program.**
  - Note that the EOP survey includes some (almost one-fourth) of those surveyed in the EOS survey.
  - Due to attrition, the EOP survey includes participants that were enrolled at the beginning of the SPP in Summer 2003, as well as those subsequently enrolled in 2004 with less experience overall with the SPP program.

Background & Objectives

- **NOTE: As with the 2003 EOS, this study includes the opinions and behavior of SPP participants only (i.e. those who elected to enroll after being actively solicited to participate and receiving educational materials and monetary incentives). Those who chose not to enroll in the SPP may have responded differently to the time-differentiated pricing programs.**
  - Examination of similarities and differences between participants and those who elected not to participate is outside the scope of this project.

- **This survey of SPP participants only captures information about how SPP participants report such things as changes in the way they used energy during the pilot program compared to how they used energy before the SPP experience.**
  - Actual measures of energy use change may yield results that provide a different picture of SPP participant response than the self-reported actions described in this report.

Executive Summary: Overall Impressions of the Pilot Program

- **Residential and small commercial participants in California are generally supportive of the SPP rate programs [TOU, CPP-V, CPP-F, and Information-Only] they were enrolled in and this support has increased marginally from what was found in 2003.**
  - Overall program satisfaction levels are reasonably high, though lower for commercial participants and residential CPP-V participants.
  - Most indicate that the program worked as expected.
  - Most indicate that the program is "fair" (though CPP-V and Information-Only participants are slightly less likely to think so) because it "works" to save money and conserve energy.
  - Most would extend the new pricing program to the statewide population, though fewer think it should be offered as an "opt-out" option.
  - *However,* satisfaction levels have *dropped slightly* for those residential pilot participants we were able to track in both 2003 and 2004 survey waves.

- **2004 survey results suggests strong support for the CPP, TOU, and Information-only programs participants were assigned to. --- The vast majority of SPP participants (90% of residential, 80% of small commercial) are interested in being notified of an extended offer to continue on their pilot rate program. *And,* most (80% of residential, 79% of small commercial) also think they would stay on their program if such an offer was made, *even without appreciation payments.***
  - Interest in being notified of an extension of their program or given the opportunity to stay on their current pricing program is driven primarily by the possibility of saving money.
  - Note that reports of anticipated future actions can be overstated somewhat in survey settings, so these results should be interpreted with caution. Given this, it is likely that fewer participants would continue on their new pricing plan than what is reported here.

Executive Summary: Overall Impressions of the Pilot Program

- **Overall interest is reduced somewhat in the face of a $.50 to $3.00 monthly meter charge. However, a majority (55% of residential and 67% of commercial participants) still express a preference for remaining on their current pricing program even with this charge.**

Executive Summary: Accuracy of SPP Participants' Understanding of Pilot Pricing

- **At a high level, SPP participants have a good understanding of their pilot program pricing, but misunderstand some of the specifics of their program.**
  - Residential participants have a more accurate understanding of their pricing program than do commercial participants.
  - Residential CPP-V participants demonstrate higher levels of program accuracy/understanding than those on other programs, while residential Information-Only participants demonstrate appreciably lower levels of accuracy/understanding than others**.**

- **Time spent on an SPP rate does not appear to have a significant effect in terms of improving participants' level of rate understanding. However, time spent on the Information-Only program worked to actually decrease levels of pricing accuracy/understanding, with significantly more participants thinking that pricing elements of the other rate programs applied to them.**

Executive Summary: SPP Participants' Response to Rates

Behavioral Changes in Response to Rates

- **Not only is the pilot program associated with positive attitudes about saving money and energy conservation, but a majority of participants also report making behavioral changes in how they use energy.**
  - The majority of those making changes anticipate managing their electricity use in the same way after the program ends.
  - However, those who do not make any changes suggest that they had already taken measures to reduce usage before signing up.

- **Since the 2003 survey, however, it has been found that fewer residential and commercial SPP participants are taking actions to reduce their overall electricity use in 2004. However, on average, this smaller group of residential and commercial participants are taking more actions to reduce their overall electricity use in 2004 than in 2003 (an average of 1.5-2.5 actions taken in 2004 vs. 1 in 2003).**
  - When looking at the set of residential participants that have been tracked in both the 2003 and 2004 surveys, it was also found that fewer were taking actions to reduce their overall electricity use, though on average these participants were taking more actions to reduce their overall electricity use and costs.
- **Residential SPP participants took a variety of different actions to change energy use, with shifting the time for laundry topping the list. Commercial SPP participants also took a variety off different actions, with turning off lights and equipment, installing programmable thermostats, and reducing AC use topping the list.**

Executive Summary: SPP Participants' Response to Rates

- SPP participants say that most changes were relatively easy to make and that they would consider making the changes permanent. For both residential and business participants, however, reducing AC use is considered one of the most difficult actions to take and this perception of difficulty increased for business participants in 2004.
- Residential responses to Super Peak periods were similar to their responses to normal peak periods. Commercial participants, however, place a greater emphasis on shifting equipment use and employee work schedules on these days.

Active / Daily Management of Electricity Use in Response to Rates

- **Three-quarters of residential SPP participants and slightly less than half of commercial SPP participants report that they actively manage their electricity use by reducing or shifting electricity use at different times of the day, week or year and during super peak periods.**
  - Similarly, most of those with one of the target appliances / pieces of equipment also report that they actively manage its use.
  - However, residential participants with electric hot water and commercial participants with electric hot water, commercial refrigeration, and electric motors are less likely to actively manage the use of these appliances / equipment on a daily basis.

Executive Summary: SPP Participants' Response to Rates

Active / Daily Management of Electricity Use in Response to Rates

- **Both residential and commercial participants tend to report using management strategies that result in a reduction of electricity use for more than just the key, high-use time periods – summer, weekday afternoons.**
  - Regardless of the appliance or piece of equipment in question, residential management strategies most often involve reducing during weekday and weekend afternoons and / or shifting electricity use away from weekday afternoons all year long.
  - Commercial participants, on the other hand, tend to use a strategy of simply reducing overall electricity use on both weekday and weekend afternoons either all year long or during the summer only.

- **The vast majority of both residential and commercial participants respond to super peak periods by reducing or shifting for the entire duration of the event.**
  - A very small percentage choose not to respond to such events.

AC Operation in Response to Rates

- **Enrollment in the SPP program worked to change commercial participants' manual AC operation strategy to one that is automated through the use of a programmable thermostat installed after enrollment. Residential SPP participants' mostly manual operation of their AC system remained mostly unchanged after program enrollment.**

Executive Summary: SPP Participants' Response to Rates

Profile of Those Making Most Changes in Response to Rates

- **Residential SPP participants making a lot of changes in their electricity use tend to:**
  - Be on a CPP-V or CPP-F rate
  - Be in climate zones 2-4
  - Be enrolled in the program in 2003
  - Have a high understanding of how they are billed for electricity
  - Have between 3-6 target appliances

- **Commercial SPP participants making a lot of changes in their electricity use tend to:**
  - Be on a TOU rate
  - Have between 3-8 pieces of target equipment

Primary Reason for Change in Response to Rates

- **Most participants did change electricity use management strategies over time, primarily to try to save money.**
  - The most frequent change for residential participants was moving from an electricity use reduction strategy, to a strategy of shifting use to periods outside the peak.
  - Commercial participants most often opted to install a programmable thermostat.

Executive Summary: Notification & Response to Super Peak Events

- **Participants on the CPP-V program most often had a programmable thermostat installed to automatically adjust usage during super peak periods and most were satisfied with its performance.**
  - In fact, satisfaction levels were slightly higher than those reported in 2003.

- **Though most report responding to super peak events for the entire length of these events, opinions vary with regard to how many notices participants received.**
  - Most recall between 1-10 super peak notices, though a fairly large number either believe that they did not receive any notices or that no notices were given (17% of residential participants and 40% of commercial participants.)
  - Few believe, however, that they missed such a notification.
  - Once notified, most feel they had enough time to respond to these events.

- **Approximately half of the SPP participants recall receiving multi-day super peak event notices, reporting about 1-5 such multi-day super peak events.**
  - Residential participants found such multi-day events fairly easy to respond to; commercial participants found multi-day events lasting 3 days significantly more difficult to respond to.
  - Most cite high temperatures and high usage / need to conserve as the reasons for these multi-day events; a significant number of commercial participants, however, are unclear about the reason that the utility called these multi-day events.

- **Notification for super peak periods is most often given via the telephone or email and satisfaction with these methods is high for both residential and C&I participants.**
  - If public notifications are offered, most would prefer a TV news or radio announcement.

Executive Summary: SPP Participants' Impressions of Bill Impacts

- **Regardless of the highest monthly summer bill participants recall, most indicate that this dollar amount was what they expected.**
- **A majority of participants (66% of residential participants and 58% of small commercial participants) believe they were able to save money on their program and most think the level of savings was what they expected or more than they expected.**
  - Residential CPP-F participants, however, are more likely to say their savings were less that what they expected.
- **The majority of participants report reviewing their bill in order to determine their savings while on the program in the summer of 2004.**

Executive Summary: Other Elements of the SPP Program

- **Somewhat less than half of both residential and small commercial participants recall receiving a comparison bill, an increase since 2003.**
  - These comparison bills are considered relatively useful, though participants' impressions of their usefulness has decreased since 2003.

- **A majority of all program participants report that they did not visit the program website or call the Research Support/Energy Information Center to obtain program information in 2004.**
  - This is consistent with observations from the 2003 research.
  - Overall satisfaction ratings for the support center are good among the few that called, with ratings slightly higher over those obtained in the 2003 survey.
  - As in 2003, reasons for not visiting the website are no interest/no need (had sufficient information), no internet access, and no time.

Executive Summary: Future Features of a TD Rate Program

- **Overall, there is not a great deal of interest in a pure-CPP option among either residential or small commercial participants (at least as described in this research), with those currently enrolled in the TOU rate having the least interest in such an option.**
  - A pure-CPP option was described as a rate that did not have peak periods everyday, but rather only 15 days per year. It was further explained that during these 15 days the price could be 5-10 times higher during the peak period, but that they would pay less than what they pay now for all other hours the other 350 days of the year.

- **Residential SPP participants tend to prefer early peak pricing time blocks, or those starting at noon (12-3 pm or 12-4 pm). Commercial SPP participants tend to prefer the later time blocks or those starting at 3 pm or 4 pm and ending at 7 pm.**
  - However, there is also some interest among commercial participants for a 12-3pm or a 12-4pm peak pricing time block.

Methodology

Survey research was designed to explore program feedback from a sample of residential & small business SPP participants.

- **Telephone interviews averaging 24 minutes in length were conducted with SPP participants during October-November 2004.**

- **Interviews were conducted with respondents who said they were aware of and knowledgeable about the participation of their household or business in the Statewide Pricing Pilot.**

- **A sampling plan was developed that would allow the team to explore survey responses by participant class (residential/C&I), pricing condition (TOU, CPP-F, CPP-V, Information-Only), and climate zone (where the numbers of program participants allowed this; specifically in the residential CPP-F and residential TOU conditions).**
  - Note: Climate zone information is not provided for business participants, so no analysis is done at this level.

- **Because of small sample sizes in some cells, it was not possible to conduct all of the interviews targeted for each group in the original sample plan, but the core analytic objectives of the program are still supported by the final sample sizes (see the following page).**

Survey research was designed to explore program feedback from a sample of residential & small business SPP participants.

- **Note that results reflect the behaviors and opinions of SPP participants only, and may not be generalizable to the total population of residential and small commercial electricity participants.**
  - A self-selection bias for program participation may exist
  - Examination of differences in perceptions of the new pricing programs and energy consumption patterns between SPP participants and non-participants is outside the scope of this project.

- **The data presented in this report have been weighted to reflect the actual distribution of residential and commercial program participants as reflected in the following table.**

Sample Composition: End-of-Pilot Survey

Participant Type	Total SPP Participants	Completed Interviews	Margin of Error at 90% Confidence
Residential:			
Track A, Res, TOU, Climate Zone 1	54	23	13.0%
Track A, Res, TOU, Climate Zone 2	49	18	15.4%
Track A, Res, TOU, Climate Zone 3	55	18	15.9%
Track A, Res, TOU, Climate Zone 4	50	18	15.5%
Track A, Res, CPP-F, Climate Zone 1	51	17	16.3%
Track A, Res, CPP-F, Climate Zone 2	181	55	9.3%
Track A, Res, CPP-F, Climate Zone 3	190	57	9.1%
Track A, Res, CPP-F, Climate Zone 4	107	47	9.0%
Track A, Res, CPP-V, Climate Zone 2/3	92	23	14.9%
Track A, Res, Info Only, Zone 2/3	121	34	12.0%
Track B, Res, CPP-F, Hunters Point, Climate Zone 1	122	35	9.5%
Track B, Res, CPP-F, Richmond, Climate Zone 1	64	21	14.7%
Track B, Res, Info Only, Hunters Point, Climate Zone 1	65	16	17.9%
Track C, Res, CPP-V, Climate Zone 3	122	65	7.0%
C&I:			
Track A, C&I, TOU	101	27	13.6%
Track A, C&I, CPP-V	133	32	12.7%
Track C, C&I, CPP-V	125	36	11.6%
	Total Res	447	3.2%
	Total C&I	95	7.2%

Sample Composition: End-of-Pilot Survey

- **Note that among the 447 surveyed residential pilot participants are 155 residential participants who participated in both the 2003 End-of-Summer and 2004 End-of-Pilot surveys. Where possible and sample size allows, this report provides comparisons of differences in behaviors and attitudes from the 2003 survey to the 2004 survey for this group of respondents.**
  - ALL residential SPP participants were contacted for participation in both the 2003 and 2004 surveys (and the intent was to include as many as possible in our research). However, due to common survey issues (participants unable to be reached during the survey period, wrong phone numbers, language barriers, refusals, etc.), not all end up participating in the research. There were also some participants who dropped out of the pilot between the 2003 and 2004 surveys, making them no longer eligible for our 2004 survey. Consequently, it is just a coincidence that our research includes 155 participants that participated in both waves of research.

- **Among the 95 commercial pilot participants surveyed, only 26 participated in both waves of this survey. This small sample size prohibits comparisons between the SPP C&I participants who participated in both 2003 and 2004.**
  - Again, the comment above applies also to the attempts to interview small C&I participants

Explanation of Report Format & Chart Notations

Consistent colors and superscript notations to denote significant differences have been used throughout the report to aid interpretation of the charts contained in the detailed findings.

- **To aid interpretation of the charts presented in this report, consistent colors have been used to identify residential and small commercial SPP participant segments, with blue and shades of blue representing residential SPP participants and orange and shades of orange representing commercial SPP participants.**
  - Again, recall that among the 447 surveyed residential pilot participants, there were 155 residential participants who participated in both the 2003 End-of-Summer and 2004 End-of-Pilot surveys. Where possible, this report provides comparisons of differences in behaviors and attitudes from the 2003 survey to the 2004 survey for this group of respondents.
  - Among the 95 commercial pilot participants surveyed, only 26 participated in both waves of this survey. Because of this small sample size, comparisons have not been made between the set of participants who participated in both 2003 and 2004.

- **Additionally, all statistically significant differences between subgroups (i.e. customer type, climate zone, rate type and year) at the 95% confidence level have been noted with superscript numbers (i.e. ^{1}). The same notation appearing next to two percentages (or other data points) indicates that the difference between them are statistically significant.** ***Percentages without a superscript notation indicate that no statistically significant differences exist.***
  - For example, in the first section of this report the reader will find that 10% of commercial participants indicate that one reason for their dissatisfaction with the program is that it simply "doesn't work well" and 0% of residential participants cite this as a reason for their satisfaction. The 10% and the 0% have a superscript 1 next to them, indicating that these two statistics are significantly different at the 95% confidence level.

- **In other cases, a letter superscript notation (^{A}) may refer to a notation at the bottom of the page.**

Section 1: Overall Impressions of the Pilot Program

Overall Impressions of the Pilot Program

- **This first section of the report explores the way that sampled SPP participants responded to the program:**
  - **First**, in terms of their overall attitudes, impressions and satisfaction with the program and how it worked
  - **Second**, in terms of their interest in having such a program offered to them and other utility customers in the future.

Section 1: Key Takeaways

- **Overall, 2004 SPP participants are generally positive about their new rate options, with relatively small differences in satisfaction across most rate conditions.**
  - Residential CPP-V participants, however, express marginally lower levels of satisfaction in comparison to other rate conditions.
  - Satisfaction levels are generally lower for commercial participants.

- **Satisfaction with the program in 2004 is equal to or marginally higher in compared to the December 2003 survey results.**
  - In particular, satisfaction levels were marginally higher in 2004 among residential Information-Only participants and commercial participants.

- ***Among those residential participants who participated in both SPP survey waves*, however, satisfaction is slightly lower in 2004 than it was in 2003 for all except those in the Information-Only treatment.**

- **Saving money is the most important reason why participants like their program, followed somewhat by the ability to better conserve. Key negative issues with the program, particularly among small business participants, include concerns over high prices, lack of savings, and the program not "working well."**

Section 1: Key Takeaways (continued)

- **Participants' overall level of satisfaction with the program is also evidenced by the percentage that indicate they would like to be notified of an offer to continue on their rate program (90% of residential participants and 80% of commercial participants).**

- **A majority (80% of residential and commercial) of participants also indicated a desire to stay on their current rate plan *even though the program would no longer include the appreciation payments*. Reasons for this interest were driven primarily by the possibility of saving money.**
  - The percentage of CPP-V participants wishing to remain on the program is slightly lower.
  - Respondents tend to overstate future actions in a survey setting, so these results should be interpreted with caution.

- **Overall interest is reduced somewhat in the face of a $.50 to $3.00 monthly meter charge, though a majority (55% of residential and 67% of commercial participants) still express a preference for remaining on their current SPP rate program.**

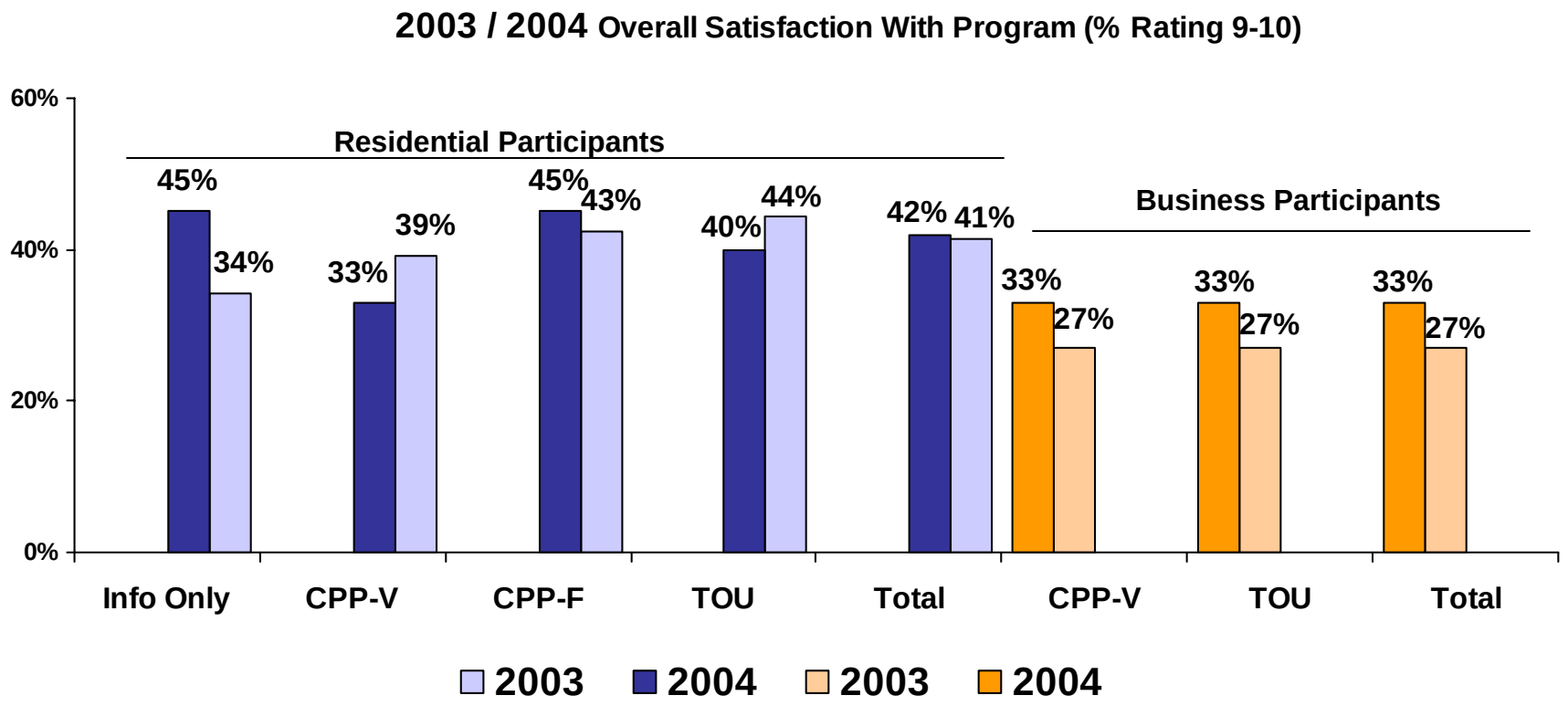
Section 1: Key Takeaways (continued)

- **Most participants (89% of residential and 75% of commercial participants) indicate that the SPP rate program worked as expected. Business participants are less likely to say this in 2004 than in 2003.**
  - Those saying the program did not work as they expected primarily cite that they had expected to save more and / or have their rates go down.

- **The vast majority of all participants (87% of residential and 83% of commercial participants) feel their program is "fair," though CPP-V and Information-Only rate participants are slightly less likely to think so.**
  - Most indicate that the program is fair because it "works" to save money and it conserves energy.

- **Most participants also tend to say that they think the program should definitely be offered to all California utility customers (69% of residential and 64% of commercial participants. Fewer, however, think it should definitely be offered as an "opt-out" program (43% of residential and 39% of commercial participants).**

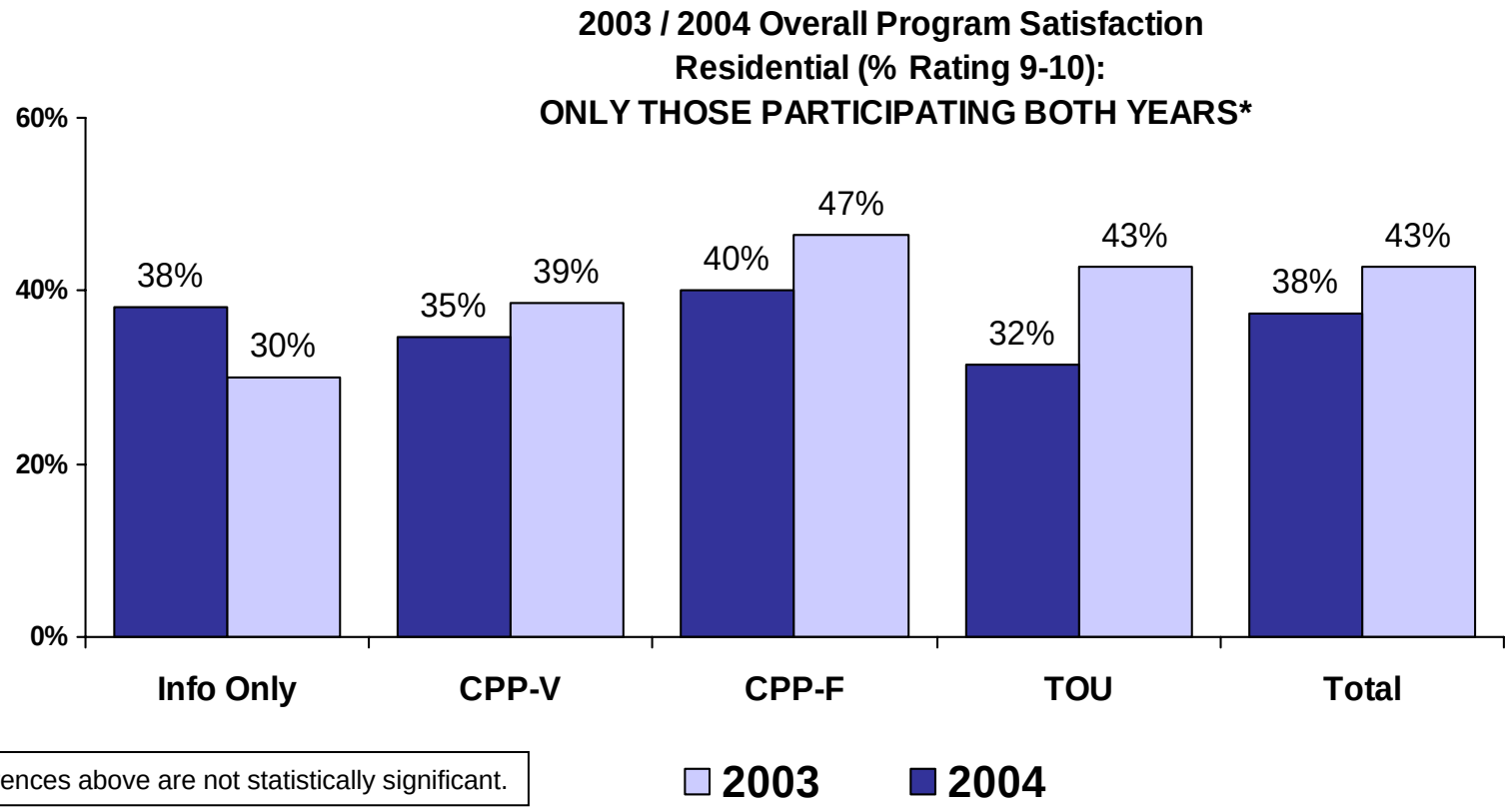
Overall satisfaction with the program in late 2004 is about equal to, or marginally higher (among business – and information-only residential—participants) compared to the 2003 survey. Exception: Satisfaction among residential CPP-V participants, however, is marginally lower.



Differences above are not statistically significant.

Q92/Q87: Overall, how satisfied are you with the new program? (1=Very Dissatisfied; 10= Very Satisfied)
Residential 2003 n=398, 2004 n=447; Commercial 2003 n=92; 2004 n=95

Among those residential participants surveyed in both years, satisfaction is slightly lower in 2004 than in 2003.

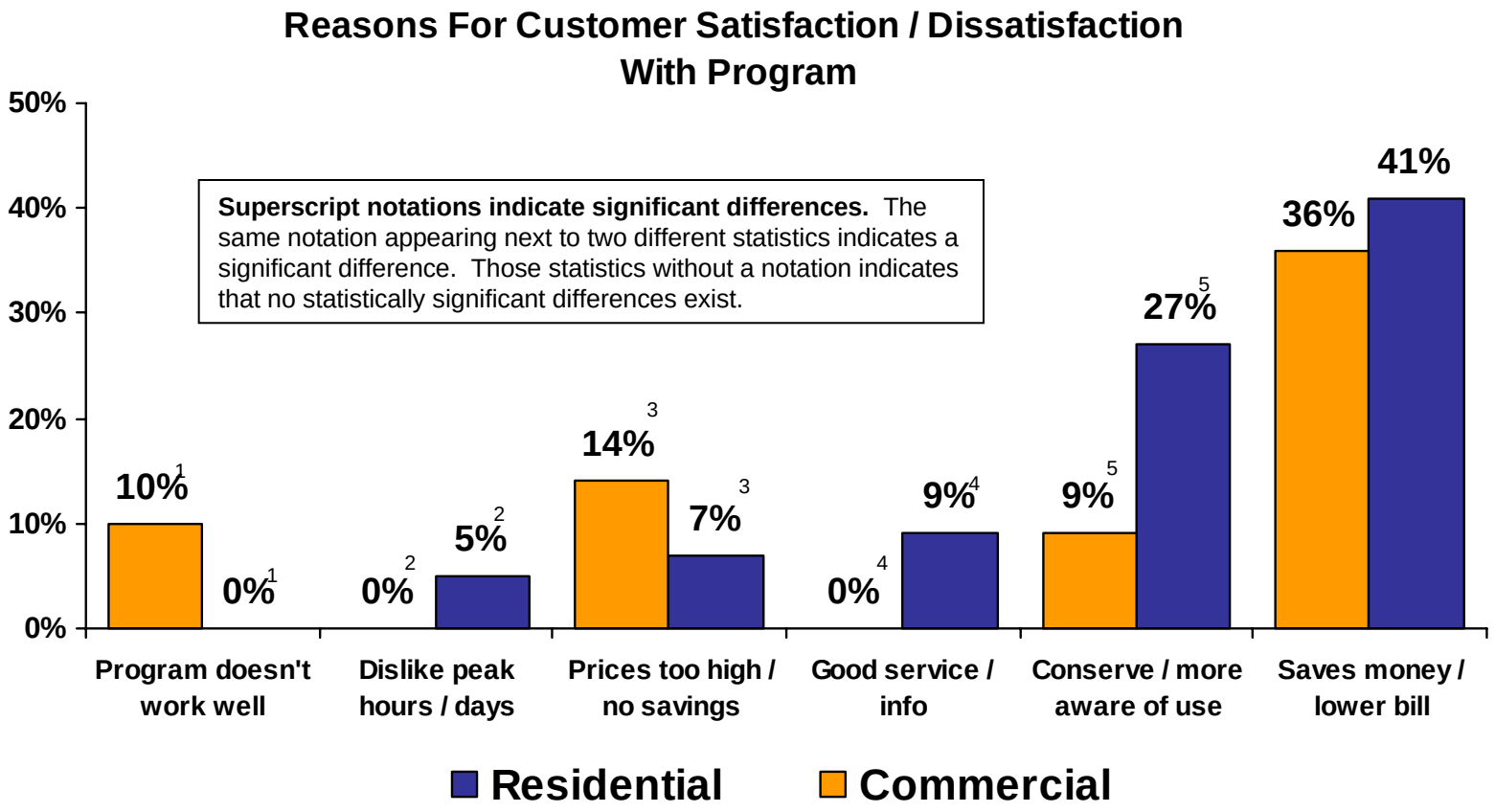


Differences above are not statistically significant.

* See "Sample composition: End of Pilot Survey" in the methodology section of this report for an explanation of why there were only 155 residential participants that participated in both the 2003 and 2004 surveys.

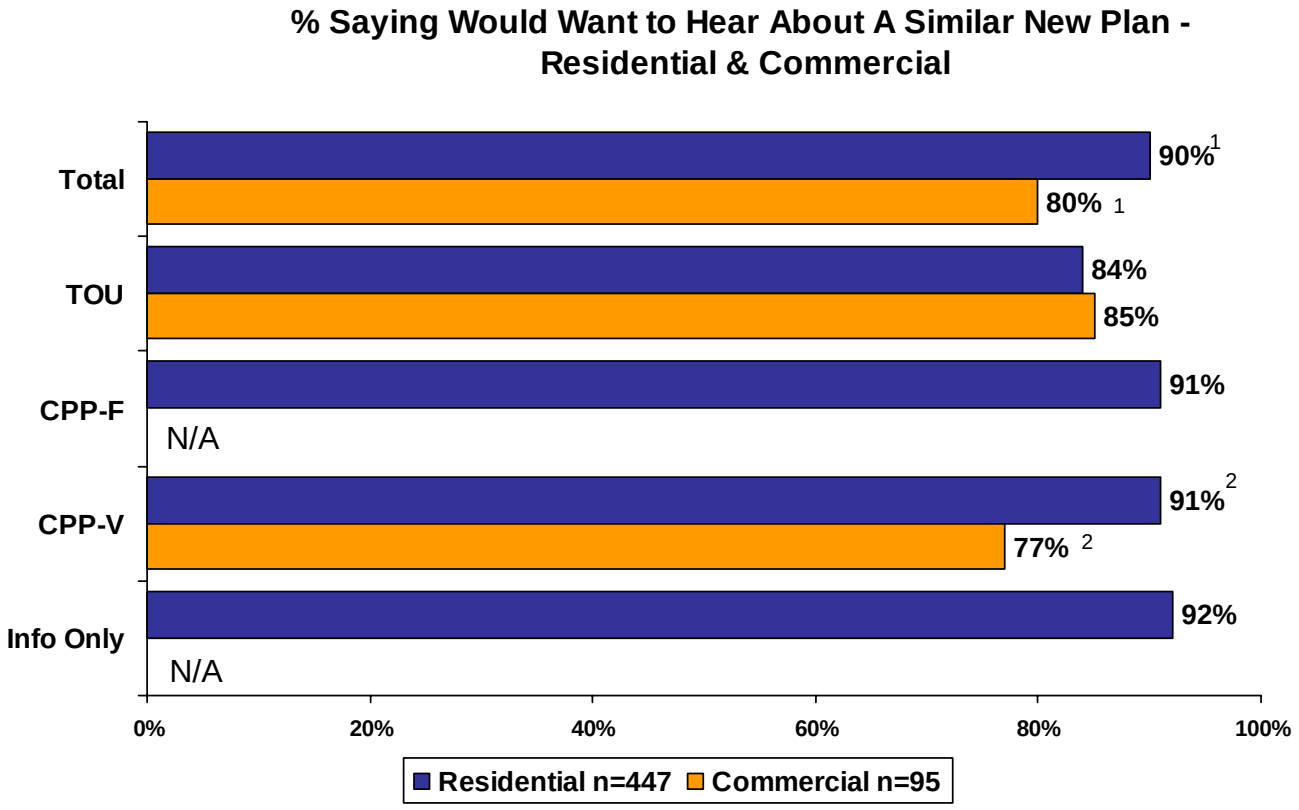
Q87: Overall, how satisfied are you with the new program? (1=Very Dissatisfied; 10= Very Satisfied)
Q92: Overall, how satisfied are you with the new pricing program (1=Very Dissatisfied; 10=Very Satisfied)
n=155

Saving money is the primary reason why participants like the program, but business participants are concerned about high prices and the program "not working well."



Q93: What are the most important reasons for your satisfaction or dissatisfaction with the pricing program?
Residential - n=447; Commercial – n=95

Nearly all residential and commercial SPP participants say they would want to be notified about a similar program in the future without the appreciation payment; commercial customers are less interested in getting this notification.



Why Interested – Or Not – In New Pricing Plan?	
Saves money	35%
Want to help	27%
Saves electricity	19%
Gives more control	7%
Need more info	7%
No savings	4%
Don't want to change	2%

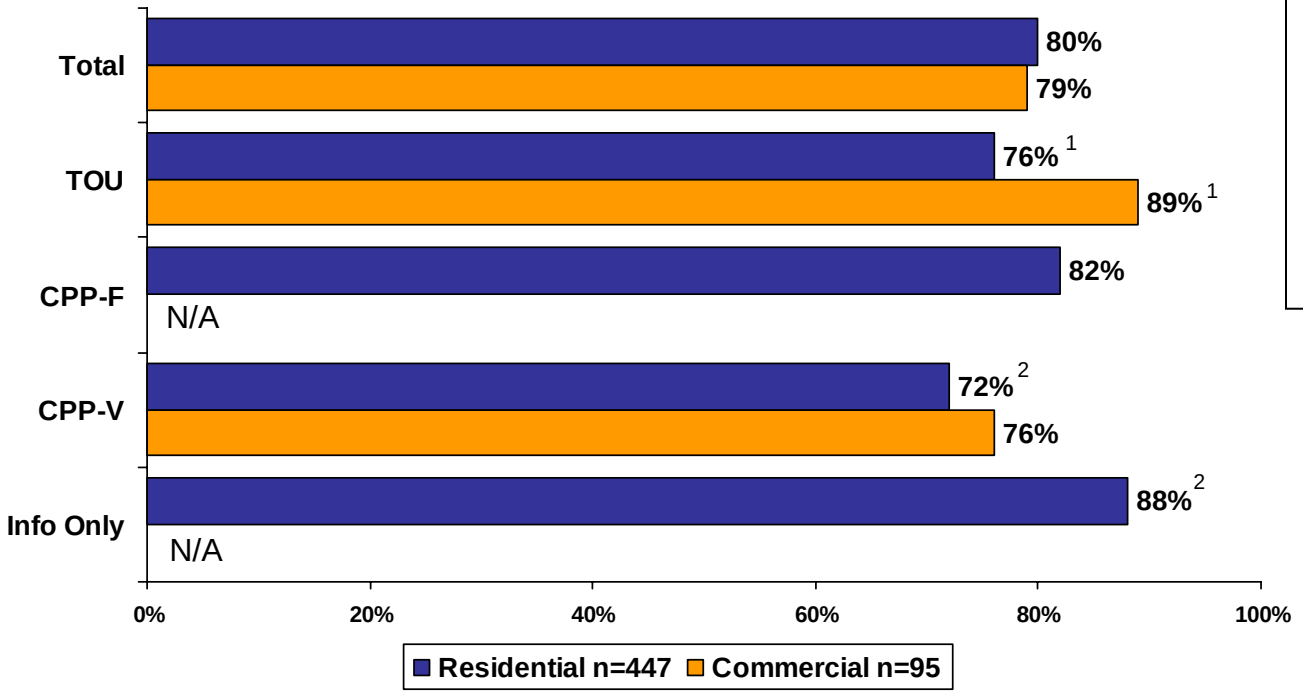
Why Interested – Or Not – In New Pricing Plan?	
Saves money	42%
Like program	11%
Saves electricity	6%
No savings	7%

Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q93a: The utilities are considering offering a program like this in the future without the appreciation payment. Would you be interested in being notified about this offer?

Most residential and commercial participants also indicate a desire to stay on their new pricing plan rather than return to their old pricing plan, assuming no appreciation payment. Since anticipated future actions can be overstated somewhat in receiving no appreciation payment survey responses, it is likely that fewer participants would continue on their new pricing plan than what is reported here.

% Saying Would Likely Continue on New (SPP) Pricing Plan *Assuming NO Appreciation Payment* - Residential & Commercial



In general, similar numbers of residential participants in 2003 said they would want to continue with their new pricing plan, though in 2003 slightly more CPP-V participants endorsed their plan than did so in 2004 (80% vs. 72%)

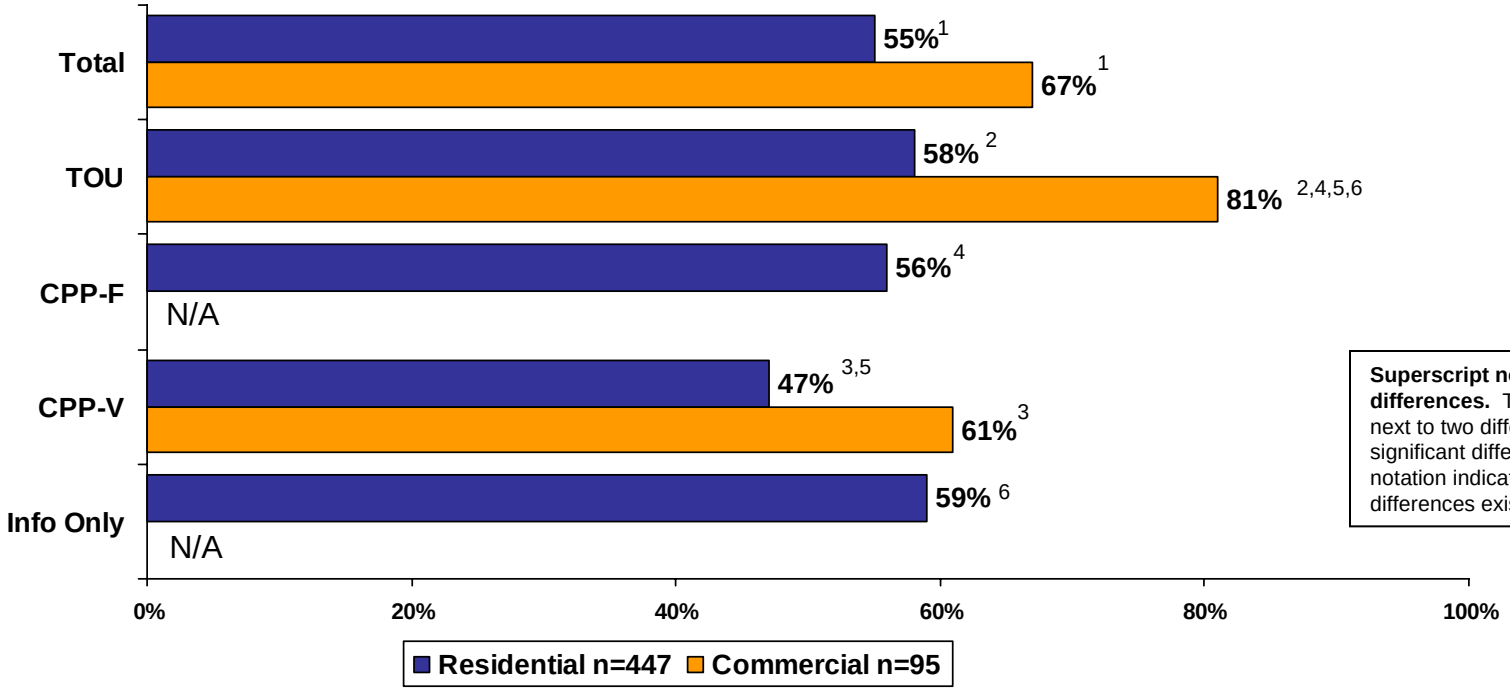
Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q101: If you could choose, would you prefer to continue on your new pricing plan or return to your previous plan, assuming that appreciation payments would not be offered?

A potential monthly meter charge of $.50 to $3.00 reduces the percentage of participants interested in remaining on their new (SPP) pricing program, though a majority still express a preference for remaining on their current program.

- Significantly fewer residential participants indicate interest given this monthly charge than commercial participants, however.

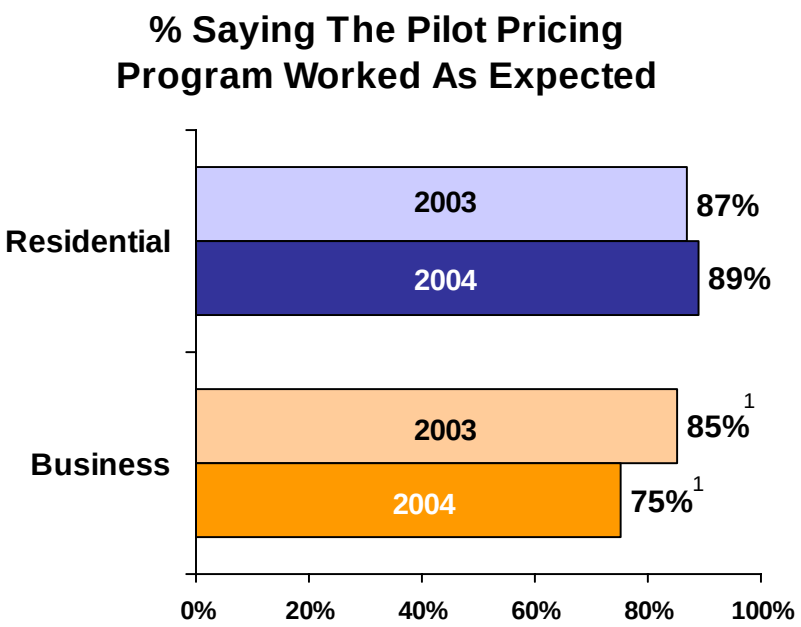
% That Would Continue Given a Monthly $.50 to $3.00 Meter Charge, Assuming No Appreciation Payments -- Residential & Commercial



Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q103: In the future, there may be a monthly charge of $.50 TO $3.00 for the special meter installed at your residence to continue participating in this special pricing program that gives you the opportunity to manage your electricity and potentially save money. Given this, and assuming that appreciation payments would not be offered, would you prefer to continue on your new pricing plan, or return to your previous plan?

Most participants say the SPP program operated as expected, though business participants are slightly less likely to say this in 2004



What Has Been Different (Residential)?	2003	2004
Expected To Save More	70%	36%
Expected More Accurate Info	9%	--
Expected Fewer Peak Times	4%	--
Rates did not go down	--	18%
Super peak charges	--	7%
Easier instructions / bills	--	6%
Equipment not working	--	6%

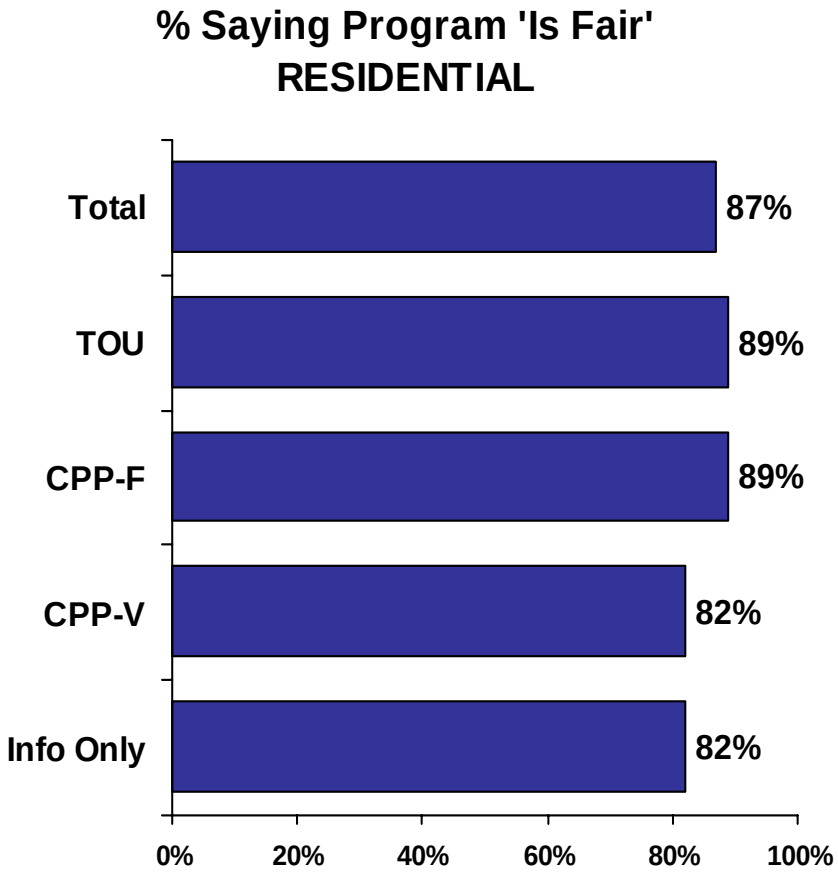
What Has Been Different (Business)?	2003	2004
Expected To Save More	79%	71%
Expected fewer peak times	7%	12%

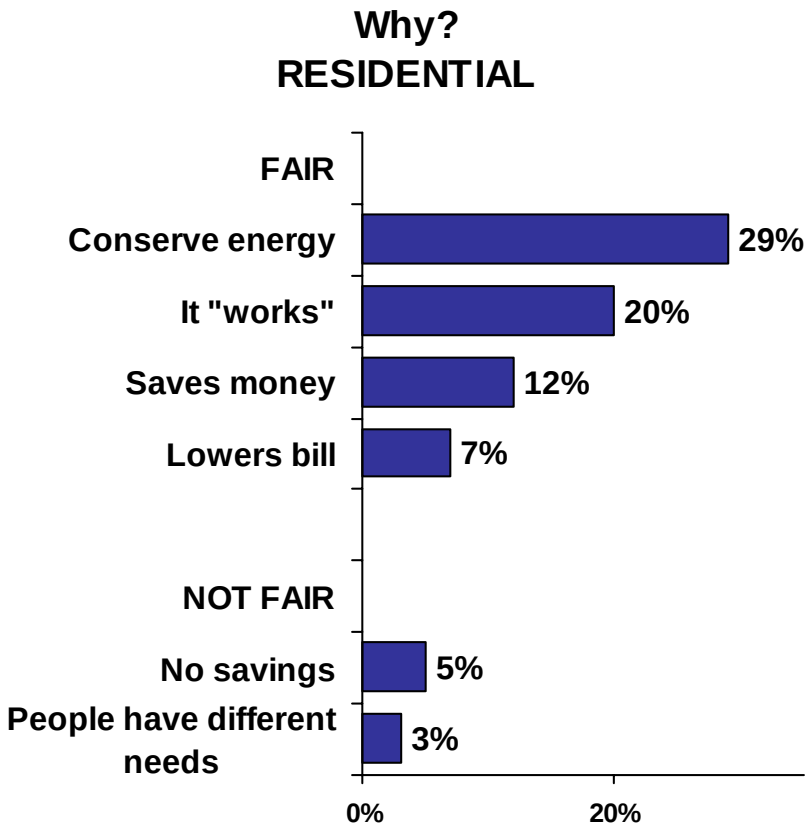
Note that participant perceptions were very similar across rate conditions on these issues in both 2003 and 2004; though in both years, CPP-V participants were marginally less likely to think the program operated as they expected it to.

Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q90: Has the pilot program worked as you expected?
Q91: What has been different than you expected?
Residential 2003 n=398, 2004 n=447; Commercial 2003 n=92, 2004 n=95

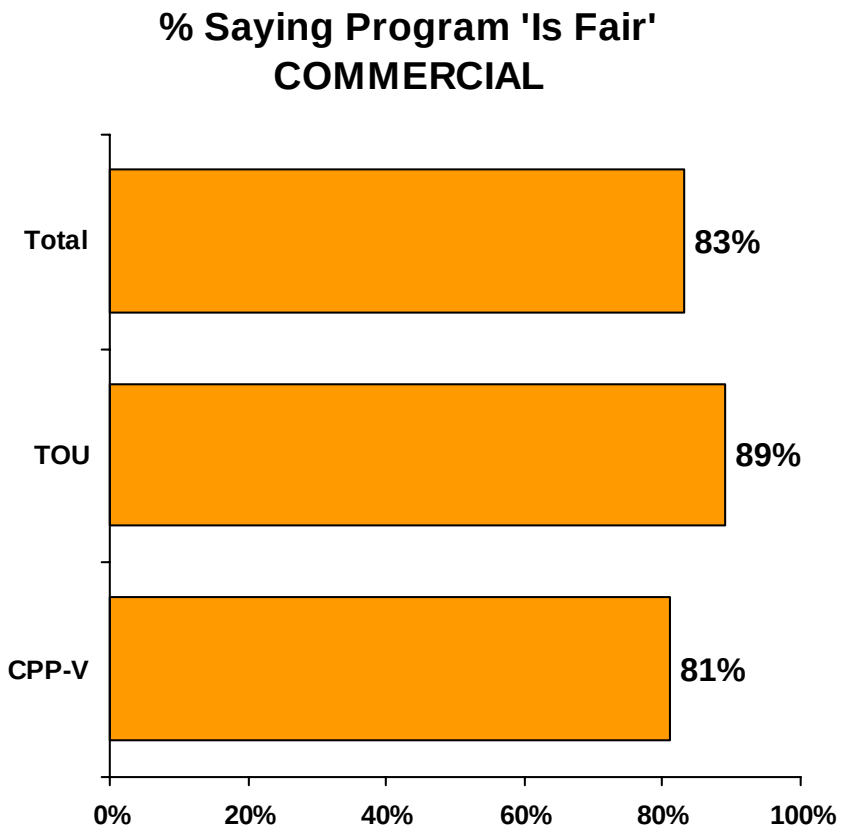
Nearly all residential participants believe the program is fair; largely because they think it "works" to conserve energy and save money / lower bills save money and it conserves energy.

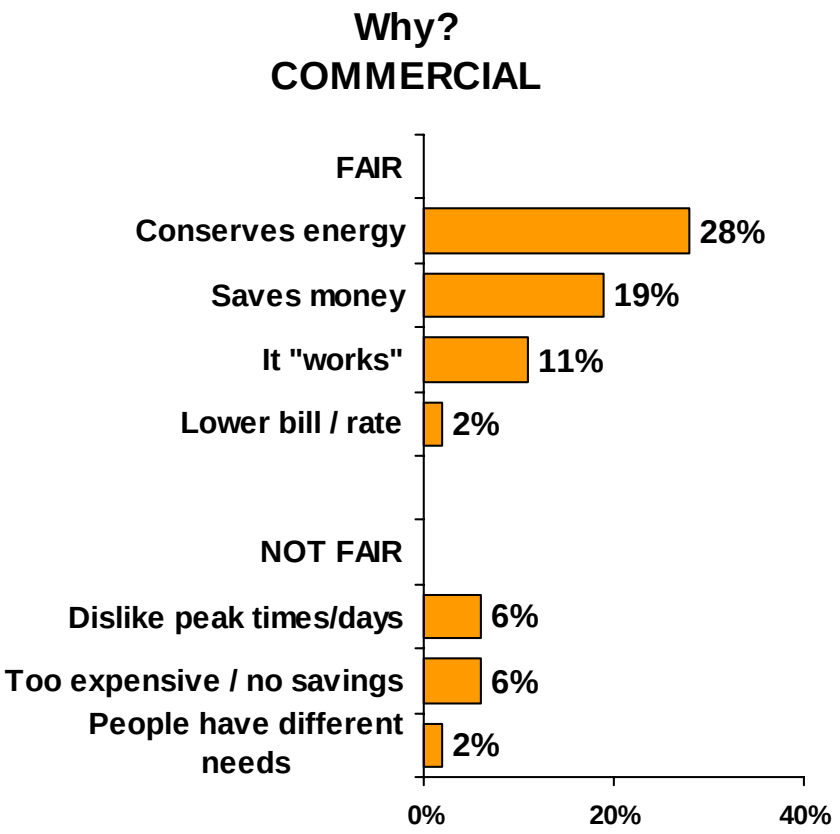




Q105: Do you think the new pricing program is a fair method of charging customers for electricity?
Q106: Why do you feel that way?
Residential n=447

Most commercial participants also think the program is “fair”



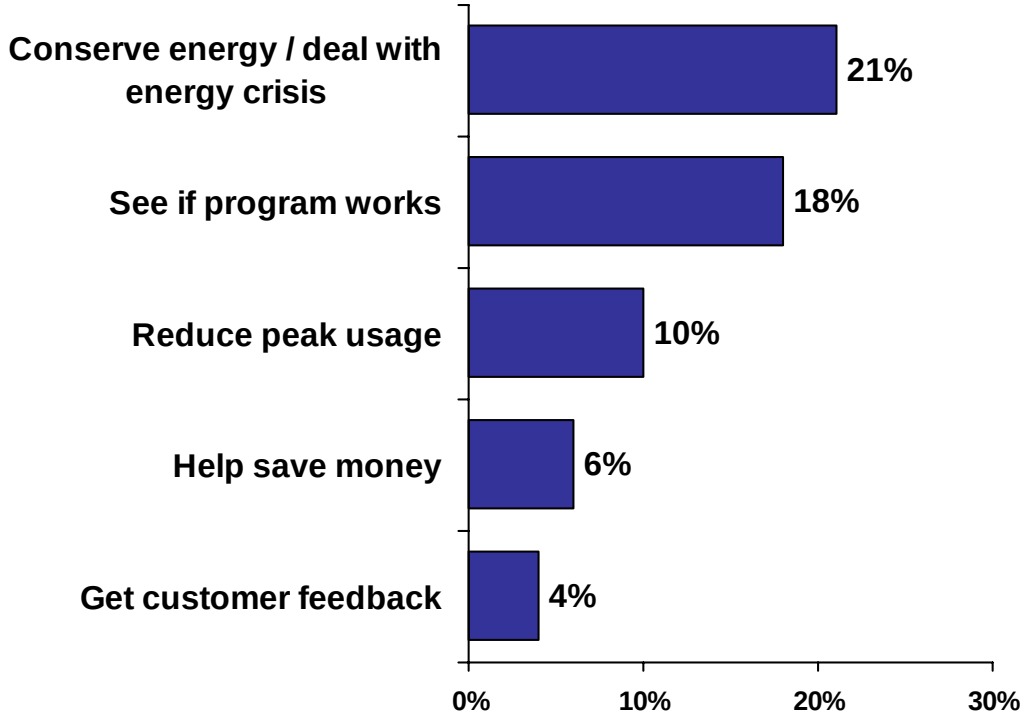


Q105: Do you think the new pricing program is a fair method of charging customers for electricity?
Q106: Why do you feel that way?
n=95

Both residential and commercial participants believe the SPP program is focused on either actually reducing energy use or demonstrating the value of such an energy conservation program to reduce energy use.

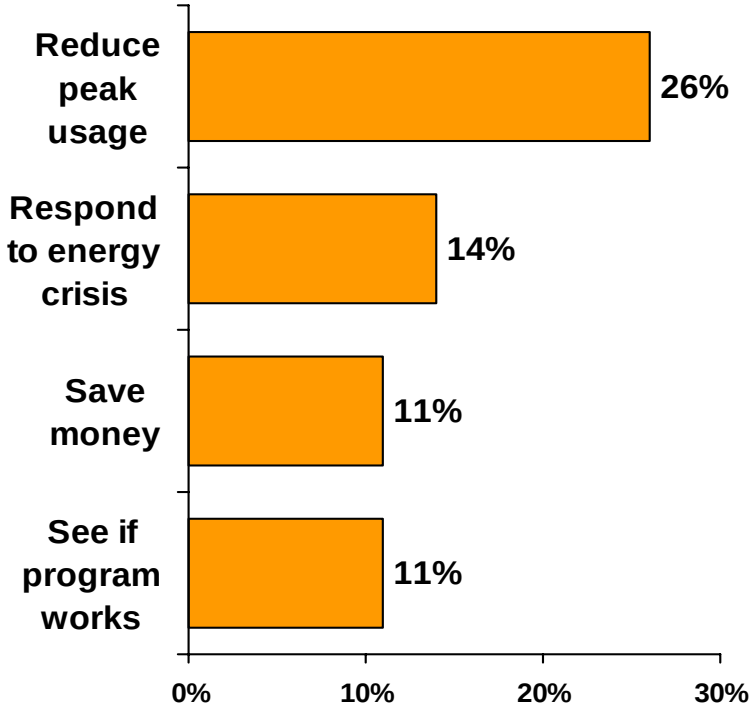
RESIDENTIAL

Why Utility Ask to Participate in Rate Program?



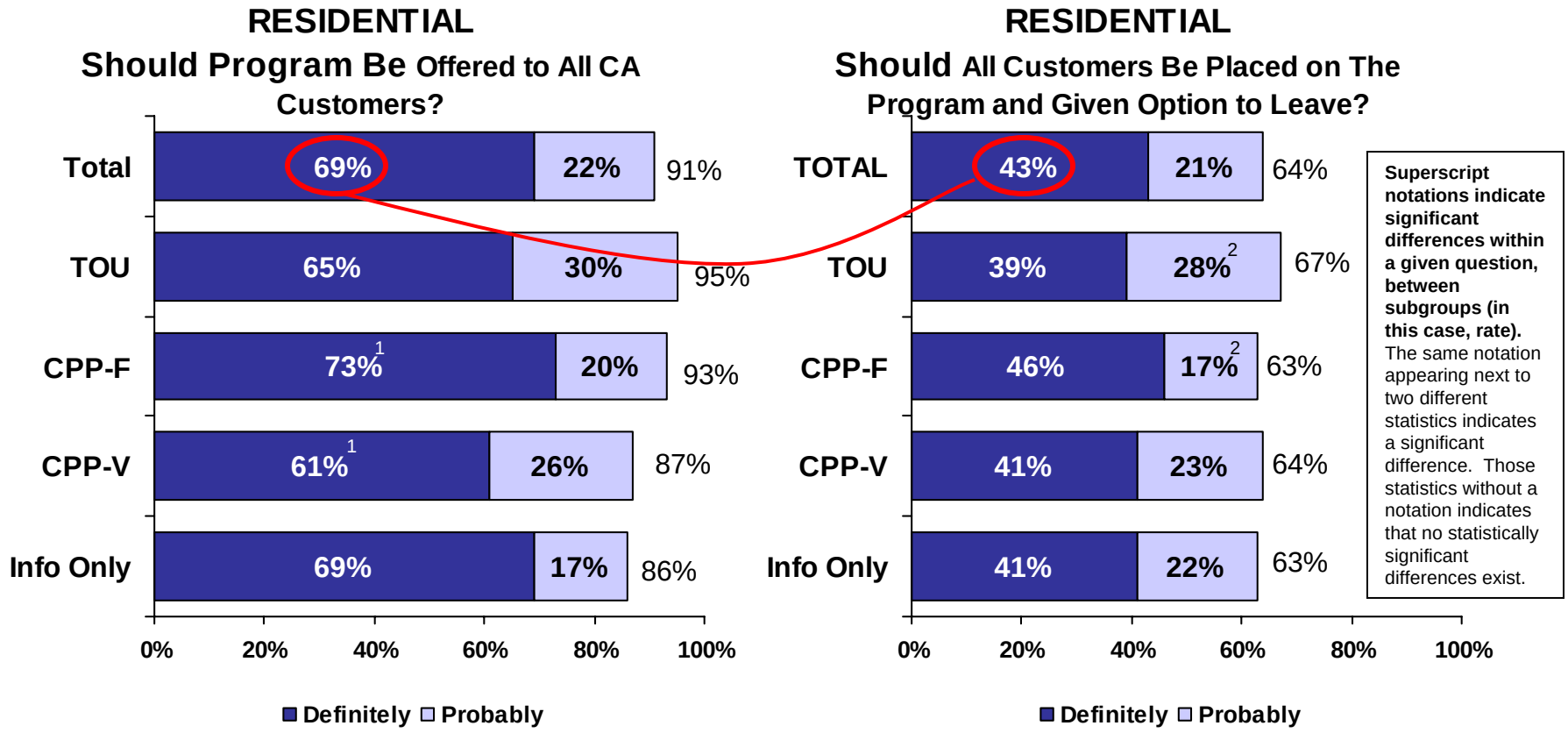
COMMERCIAL

Why Utility Ask to Participate in Rate Program?



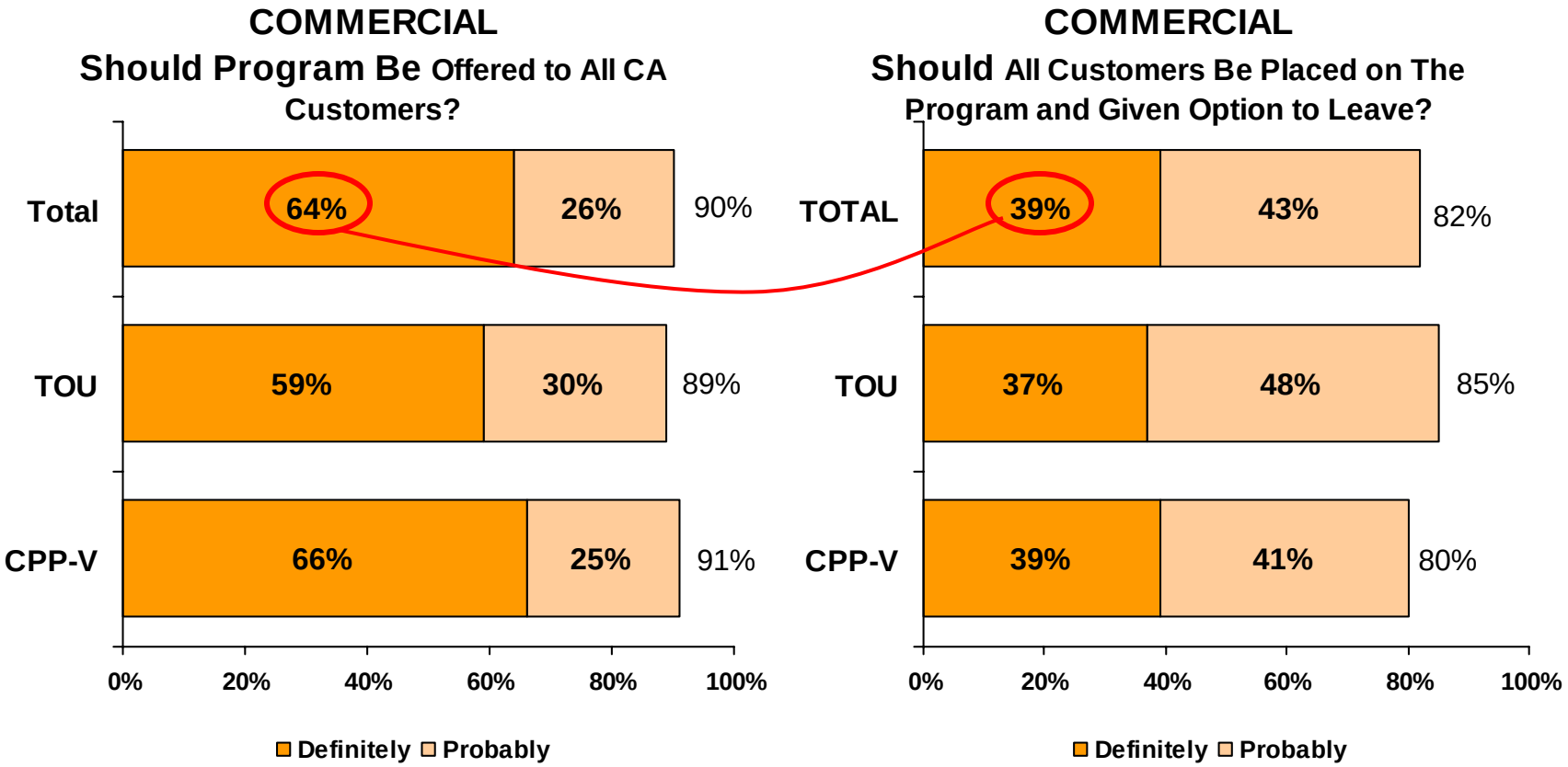
Q107: What is your understanding of the reason or reasons your utility provider asked you and customers like you to participate in this special rate program?
Residential n=447; Commercial n=95

Nearly all residential participants think the program should be "offered" to all California utility customers, though fewer think it should be the default rate with an "opt-out" option



Q108: Do you think the new program **should be offered** to **all** residential customers in California? Please tell me if the new program should definitely not be offered, probably should not be offered, probably should be offered, or definitely should be offered to all residential customers.
Q110: Do you think all residential customers in California should be put on this new pricing program and given the option to leave this new pricing program if they wanted? Would you say that all should…
Residential n=447

Nearly all commercial participants also think the program should be “offered” to all California utility customers, though again, fewer think it should be offered as an “opt-out” rate program



Q108: Do you think the new program **should be offered** to **all** small business customers in California? Please tell me if the new program should definitely not be offered, probably should not be offered, probably should be offered, or definitely should be offered to all small business customers.
Q110: Do you think all small business customers in California should be put on this new pricing program and given the option to leave this new pricing program if they wanted? Would you say that all should…
Commercial n=95

Section 2: Accuracy of SPP Participants' Understanding of SPP Program Pricing

Participant Understanding of Pilot Program Pricing

- **The second section of the report explores participants' understanding of the specific elements of their electricity program.**
  - This includes a discussion of the differences in understanding by specific program type as well as differences between the 2003 and 2004 surveys.
  - Any differences in the understanding of the 155 residential participants that participated in both the 2003 and 2004 surveys are also discussed.

Section 2: Key Takeaways

- **Overall, residential participants' understanding of the SPP rate program specifics is more accurate than commercial participants' understanding. However, those residential participants enrolled in the information-only program have a significantly poorer understanding of their program than either residential participants on a rate, or commercial participants (all of which were on a rate).**

- **Residential participants on a rate appear to have the same basic level of understanding of their rate as did program participants surveyed in 2003, but the level of understanding is somewhat improved for commercial participants surveyed in 2004 than versus in 2003.**

- **Time spent on an SPP rate does not appear to have a significant effect in terms of improving participants' level of rate understanding.**

- **There appears to be a significant amount of confusion among participants on the Information-Only program, with many thinking that elements of the rate programs like time-differentiated pricing apply to them.**
  - Residential participants on the Information-Only program surveyed in 2004 have a slightly lower level of understanding of their program than those surveyed in 2003. A similar pattern is also found when examining the residential participants that participated in both waves of the survey – understanding actually gets slightly worse for those on the information-only program.

Calculating an index of the accuracy of respondent understanding of their program pricing

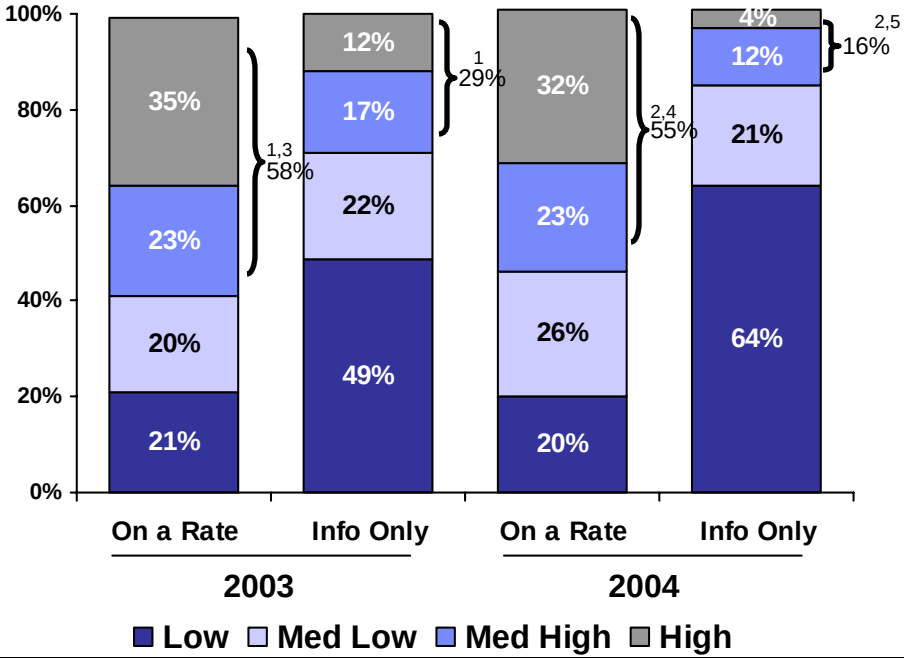
- **In order to create a summary measure of the extent to which each respondent has an accurate understanding of their new pricing program, the team created an index measure based on participant descriptions of the electricity pricing they encounter in the pilot program.**
  - A total of eight different items were use to calculate the index; these items included questions about whether or not their program includes prices that differ by time of day, by days/ weekends, the ratio of on-peak to off-peak prices, etc. The pattern of answers that was specified as correct for each pilot program condition is provided in the Appendix.

- **Respondent scores on the index were then sorted into four categories from "high" to "low"**
  - Respondents scoring "high" on the index were correct on six or more of the eight descriptive elements of their pricing program and can be said to have an accurate understanding of their pricing program.
  - Respondents scoring "low" on the index were correct on three or fewer of the eight descriptive elements and can be said to have a generally inaccurate understanding of their pricing program.
  - Respondents in the middle two categories (Medium High, Medium Low) were accurate on four or five of the program descriptive elements respectively.

On the whole, residential participants appear to have the same level of understanding in 2004 as they did in 2003, though understanding is improved for commercial participants in 2004. For residential participants, level of understanding is lower for those participants not on a rate and for those participants only enrolled in the program in 2004.

RESIDENTIAL

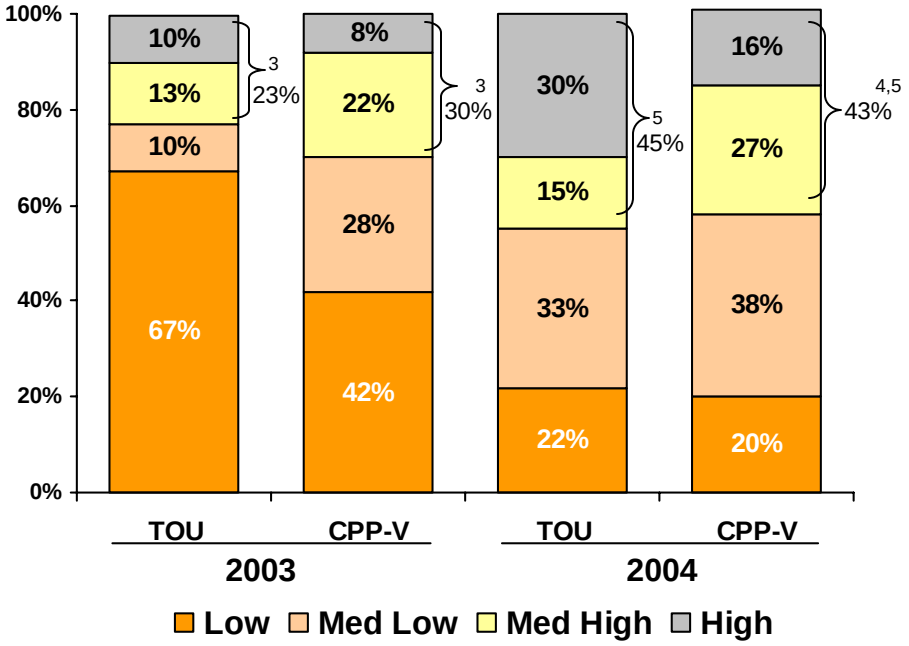
Accuracy of Understanding Pricing Program



Residential participants enrolled in 2003 have a significantly better understanding of their program than those enrolled in 2004.

COMMERCIAL

Accuracy of Understanding Pricing Program

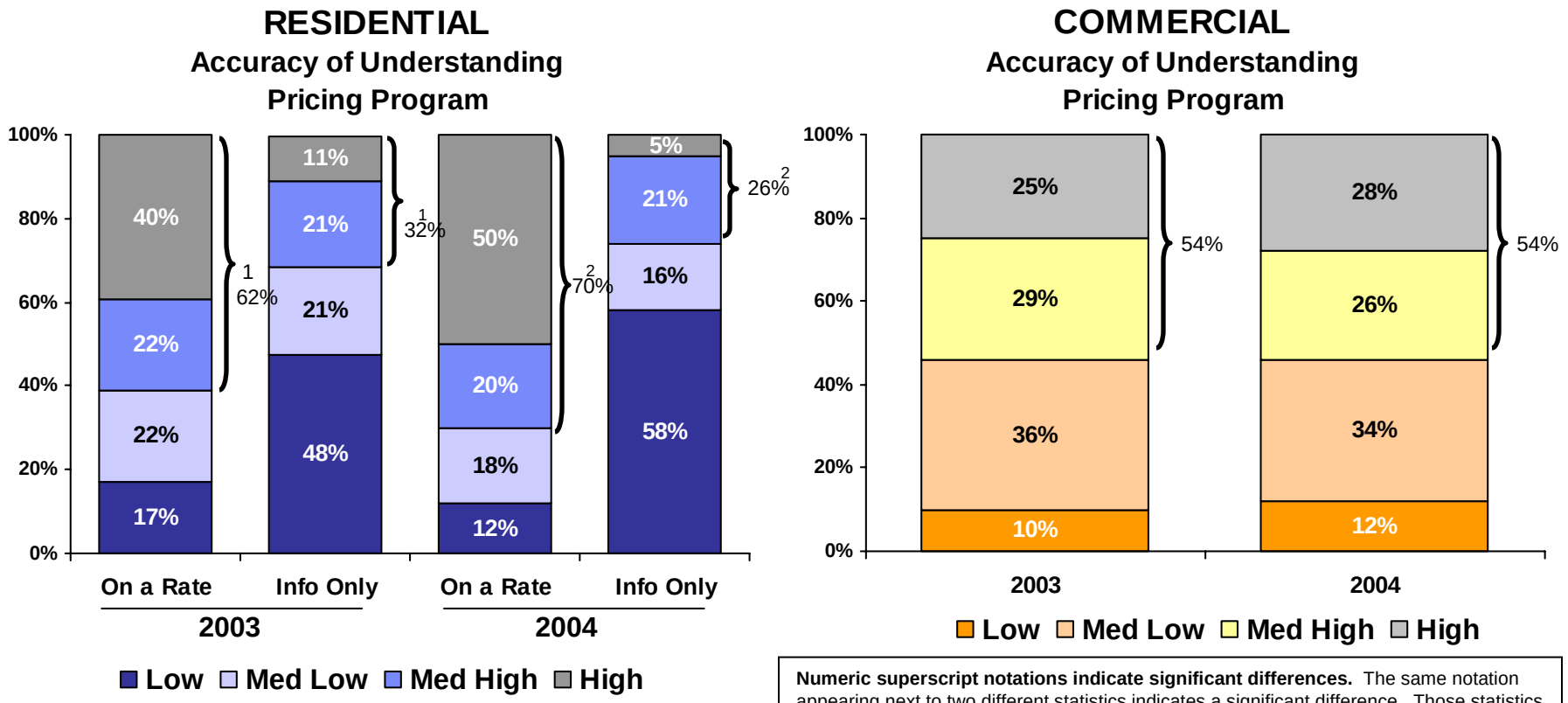


Numeric superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Residential 2003, n=398, 2004 n=447; Commercial 2003, n=92, 2004 n=95

In looking at participants who participated in both survey waves, understanding of the pricing program improves only marginally for residential participants and not at all for commercial participants. Understanding among the information only participants worsens slightly from 2003 to 2004.

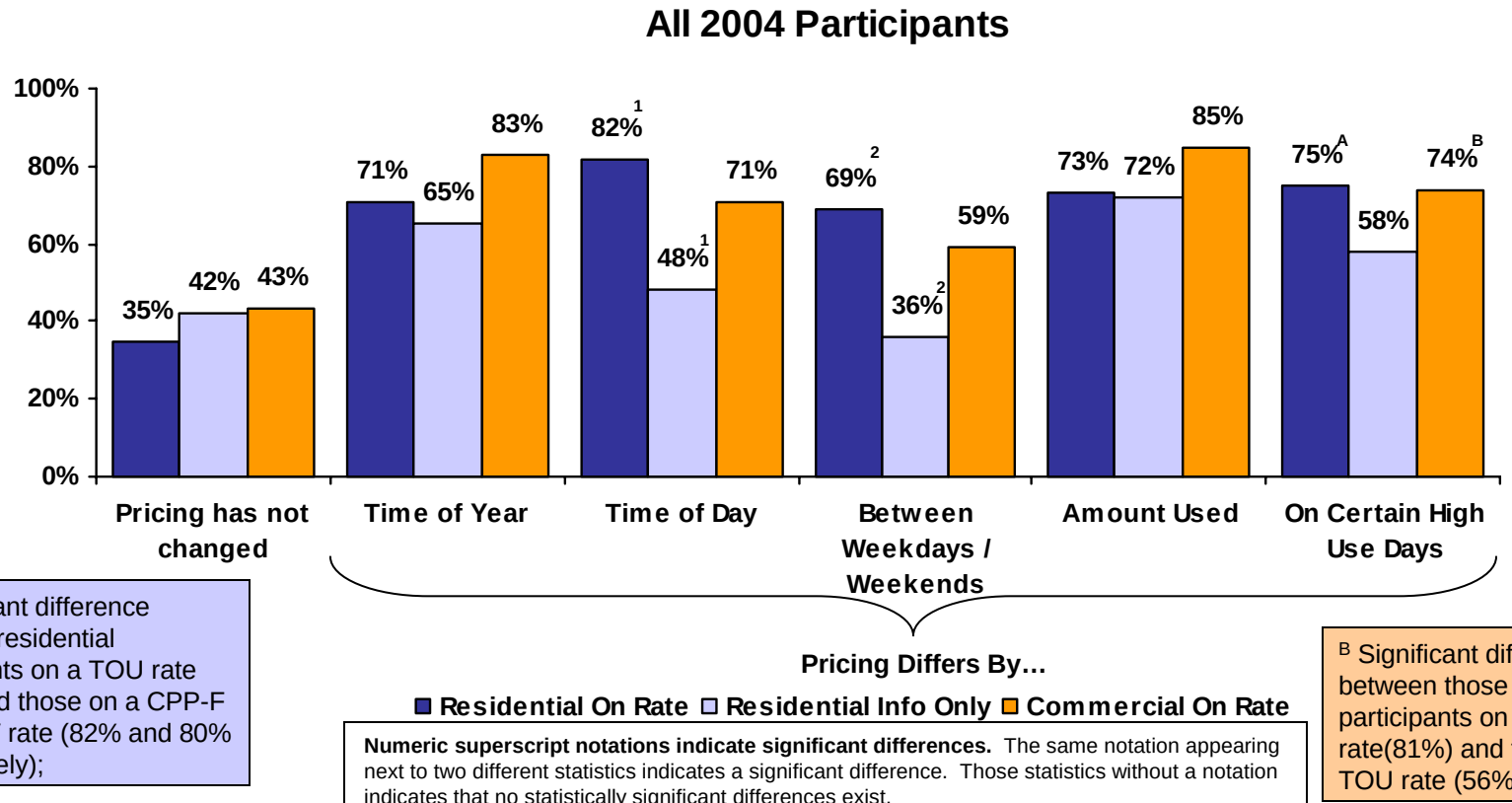
Participants Participating in Both Survey Waves



Numeric superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Residential n=155, both waves; Commercial n=26, both waves

While many participants know the key features of their new pricing program, there are significant numbers within each condition who incorrectly describe their program specifics. Commercial participants and residential participants on the Info-Only program appear to be less accurate than residential participants on a rate in describing the specifics of their new pricing program.



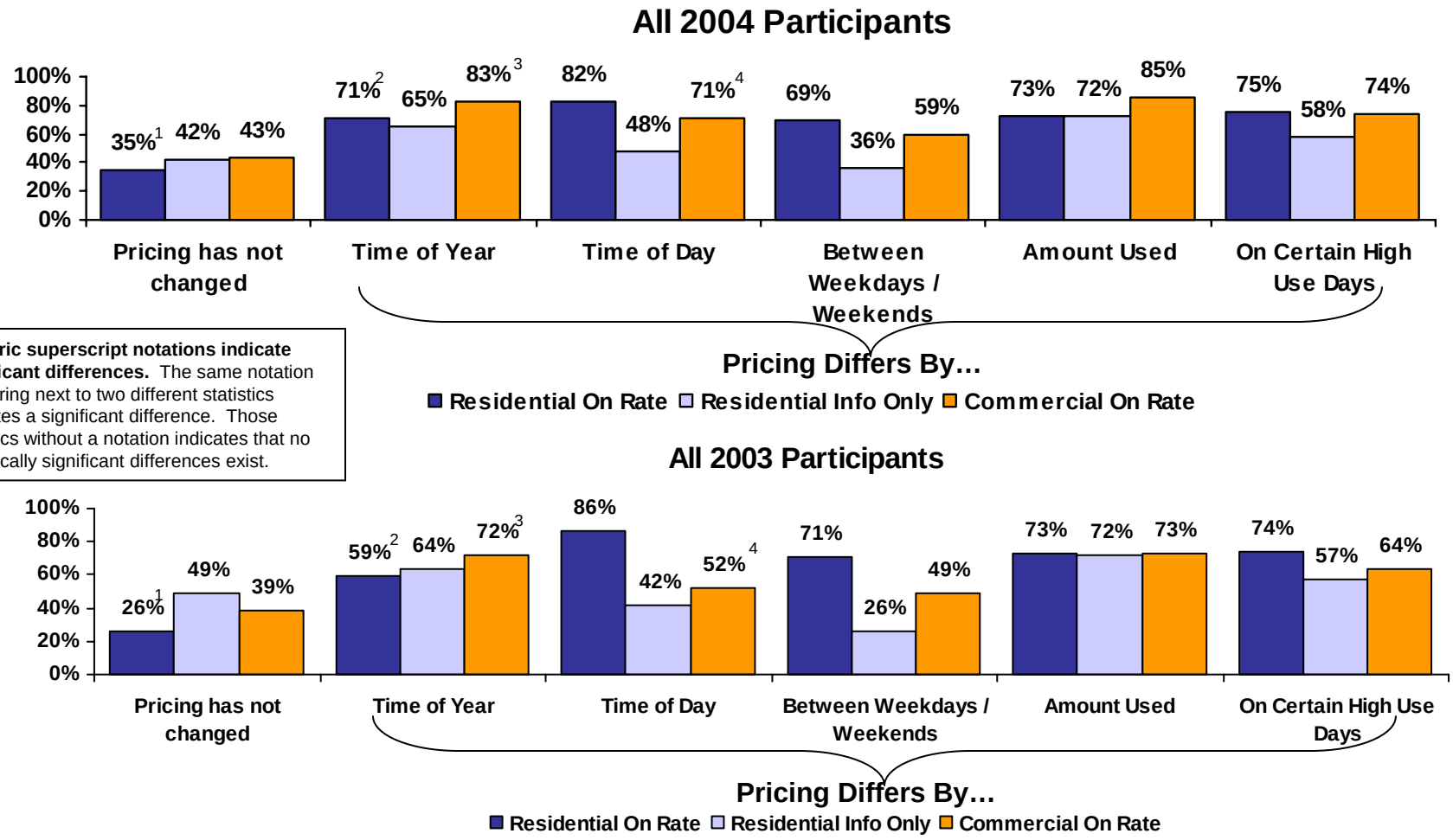
A Significant difference between residential participants on a TOU rate (50%) and those on a CPP-F or CPP-V rate (82% and 80% respectively);

B Significant difference between those business participants on CPP-V rate(81%) and those on TOU rate (56%)

Numeric superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q1a – Q1F: Which of the following describes your special electricity pricing program and how you are charged for electricity? Electricity prices…
Residential – n=447; Commercial – n=95

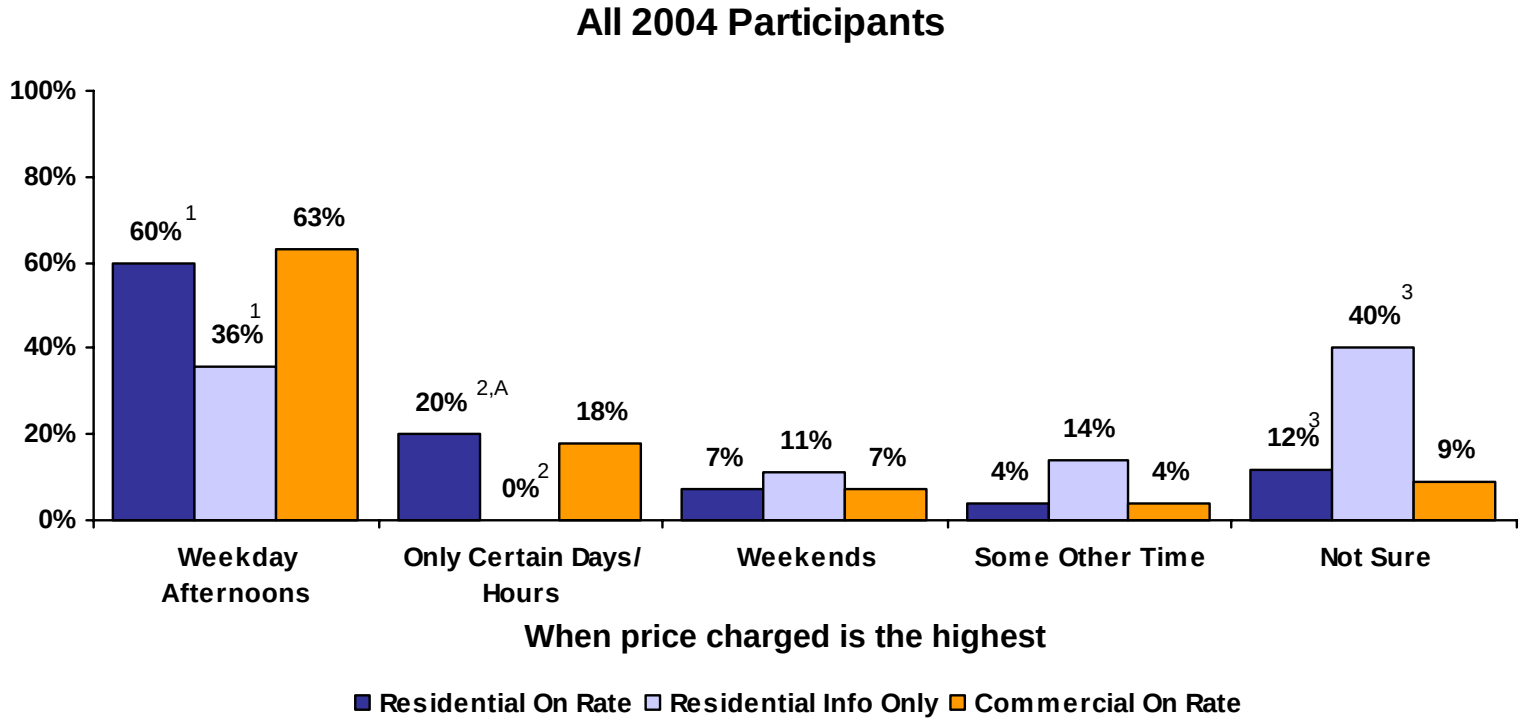
Overall, participant program understanding has improved slightly in 2004 with regard to some key program features.



Numeric superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q1a – Q1F: Which, if any, of the following statements describes your special electricity pricing program and how you are charged for electricity? Electricity prices…
Residential – n=447 in 2004; n=398 in 2003; Commercial – n=95 in 2004; n=92 in 2003

A majority of participants understand that the highest price period is on weekday afternoons. A smaller subset also correctly indicate that certain days / hours (re: super peak periods) have the highest prices. However, note also that 36% of the Information-Only participants share this belief, and 40% are simply not sure.

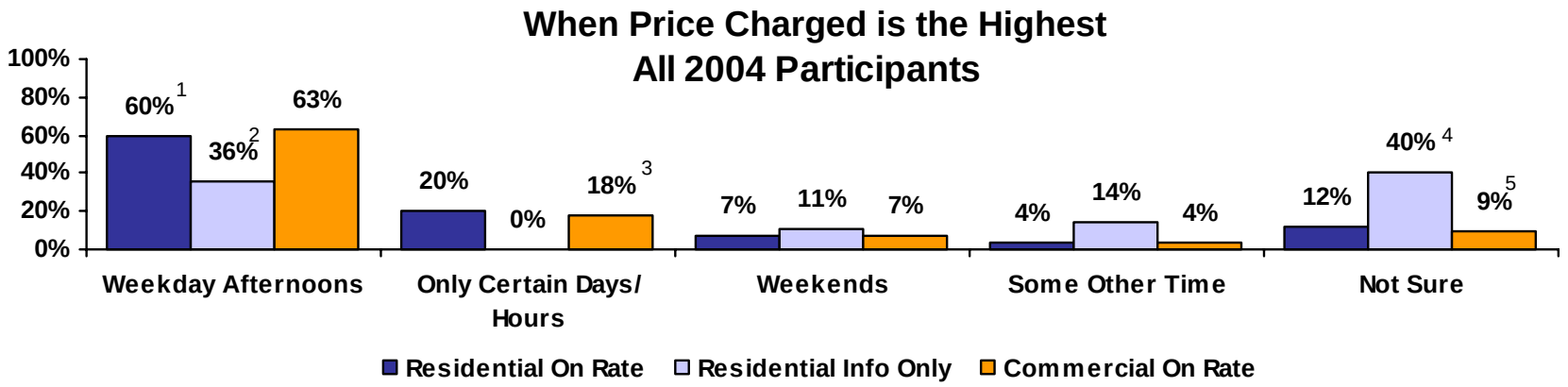


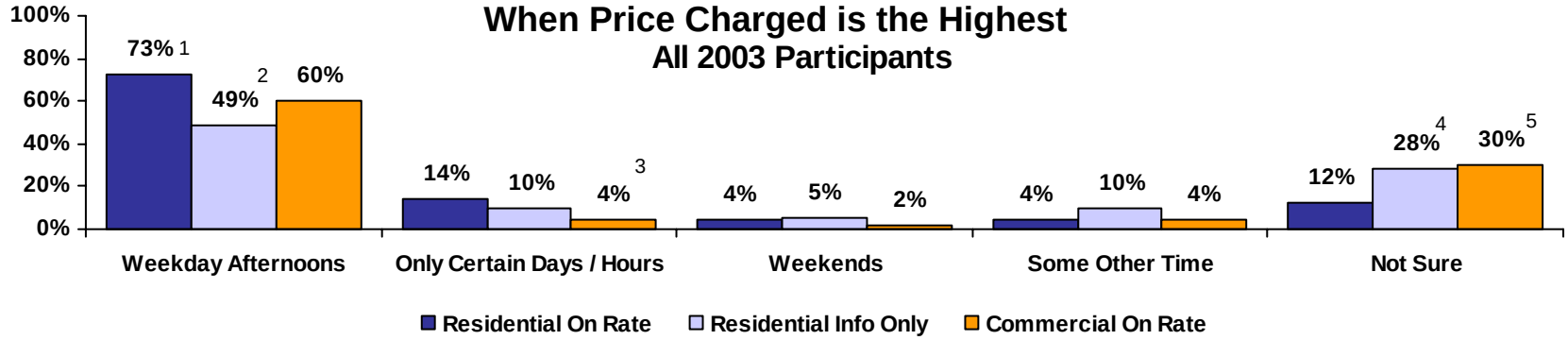
[A] Note that residential CPP-V and CPP-F participants are significantly more likely to indicate that the highest price is on certain days / hours (Read: Super Peak Periods) than are TOU participants (26%, 20%, and 11% respectively).

Numeric superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q3: When is the price you are charged for each kilowatt hour of electricity used the **highest?**
Residential n=447; Commercial n=95

Overall, participants on a rate appear to have a better understanding of their program in 2004 than in 2003. More residential and commercial participants correctly indicate that technically the price is highest on certain days / hours when super peak periods are called. Note, however, that misunderstanding among those on the info only program has increased, with 40% rather than 28% indicating they are not sure when the price charged is highest.





Superscript notations indicate significant differences.

Q3: When is the price you are charged for each kilowatt hour of electricity used the **highest?**
2004: Residential n=447; Commercial n=95; 2003 Residential n=370; Commercial = 85

Section 3: SPP Participant Response to Rates

SPP Participant Response to Rates

- **Whether or not participants ultimately like or understand the program, a key question is the extent to which participants say they changed the way they use electricity in response to the new price signals.**

- **The discussion that follows addresses the question of the degree to which program participants say they made changes in the way they use electricity, the specific actions they took either in general, or specifically during super peak periods, the ease with which these changes were made, as well as the overall strategy they used for making these changes – how they chose to reduce or shift electricity use at different times of the day or year.**

Section 3: Key Takeaways

Actions Taken

- **Most SPP program participants say they have changed the way they use energy under the program, though some of these changes will include or consist entirely of one time changes, such as home / business structure improvements or replacement of appliances / equipment.**
  - Furthermore, residential participants facing super peak periods and those in climate zone 4 are significantly more likely to indicate these changes resulted in using *less* electricity.
  - Similarly, commercial participants in cells A21/22 (TOU rate) and A31/32 (CPP-V rate) are more likely to indicate they used *less* electricity while on the program.

- **The percentage of residential participants indicating some changes were made is slightly less in 2004 than in the 2003 survey. The number of commercial participants indicating changes were made, however, is slightly greater in 2004.**

- **However, when considering *reductions* in electricity use and costs specifically, it is found that *fewer* residential and commercial participants took actions to reduce their electricity use. However, both are taking, on average, a greater number of actions to reduce their overall electricity use in 2004 than in 2003.**
  - When looking at the 155 residential participants who participated in both survey waves, we also find fewer participants taking more actions in 2004 than in 2003.

Section 3: Key Takeaways

Actions Taken (continued)

- **Residential participants took a variety of different actions to reduce or shift electricity use in 2004, with more participants reporting shifting laundry use than any other action taken. Turning off the AC and / or using it less ranked 6th in terms of actions taken most often.**
  - Not surprisingly, actions taken most often are generally those considered fairly easy to undertake and that they would anticipate making permanent. Turning the AC off or using it less, however, is considered a slightly more difficult change to make than other changes, though it is seen as easier to do overall in 2004 than in 2003.

- **Commercial participants also took a variety of different actions, with turning off lights and equipment when not needed ranking first in terms of those most frequently taken. Turning off the AC and / or using it less ranked 3rd in terms of actions taken.**
  - While those actions most frequently reported as taken by participants are also generally the easiest to perform, businesses tend to find it more difficult than residential participants to make these changes and there are slightly fewer participants willing to make such changes permanent.
  - AC reductions, in particular, are considered a much more difficult change and even more difficult in the 2004 survey than in 2003.

- **Strategies used by residential participants on super peak periods changed little from the strategies used on regular peak periods. Commercial participants, however, place a greater emphasis on shifting equipment use and employee work schedules to non-peak hours during super peak periods.**

Section 3: Key Takeaways (continued)

Overall Electricity Management Strategies

- **SPP program participants were also asked to characterize their overall electricity management strategies in terms of how they chose to reduce or shift electricity use at different times of the day, week, or year and during super peak periods.**

- **59%[1] of residential participants actively managed their electricity use daily, with most either reducing overall electricity use, shifting electricity use away from weekday afternoons, or doing both all year long.**
  - Most of those using a reduction strategy reduced electricity use on both weekday and non-weekday afternoons.
  - The vast majority also responded to super peak notifications, either reducing use or shifting use for the entire period, depending on their particular strategy. Very few chose not to respond to these events.

- **Only 45%[1] of commercial participants, however, actively managed their electricity use daily. Strategies most often involve reducing electricity use on both weekday and non-weekday afternoons rather than shifting use. Whether this was done all year or only in the summer varies.**
  - Like residential participants, the vast majority also responded to super peak notifications, with most either reducing or shifting for the entire period, depending on their particular strategy. Very few chose not to respond to these events.

[1] Please note that these figures are less than the 78% and 62% respectively who reported making some changes in the way electricity was used since signing up for the program. Those figures (78%, 62%) include people who may have only made one-time changes, such as energy efficiency improvements, or that may no longer be making those changes – hence the lower figures reported above.

Section 3: Key Takeaways (continued)

Appliance / Equipment-Specific Management Strategies

- **The survey also inquired about the management strategies used for several specific target appliances / pieces of equipment deemed most important due to their relatively high electricity consumption.**
  - Residential: AC, electric heat, spa/hot tub, electric hot water heating, pool pumps, and electric cooking equipment
  - Commercial: AC, electric heat, lighting, electric hot water heating, refrigeration, electric cooking equipment, electric motors, and industrial / manufacturing equipment.

- **Residential participants tended to use a manual strategy for operating their AC - turning it on or off during different times of the day / week when temperatures are hottest - and continued to use this strategy after going on the SPP program.**

- **Commercial participants also tended to use a manual operation strategy for their AC systems before going on the program, but significant numbers began using a programmable thermostat after going on the program to automatically change AC temperatures.**

Section 3: Key Takeaways (continued)

Appliance / Equipment-Specific Management Strategies (continued)

- **Most participants (typically two-thirds or more) self-report that if they have the target appliance / piece of equipment, they actively manage its electricity use by shifting or reducing its use.**
  - Among residential participants, the one exception to this rule is electric hot water heat, with only 56% of participants who own this appliance actively managing its use daily.
  - Among commercial participants, the exceptions are electric hot water heat, commercial refrigeration, and electric motors used in the industrial / assembly process – with only about a third of these owners actively managing use of these pieces of equipment daily.

- **Regardless of the specific appliance / piece of equipment in question, management strategies most often involve either reducing weekday and non-weekday afternoons / all year or shifting use away from weekday afternoons all year.**

Profile of High Electricity Use "Changers"

- **Residential participants making the most changes to their electricity use tend to be:**
  - On a CPP-V or CPP-F rate
  - In climate zones 2-4
  - Enrolled in the program in 2003
  - Have a high understanding of how they are billed for electricity under the program
  - Have between three and six of the target appliances

Section 3: Key Takeaways (continued)

Profile of High Electricity Use "Changers" (Continued)

- **Unlike residential participants, commercial participants making the most changes to their electricity use tend to be:**
  - On a TOU rate (rather than a CPP-V or CPP-F rate as was found among residential participants)
  - Have between 3-8 pieces of target equipment
    - Information on climate zone for business participants was not provided in the research, so it is unclear how high electricity use changers might have differed on this variable

Change in Electricity Use Strategies Over Time

- **Approximately two-thirds of all residential and commercial participants indicate that they changed their electricity management strategies over time, primarily to try to save money.**

- **For residential participants, the most frequently noted change is moving from a strategy of reducing use to shifting electricity use to periods outside the peak. For commercial participants, this change is most often the installation of a programmable thermostat to better regulate heating and cooling.**

Section 3: Key Takeaways (continued)

Anticipation of Future Electricity Management

- **The majority of SPP program participants making changes in the way they managed their electricity use after going on the program anticipate managing their electricity in the same way once the program ends.**
  - Commercial participants are slightly more likely to indicate they would continue to manage their use in the same way.
  - Residential participants on a rate are slightly less likely to indicate they would manage their use in the same way than those on the Information-Only program.
  - Both residential and commercial participants with a more accurate understanding of their rate are less likely to indicate that they would continue to manage their use in the same way.

- **Slightly more than half of the commercial program participants feel they did all they could to better manage their electricity use, though a significant number did feel that, though they have done a lot, there is more they could do. Slightly more than half of residential participants feel they have done a lot, but could do more. Very few believe they did "very little" to better manage their electricity use.**

Those Making No Changes After Program Enrollment

- **The majority of those not making any changes in their electricity use after program enrollment (22% of residential participants and 38% of commercial participants) reported that the reason is that they had already taken electricity reduction measures before signing up.**
  - Most residential participants indicate they could not recall what changes they made before enrollment; the few that can recall cite turning lights off when not needed.
  - Commercial participants indicate they turned lights and equipment off when not needed, installed lower watt bulbs / energy efficient bulbs, and reduced AC use.

Actions Taken by Program Participants

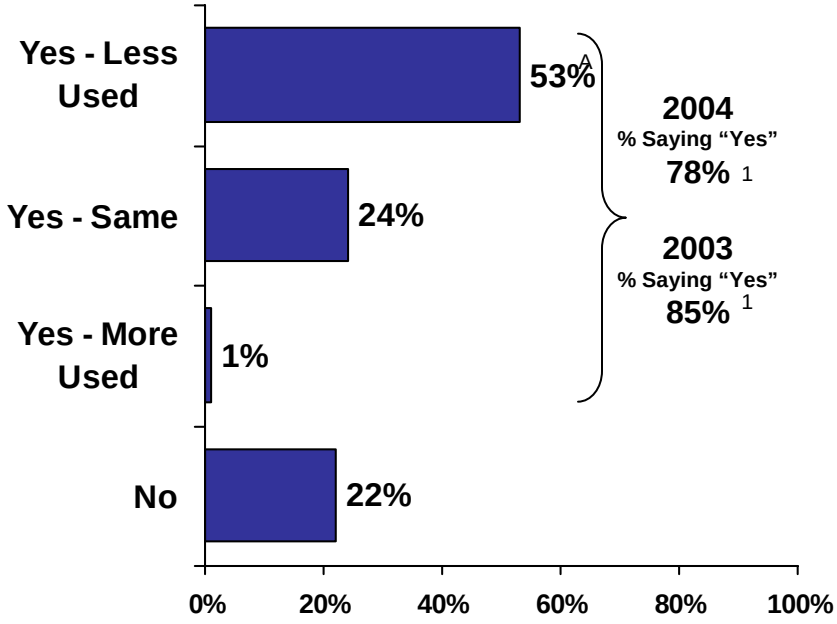
- The survey explored how participants changed electricity use after enrollment in the SPP program and the specific kinds appliances / equipment focused on.

- **Recall the key takeaways here:**
  - ***Most participants say they have changed the way they use energy under the program, and particularly residential participants facing super peak periods and those in climate zone 4 and commercial participants in treatment cells A21/22 and A31/32. Both residential and commercial participants find most of these changes easy to implement and nearly all say the could make these changes permanent.***
    - *There are fewer residential and commercial participants making changes in 2004 than in 2003.*
    - *However, on average more changes to reduce electricity use and costs* were made *in 2004 than in 2003 by both residential and commercial participants.*
    - *Participants report making an average of two changes in 2004 (vs. one change in 2003).*
    - *Participants took a variety of different strategies to modify electricity use; with shifting use of laundry facilities topping the list for residential participants and turning off unneeded lights and equipment topping the list for commercial participants.*
    - *Types of actions taken to reduce / shift electricity use during super peak periods are mostly the same as those used during regular weekday peaks for residential participants.*
    - *Commercial participants focus more on shifting equipment use and employee work schedules to non-peak hours on super peak days.*

The majority of both residential and commercial participants in 2004 indicate they have made changes in the way they use electricity since signing up for the program, with most indicating these changes resulted in a reduction of energy use. There has been a slight decrease from 2003-2004 in the number of residential participants indicating changes were made since signing up.

RESIDENTIAL

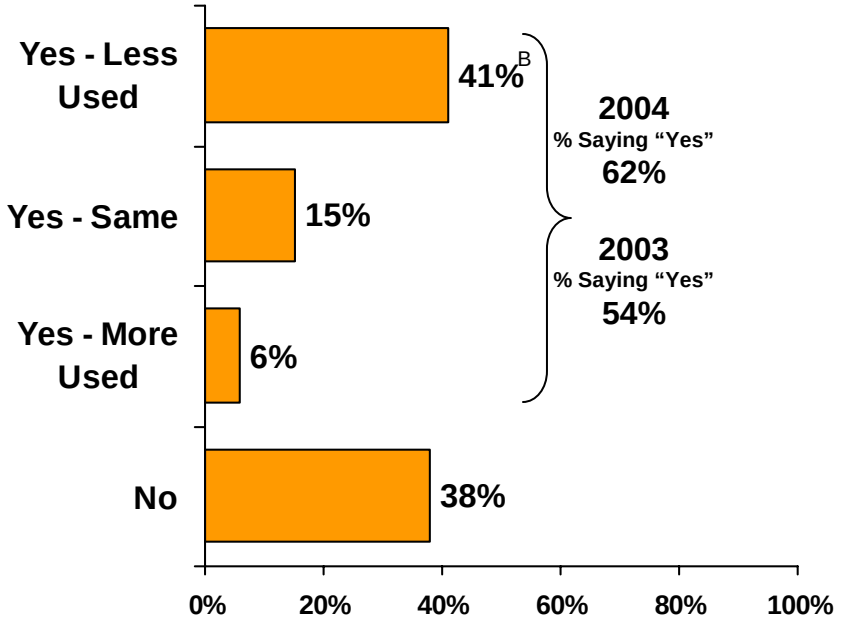
Changes Made? Impact on Total Energy Use



[A] CPP-F rate participants were more likely than TOU rate participants to indicate they used less electricity while on the program (59% vs. 43%); Those in CZ 4 were significantly more likely to indicate using less electricity than those in CZ 1 or CZ 2/3 (66% vs. 38% and 55% respectively).

COMMERCIAL

Changes Made ? Impact on Total Energy Use



[B] Participants in cells A21/22 and C05/06 were more likely than those in cells A31/32 to indicate they used less electricity while on the program (45% and 53% vs. 28%.

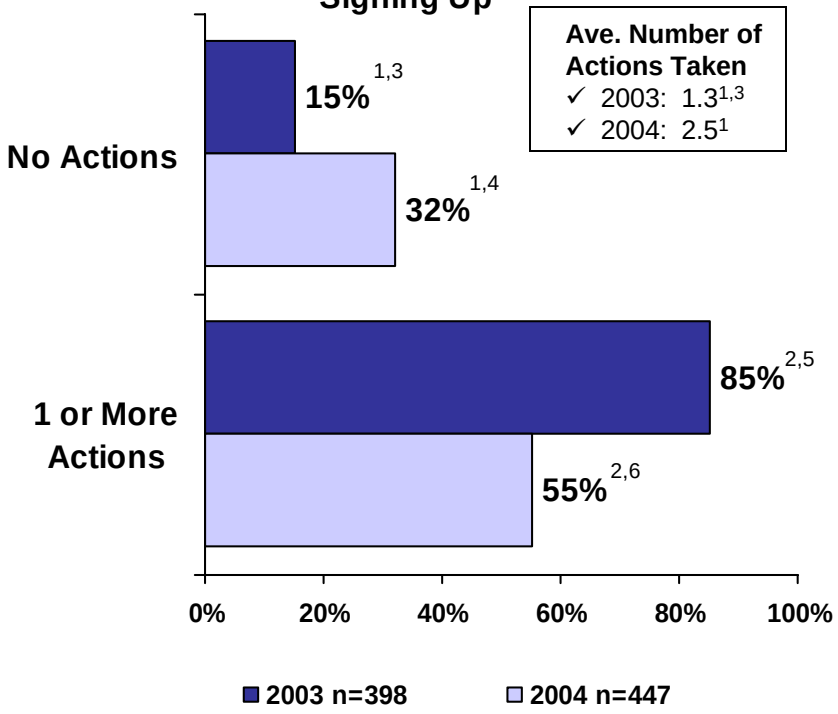
Q22: (Q50, 2003) Since signing up for the **[INSERT PROGRAM]**, have you made any changes in the way electricity is used or managed by your household?
Q26: Did these changes result in your household using…
Residential - 2003 n=398, 2004 n=447; Commercial 2003 n=92, 2004 n=95

Superscript notations indicate significant differences.

For both residential and commercial participants, there are fewer participants taking any action to reduce their electricity use and costs in 2004. However, significantly more actions were taken, on average, to reduce electricity use in 2004 than in 2003.

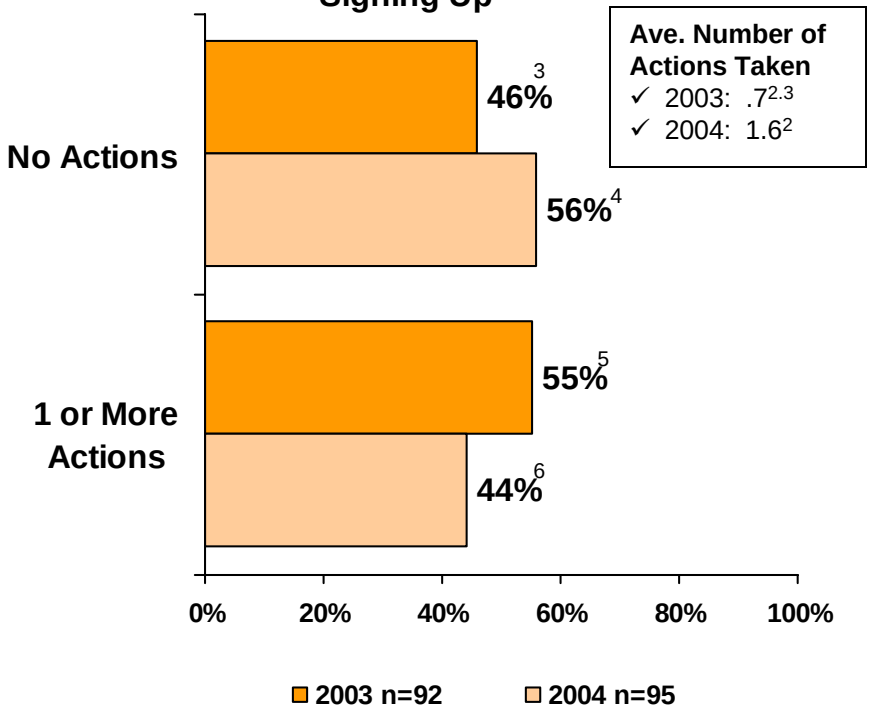
RESIDENTIAL

Average Number of Actions Taken Since Signing Up



COMMERCIAL

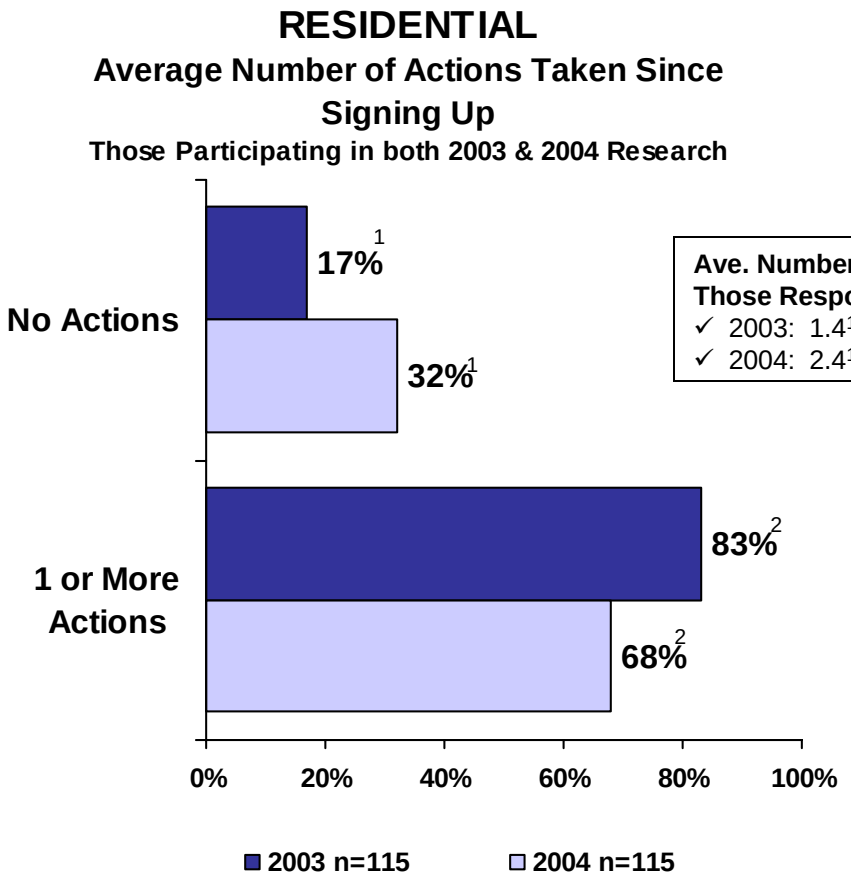
Average Number of Actions Taken Since Signing Up



Superscript notations indicate significant differences.

Q30 (Q53 from 2003): Thinking about the specific actions you've taken to manage your electricity use, what have you done since signing up for your special program to try to REDUCE your electricity use and costs? Q30a (Q53 from 2003): Thinking about the specific actions you've taken to manage your electricity use, what have you done since signing up for the new program to try to SHIFT electricity use?

When looking at just residential participants who participated in both waves of research, the picture is nearly identical – fewer participants taking more actions on average in 2004.



Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q30 (Q53 from 2003): Thinking about the specific actions you've taken to manage your electricity use, what have you done since signing up for your special program to try to REDUCE your electricity use and costs? Q30a (Q53 from 2003): Thinking about the specific actions you've taken to manage your electricity use, what have you done since signing up for the new program to try to SHIFT electricity use?

Though the number of participants who report making changes in energy use changed only minimally from 2003 to 2004, participants reported taking significantly more actions in 2004 in most cases.

Residential Participant Actions Reported (*Data reported is for those indicating making any changes; Negative deltas indicate a decrease in % reporting action in 2004)	2004**	2003-2004 Delta
Any changes in use	78%	-7%
Shift laundry*	56%[1]	24%[1]
Shifted dishwasher use	37%[2]	29%[2]
Turn off lights	35%[3]	18%[3]
Use appliances less	31%[4]	12%[4]
Began using compact fluorescents	27%[5]	23%[5]
Turn AC off/use less	24%[6]	10%[6]
Reduce laundry water temperature	21%[7]	14%[7]
Turn up AC temperature	14%[8]	9%[8]
Shifted pool filter / heater use	13%	8[9]
Replaced old appliances with EE ones	12%[10]	11%[10]
Shift spa filter / heater use	10%	--[9]
Made improvements to home EE	10%[11]	5%[11]
Added a programmable thermostat	9%[12]	6%[12]
Used "heat off" setting on dishwasher	9%[13]	6%[13]
Reduced pool pump/heater/filter use	8%	5%
Reduced spa heater / filter use	7%	6%
Line drying clothes	4%	3%

Commercial Participant Actions Reported (*Data reported is for those indicating making any changes; Negative deltas indicate a decrease in % reporting action in 2004)	2004	2003-2004 Delta
Any changes in use*	62%	8%
Turn off lights / equipment when not needed	65%	11%
Installed programmable thermostat	46%[1]	37%[1]
Turn AC off/use less	41%[2]	22%[2]
Raise thermostat setting on AC	39%[3]	29%[3]
Replaced lights / fixtures with more efficient	34%[4]	25%[4]
Removed lights / used lower wattage	30%[5]	24%[5]
Installed lights / equipment timers	27%[6]	22%[7]
Shifted use of equipment to non-peak hours	17%[8]	15%[9]
Made improvements to facility EE	17%[10]	13%[10]
Shifted employee work schedules to non-peak	12%[11]	10%[11]
Replaced old equipment w/EE models	12%[12]	12%[12]
Changed hours of operation	10%	4%

** In reviewing results for those residential participants participating in both waves of research, nearly identical results were found and, thus, they are not reported here.

Superscript notations indicate significant differences.

[9] Spa filter/heater use and pool heater / filter use combined in 2003, making it not comparable to 2004 data

Q22 (Q50 from 2003): Since singing up for the [PROGRAM] have you made any changes in the way electricity is used or managed at your household? Q30 (Q53 from 2003): Thinking about the specific actions you've taken to manage your electricity use, what have you done since signing up for your special program to try to REDUCE your electricity use and costs? Q30a (Q53 from 2003): Thinking about the specific actions you've taken to manage your electricity use, what have you done since signing up for the new program to try to SHIFT electricity use?
Residential n=337 in 2003, n=278 in 2004; Commercial – n=52 in 2003; n=43 in 2004

Not surprisingly, some of the "energy saving" activities most frequently reported are among those considered easiest to do. Furthermore, the perception of ease with which certain changes can be made has improved for a few – mainly turning off lights and using the AC less. In fact, there is an 11% increase in the number of participants who thought they might make reductions in AC use permanent since 2003.

Residential Participant Actions Reported (Data reported is for those indicating making any changes; Negative deltas indicate a decrease in % reporting action in 2004)	Ease & Persistence of Reported Changes			
	% "Easy" (8-10) (Among those reporting the change)	% Easy 2003-2004 Delta	% Permanent (Among those reporting the change)	% Permanent 2003-2004 Delta
Added a programmable thermostat	90%*	22%*	100%	0%
Began using compact fluorescents	89%	-1%*	97%	7%
Reduced pool pump/heater/filter use	85%*	15%*	97%	-3%
Shifted dishwasher use	84%	13%*	95%	2%
Turn off lights	81%[1]	20%[1]	99%	7%
Shift pool/spa pump/filter use	79%	4%*	95%	0%
Shift laundry	71%	11%	90%	-3%
Turn AC off/use less	71%[2]	21%[2]	97%[3]	11%[3]
Reduce laundry water temperature	68%	8%*	97%	-3%
Used "heat off" setting on dishwasher	68%*	-25%*	89%	-11%
Line drying clothes	63%*	11%*	100%	0%
Use appliances less	62%	-2%	97%	9%
Turn up AC temperature	60%	12%*	93%	19%
Replaced old appliances with EE ones	54%	-24%*	95%	-5%
Made improvements to home EE	43%*	21%*	93%	11%

* Very small sample sizes – sample sizes less than 30

Superscript notations indicate significant differences.

Q56a & Q56b (Q57 & Q58 from 2003): How easy or difficult was it to make the changes you mentioned and would you be willing and able to make these changes permanently?
Residential n=337 in 2003, n=278 in 2004

Likewise, business participants tend to indicate that these actions taken most often are the easiest. Overall, however, all actions appear to be less easy to take than the set of actions taken by residential participants. Furthermore, most business participants tend to feel that the ease with which they can perform these actions has decreased since 2003.

Commercial Participant Actions Reported (Data reported is for those indicating making any changes; Negative deltas indicate a decrease in % reporting action in 2004)	Ease & Persistence of Reported Changes			
	% "Easy" (8-10) (Among those reporting the change)*	% Easy 2003-2004 Delta*	% Permanent (Among those reporting the change)*	% Permanent 2003-2004 Delta*
Installed programmable thermostat	80%	39%	95%	13%
Turn off lights / equipment when not needed	75%	5%	100%	0%
Raise thermostat setting on AC	72%	-10%	89%	7%
Replaced lights / fixtures with more efficient	67%[2]	-33%[2]	87%	-13%
Removed lights / used lower wattage	62%	3%	93%	-7%
Shifted use of equipment to non-peak hours	58%	-42%	100%	0%
Made improvements to facility EE	58%	-42%	100%	0%
Shifted employee work schedules to non-peak	43%	-57%	82%	18%
Turn AC off/use less	40%[1]	-42%[1]	84%	-16%
Changed hours of operation	26%	-44%	74%	26%
Replaced old equipment w/EE models	22%	--	100%	--
Installed lights / equipment timers	18%	-31%	84%	-16%

* Small sample sizes – Sample sizes under 30

Superscript notations indicate significant differences.

Q56a & Q56b (Q57 & Q58 from 2003): How easy or difficult was it to make the changes you mentioned and would you be willing and able to make these changes permanently?
Commercial – n=52 in 2003; n=43 in 2004

On Super Peak days, residential participants' strategy for electricity reduction is similar to actions taken on regular peak days, with most participants indicating they would take the same five actions. Business participants take a slightly different approach in response to CPP rates, with a greater emphasis on shifting equipment use and employee work schedules to non-peak hours than during normal peak periods

Residential Participant Actions Reported on Super Peak Days (Data reported is for those indicating making any changes & whose rate includes a super peak component)	**% Taking Action on Super Peak Day**
Shift laundry	48%
Turn off lights	40%
Use appliances less	39%
Shifted dishwasher use	31%
Turn AC off/use less	31%
Reduce laundry water temperature	23%
Turn up AC thermostat temperature	17%
Used "heat off" setting on dishwasher	11%
Shift pool filter/heater use	9%
Reduced spa heater/filter use	9%
Shifted spa heater / filter use	9%
Reduced pool heater / filter use	7%
Line drying clothes	5%

Commercial Participant Actions Reported on Super Peak Days (Data reported is for those indicating making any changes & whose rate includes a super peak component)	**% Taking Action on Super Peak Day**
Turn off lights / equipment when not needed	100%
Shifted use of equipment to non-peak hours	49%
Turn AC off/use less	49%
Changed hours of operation	27%
Shifted employee work schedules to non-peak	25%
Raise thermostat setting on AC	25%
Removed lights / used lower wattage	25%
Replaced lights / fixtures with more efficient	0%
Installed programmable thermostat	0%

Q30b: And, what are the specific actions you've taken to manage your household's electricity use on Super Peak days?
Residential n=162 in 2004; Commercial –n=8 in 2004

Electricity Management Strategies

- The survey explored how participants implemented changes in their electricity use overall and by specific appliance / equipment holdings through reductions in electricity usage or shifts in electricity use away from weekday afternoons. Program participants were asked to characterize their shifts or reductions as occurring during weekdays, non-weekdays, all year long, during summer or non-summer months, or on super peak days only.

- **Recall the key takeaways here:**
  - ***Nearly 75% of residential participants say they manage their electricity use daily, with most reducing overall electricity use or shifting use away from weekday afternoons (or both) all year long.***
    - *Nearly all respond to super peak notifications, with the vast majority reducing or shifting for the entire portion of the super peak period.*
    - *Most residential participants operated their AC primarily manually before and after enrollment in the SPP program.*
  - ***Slightly less than half of commercial participants manage their electricity use daily, with most using a reduction strategy on both weekday and non-weekday afternoons for the entire year or the summer only.***
    - *Nearly all respond to super peak notifications, with the vast majority reducing or shifting for the entire portion of the super peak period.*
    - *Most commercial participants operated their AC manually before SPP enrollment; after enrollment they were more likely to use a programmable thermostat to change temperature settings.*
  - ***Regardless of the specific appliance / piece of equipment in question, management strategies typically involve weekday / non-weekday afternoon / all year reductions or shifting use away from weekday afternoons all year.***

Electricity Management Strategies – Explanation of Chart Interpretation

- **A certain percentage of participants did not change the management of their electricity use or change the management of specific appliances / pieces of equipment, and that percentage is reported in a box at the bottom of each slide.**

- **For those who did make changes, the specific strategies they used are represented by the colored dots. As an example, take the first slide in this series which depicts the overall electricity management strategies used most often by residential participants. Here we see that the strategy used most often (denoted by the 1st on the left hand side of this slide) was a strategy of reducing on both weekday and non-weekday afternoons all year long AND shifting away from weekday afternoons all year long, a strategy used by 22% of residential participants.**

- **The second most used strategy (denoted by the 2nd to the left hand side of the chart) was a strategy of shifting use away from weekday afternoons all year long, used by 20% of residential participants.**

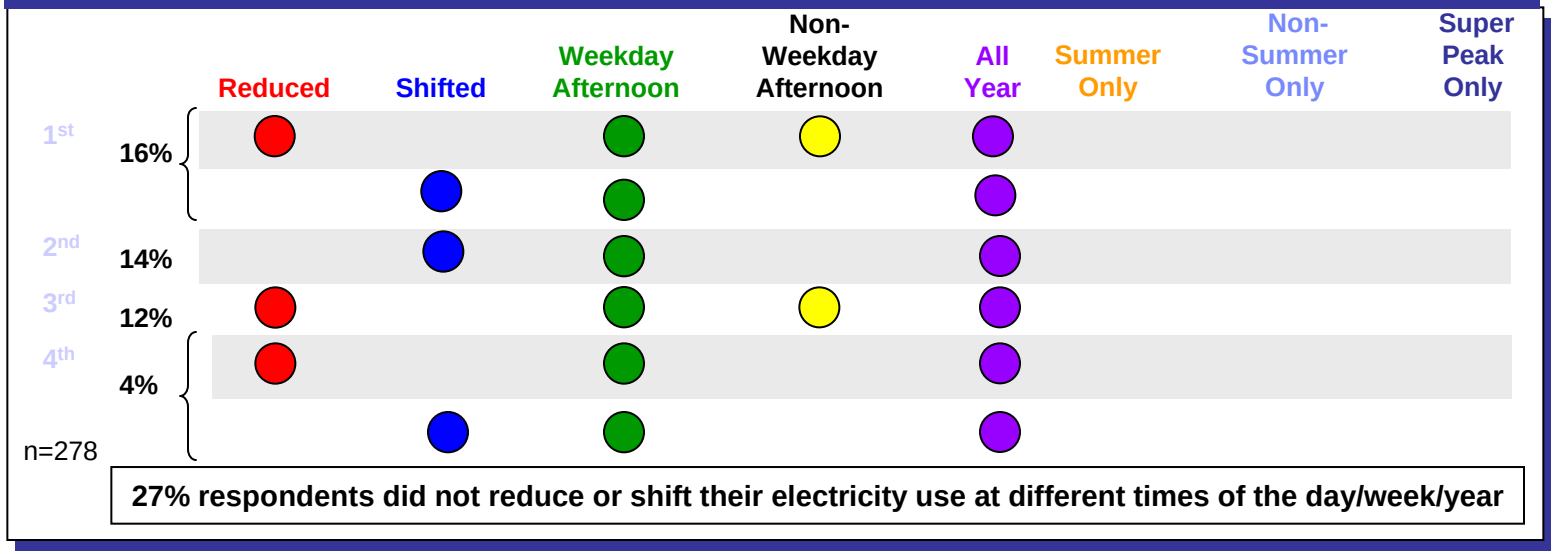
- **The remaining lines on this slide, as well as the remaining slides, can be interpreted similarly.**

- **Additionally, in the bulleted text at the top of each table describing the electricity management strategies is a description of the most used management strategies for Super Peak periods specifically – describing participants' tendencies to reduce or shift use during or away from these periods for the entire length of the period, only a portion of the period, or none of the period.**

The 73% of residential participants who opted to actively manage their electricity use (with 27% choosing not to reduce or shift daily, making possibly only one-time changes) tend to use a combination of electricity reductions and shifting on weekday and non-weekday afternoons all year long. Very few report making these energy management changes *only* during the summer or *only* on super peak days.

- Note also that those participants making reductions also made **reductions on super peak days** primarily for the entire length of the day (72%), though some also indicated reducing for only a portion of the day (23%). Only 3% did not reduce on these events.
- participants using a shifting strategy also indicated they **shifted use away from super peak days** for the entire length of the day (73%) though some also indicated they did so for only a portion of the event (24%). Only 2% indicated not shifting use on these events.

Residential – Overall Electricity Management Strategies

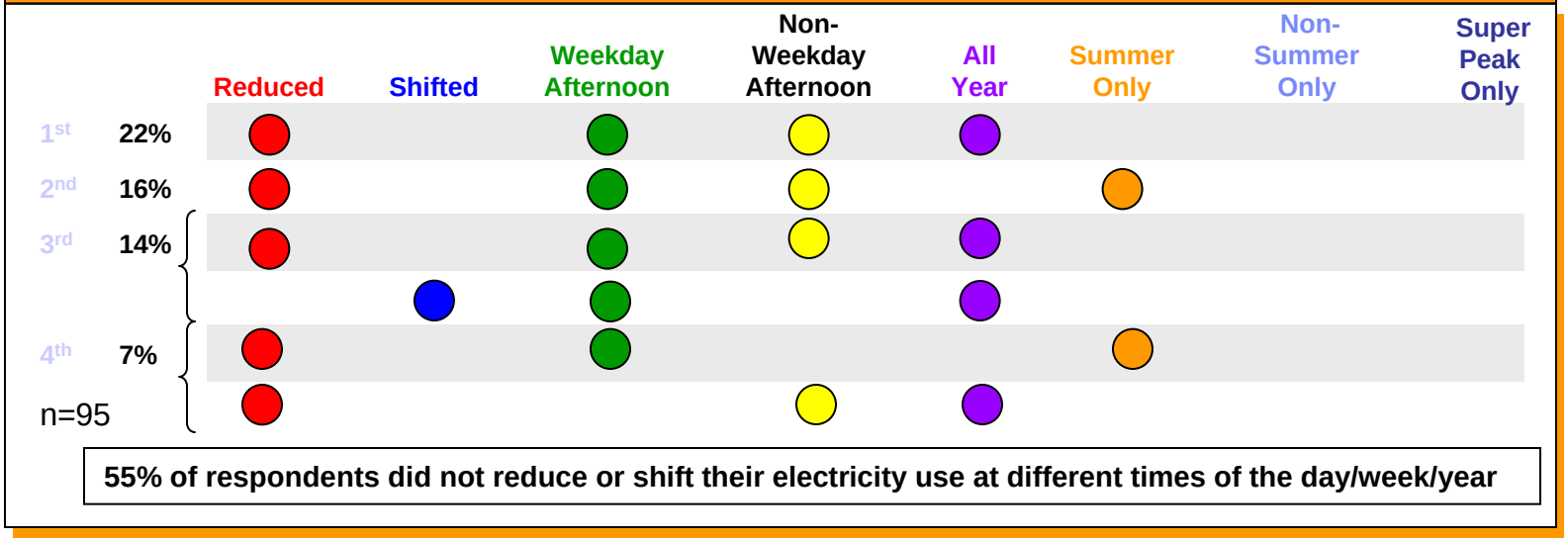


Q28: During the time that you were on the program did your household ever try to: reduce overall electricity use at certain. . ., shift use away from weekday afternoons, or both reduce and shift..?
Q28a: Which of the following describes how your household tried to REDUCE its electricity use during weekday afternoons while it was on the program?
Q28b, Which of the following describes how your household tried to REDUCE its electricity use during all other times of the day or week..?
Q28d. Which of the following describes how your household tried to SHIFT its electricity use while on the program?

Of the 45% of business participants making some daily change in their electricity management (with 55% choosing not to reduce or shift daily, other than possible one-time changes), most report using an electricity reduction strategy rather than shifting away from weekday afternoons. Many note making these reductions on both weekday and non-weekday afternoons, though whether this is done all year or only during the summer varied.

- Note also that those participants making reductions also made **reductions on super peak days** primarily for the entire length of the day (61%), though some also indicated reducing for only a portion of the day (39%).
- Participants using a shifting strategy also indicated they **shifted use away from super peak days** for the entire length of the day (63%) though some also indicated they did so for only a portion of the event (25%). 13% indicated not shifting use on these events.

Commercial – Overall Electricity Management Strategies



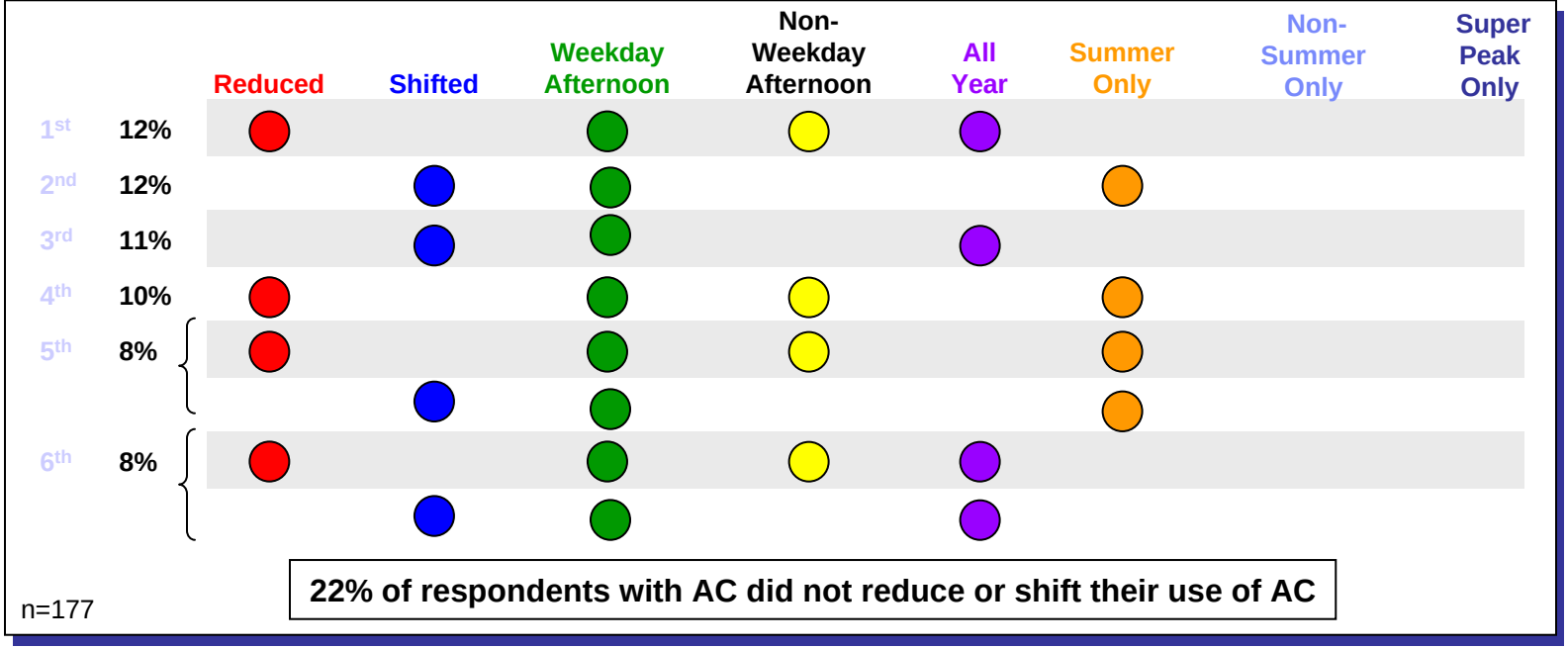
55% of respondents did not reduce or shift their electricity use at different times of the day/week/year

Q28: During the time that you were on the program did your business ever try to: reduce overall electricity use at certain. . ., shift use away from weekday afternoons, or both reduce and shift..?
Q28a: Which of the following describes how your business tried to REDUCE its electricity use during weekday afternoons while it was on the program?
Q28b, Which of the following describes how your business tried to REDUCE its electricity use during all other times of the day or week..?
Q28d. Which of the following describes how your business tried to SHIFT its electricity use while on the program?

Residential participants use a variety of reducing and shifting strategies in an attempt to manage their air conditioning use. Given the nature of this appliance, it is not surprising that more report making these changes only during the summer.

- Those making reductions made **reductions on super peak days** primarily for the entire length of the day (83%), with some reducing for only a portion of the day (13%) or not at all (3%).
- Those using a shifting strategy tended to **shift use away from super peak periods** primarily the entire length of the period (71%) with some doing so for only a portion of the period (22%) or not at all (4%).

Residential – Air Conditioning – 62%* Own / Pay For

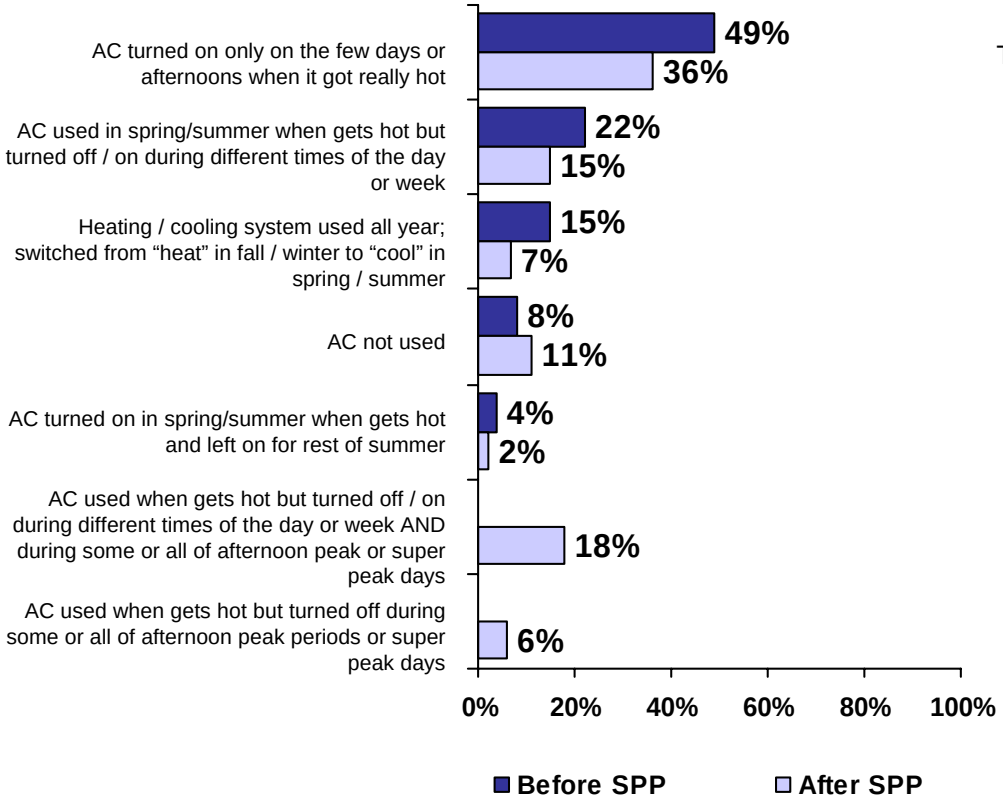


* Among those making any changes to electricity use

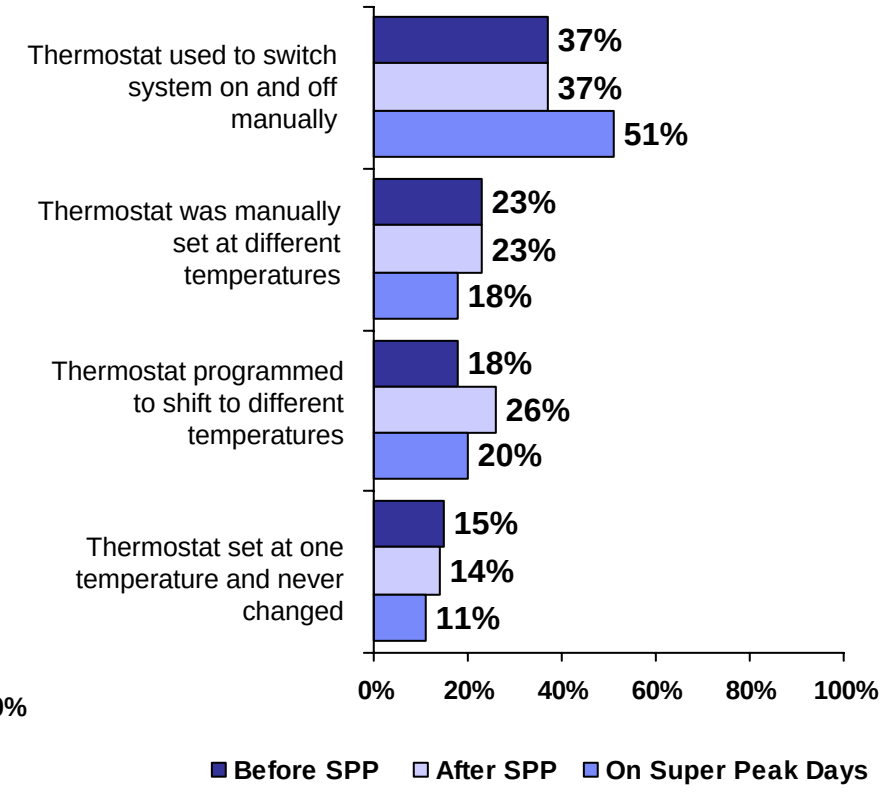
Q32: Which of the following best describes any changes in the way your household used its air conditioning during the summer of 2004 as a result of being on the pricing program?
Q32a: Which of the following best describes how your household tried to REDUCE its AC use during weekday afternoons while on the program?
Q32b: Which of the following best describes how your household tried to REDUCE its AC use during all other times of the day or week while on the program?
Q32d: Which of the following best describes how your household tried to SHIFT its AC use . . .?

Regardless of the reduction / shifting strategies employed (or lack of a strategy), most residential participants tend to operate their AC system manually – turning it on / off manually only during different times of the day / days of the week when temperatures are hottest. This strategy appears to have changed little once participants went on the SPP program.

Use of AC System Before and After SPP Program



Use of AC Thermostat Before and After SPP Program

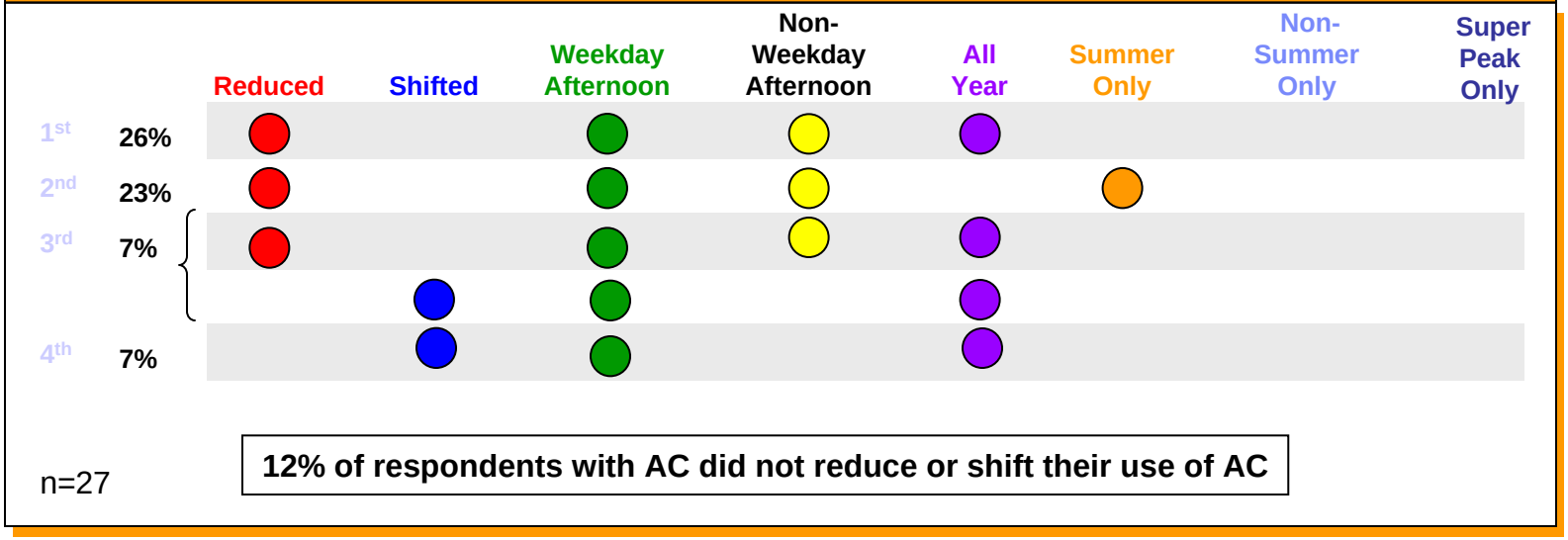


Q31a/Q31c: Which of the following best describes your AC use BEFORE going on the [PROGRAM]/ in the summer of 2004 while on the [PROGRAM]?
Q31b/Q31d/Q31e: Which of the following describes use of your AC system's thermostat in the summer BEFORE going on the [PROGRAM] / in the summer of 2004 while on the [PROGRAM] / on Super Peak days? Residential n=177

Business participants tend to primarily use reduction strategies when managing their AC use, most often reducing during both weekday and non-weekday afternoons for either the entire year or during the summer only.

- Those making reductions made **reductions on super peak days** primarily for the entire length of the day (71%), with some reducing for only a portion of the day (23%) or not at all (6%).
- Those using a shifting strategy **shifted use away from super peak periods** for the entire length of the period (100%).

Commercial – Air Conditioning – 63% Own / Pay For



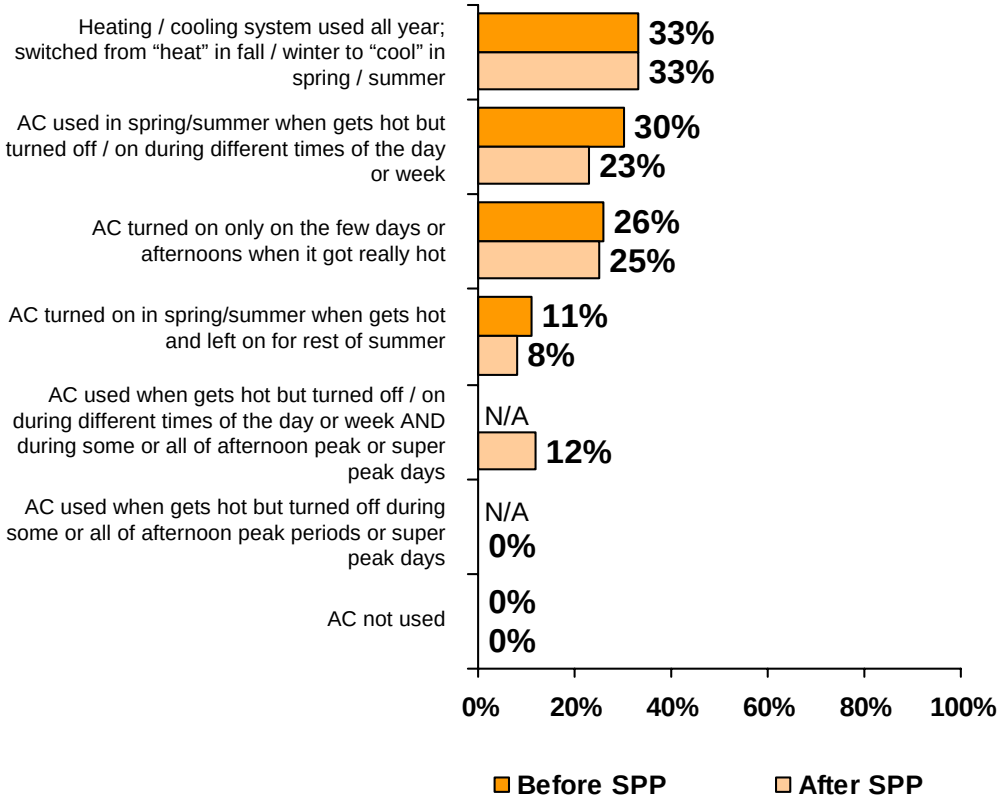
n=27

12% of respondents with AC did not reduce or shift their use of AC

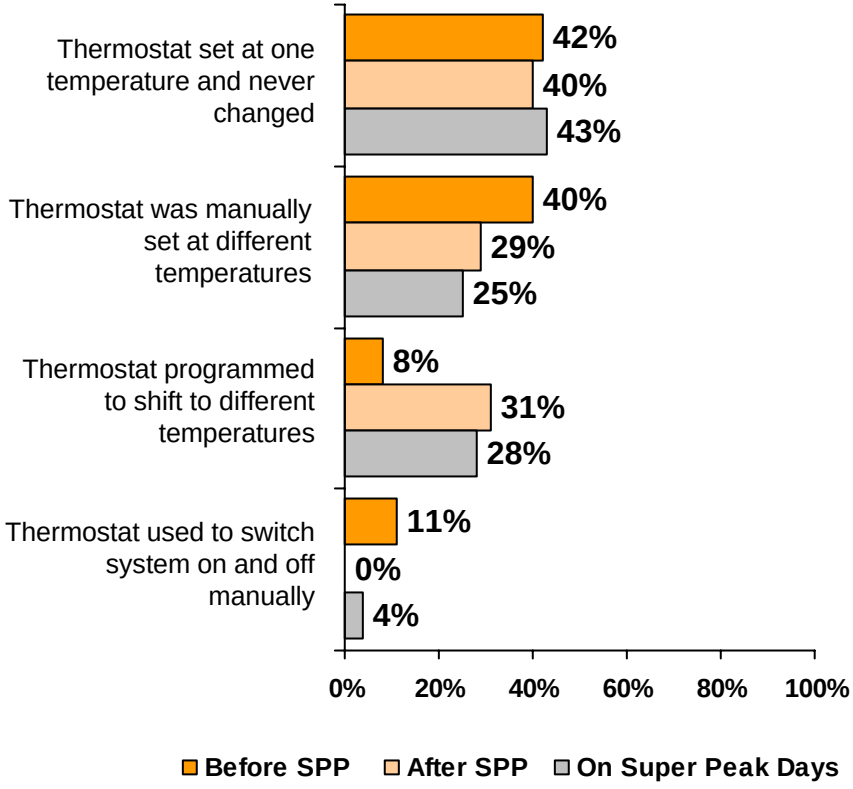
Q32: Which of the following best describes any changes in the way your business used its air conditioning during the summer of 2004 as a result of being on the pricing program?
Q32a: Which of the following best describes how your business tried to REDUCE its AC use during weekday afternoons while on the program?
Q32b: Which of the following best describes how your business tried to REDUCE its AC use during all other times of the day or week while on the program?
Q32d: Which of the following best describes how your business tried to SHIFT its AC use . . .?

Methods for operating the AC system are different among business participants. Prior to going on the program, most set the system at one temperature or manually set it at different temperatures; after enrollment, significant numbers began using thermostat programming to change AC temperature settings.

Use of AC System Before and After SPP Program



Use of AC Thermostat Before and After SPP Program

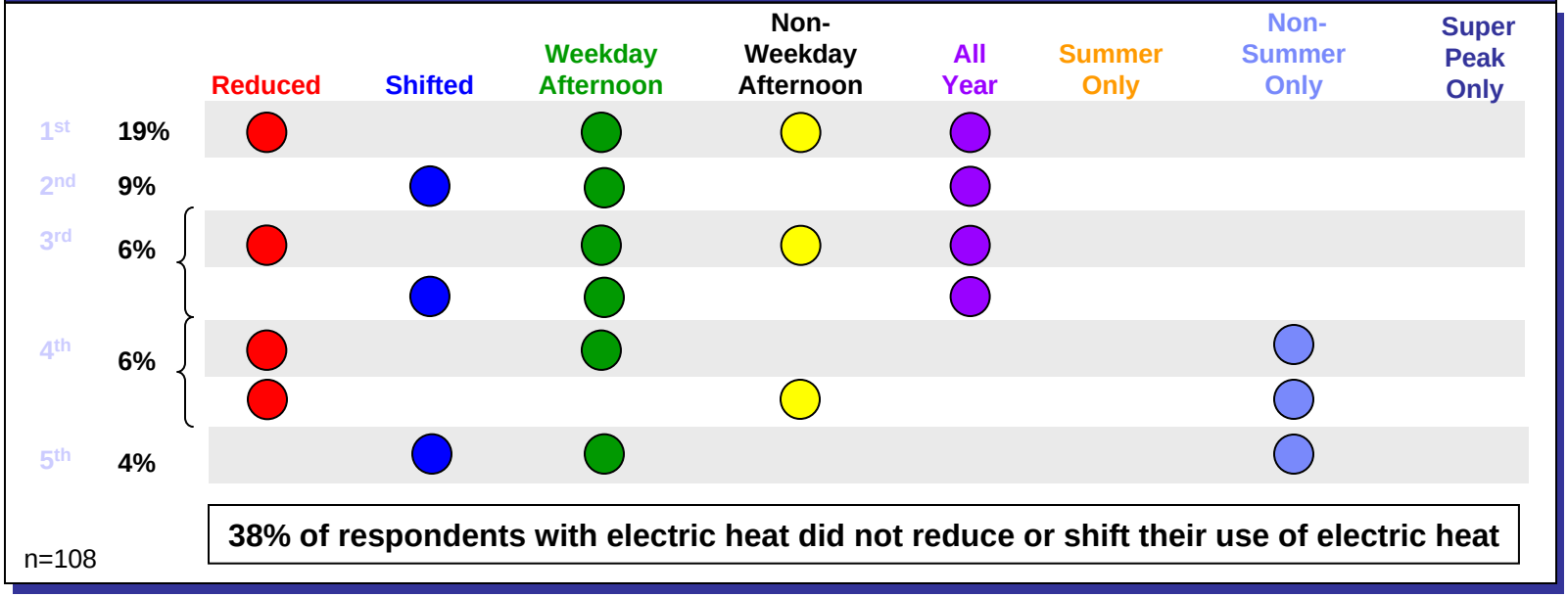


Q31a/Q31c: Which of the following best describes your AC use BEFORE going on the [PROGRAM]/ in the summer of 2004 while on the [PROGRAM]?
Q31b/Q31d/Q31e: Which of the following describes use of your AC system's thermostat in the summer BEFORE going on the [PROGRAM] / in the summer of 2004 while on the [PROGRAM] / on Super Peak days? Commercial n=27

Residential participants most often used a strategy of reducing their use of electric heat weekdays and non-weekdays all year.

- Those making reductions made **reductions on super peak days** primarily for the entire length of the day (65%), with some reducing for only a portion of the day (16%) or not at all (6%).
- Those using a shifting strategy tended to **shift use away from super peak periods** primarily for the entire length of the period (71%), with some doing so for only a portion of the period (19%) or not at all (3%).

Residential – Electric Heat – 38%* Own / Pay For



38% of respondents with electric heat did not reduce or shift their use of electric heat

n=108

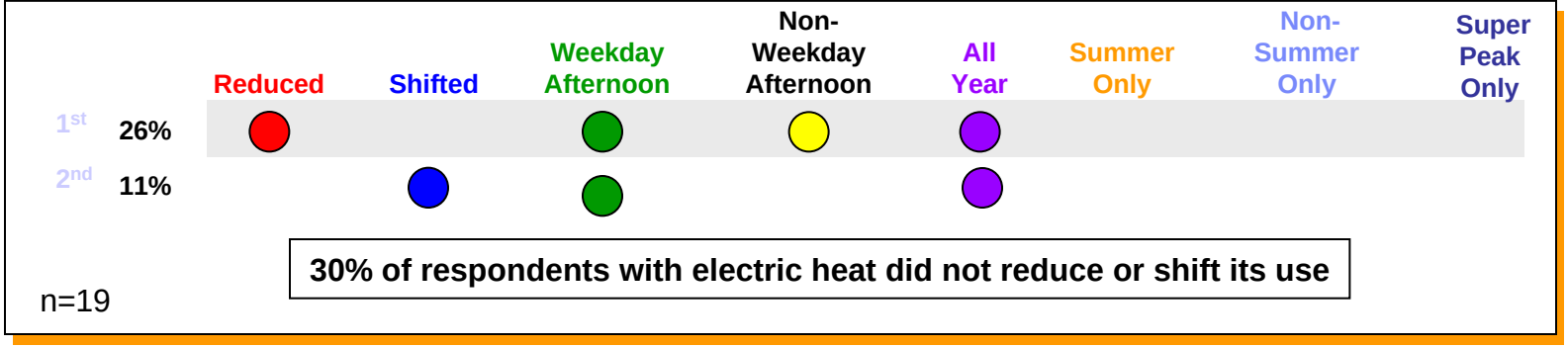
* Among those making any changes to electricity use

Q33: Which of the following best describes any changes in the way your household used its electric heating during the winter of 2004 as a result of being on the pricing program?
Q33a: Which of the following best describes how your household tried to REDUCE its electric heating use during weekday afternoons while on the program?
Q33b: Which of the following best describes how your household tried to REDUCE its electric heating use during all other times of the day or week while on the program?
Q33d: Which of the following best describes how your household tried to SHIFT its electric heating use . . .?

Similarly, reducing electric heat use at all times throughout the year is the action taken most often for this end use by business participants.

- Those making reductions made **reductions on super peak days** primarily for the entire length of the day (78%), with some reducing for only a portion of the day (22%).
- Those using a shifting strategy tended to **shift use away from super peak periods** primarily for the entire length of the period (50%), with some doing so for only a portion of the period (27%) or not at all (23%).

Commercial – Electric Heat – 44% Own / Pay For



30% of respondents with electric heat did not reduce or shift its use

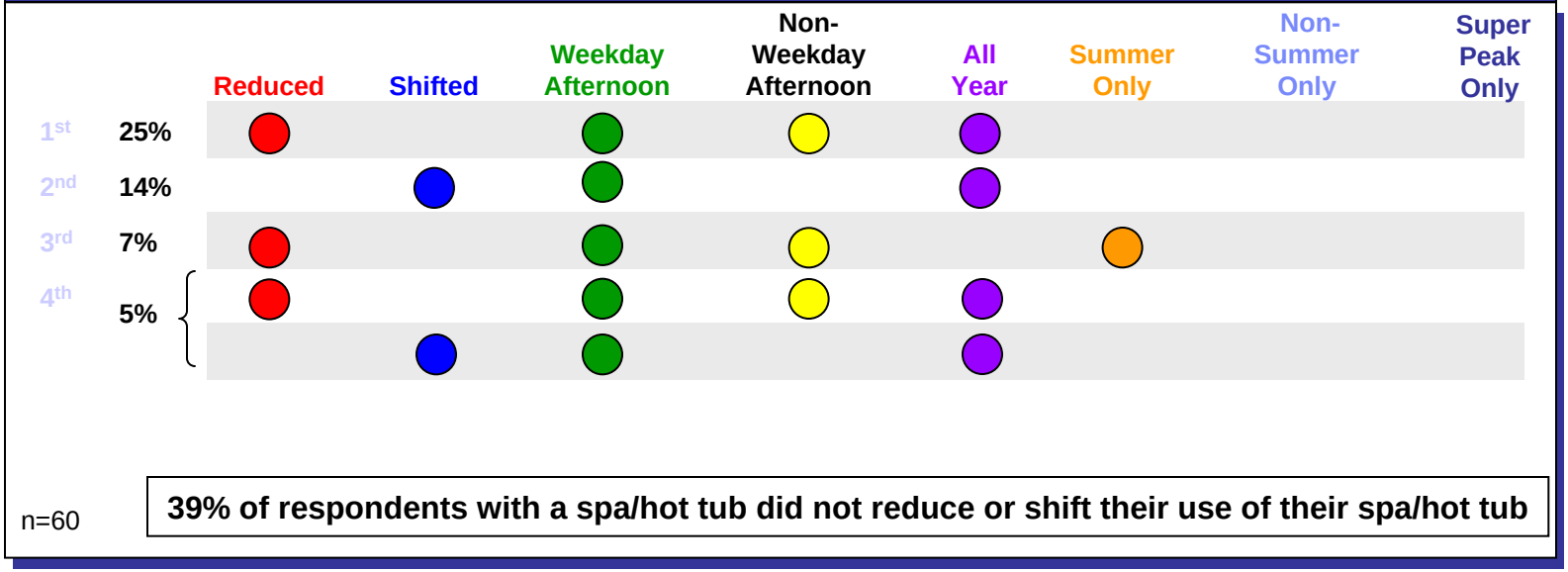
n=19

Q33: Which of the following best describes any changes in the way your business used its electric heating during the winter of 2004 as a result of being on the pricing program?
Q33a: Which of the following best describes how your business tried to REDUCE its electric heating use during weekday afternoons while on the program?
Q33b: Which of the following best describes how your business tried to REDUCE its electric heating use during all other times of the day or week while on the program?
Q33d: Which of the following best describes how your business tried to SHIFT its electric heating use . . .?

Reducing spa/hot tub use weekdays and non-weekday afternoons, all year is the most common change reported in spa/hot tub use, followed by shifting use away from weekday afternoons, all year.

- Those making reductions made **reductions on super peak days** primarily for the entire length of the day (74%), with some reducing for only a portion of the day (22%).
- Those using a shifting strategy tended to **shift use away from super peak periods** primarily for the entire length of the period (85%), with some doing so for only a portion of the period (11%) or not at all (5%).

Residential – Spa/Hot Tub – 22%* Own / Pay For



n=60

39% of respondents with a spa/hot tub did not reduce or shift their use of their spa/hot tub

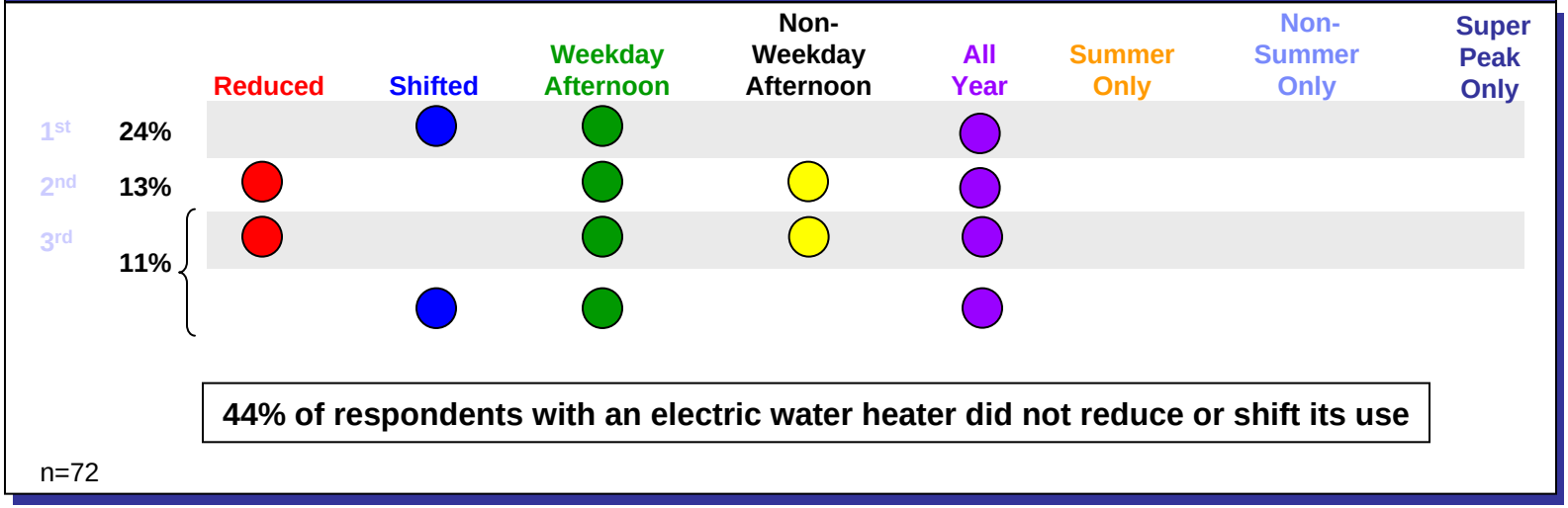
* Among those making any changes to electricity use

Q34: Which of the following best describes any changes in the way your household used its spa/hot tub during the summer of 2004 as a result of being on the pricing program?
Q34a: Which of the following best describes how your household tried to REDUCE its spa/hot tub use during weekday afternoons while on the program?
Q34b: Which of the following best describes how your household tried to REDUCE its spa/hot tub use during all other times of the day or week while on the program?
Q34d: Which of the following best describes how your household tried to SHIFT its spa/hot tub use . . .?

The 56% of residential respondents making changes to their electric water heater use tend to shift use away from weekday afternoons more often than any other combination of actions

- Those making reductions made **reductions on super peak days** primarily for the entire length of the day (82%), with some reducing for only a portion of the day (14%).
- Those using a shifting strategy tended to **shift use away from super peak periods** primarily for the entire length of the period (82%), with some doing so for only a portion of the period (14%) or not at all (3%).

Residential – Electric Water Heater – 25%* Own / Pay For



44% of respondents with an electric water heater did not reduce or shift its use

n=72

* Among those making any changes to electricity use

Q35: Which of the following best describes any changes in the way your household used its electric water heating during the summer of 2004 as a result of being on the pricing program?

Q35a: Which of the following best describes how your household tried to REDUCE its electric water heating use during weekday afternoons while on the program?

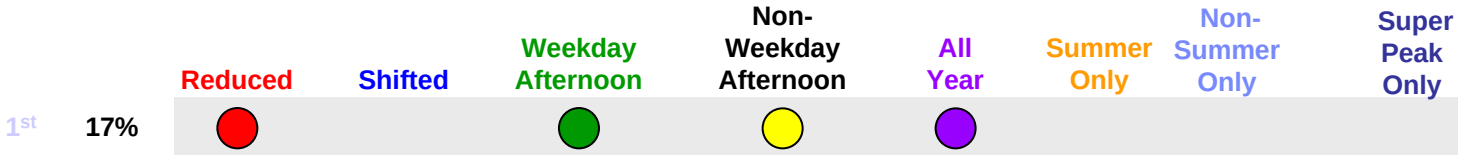
Q35b: Which of the following best describes how your household tried to REDUCE its electric water heating use during all other times of the day or week while on the program?

Q35d: Which of the following best describes how your household tried to SHIFT its electric water heating use . . .?

A majority of those business participants that own and pay for electric water heating at their premise made no changes to how they used their water heater.

- The few that made reductions to electric water heating made **reductions on super peak days** primarily for the entire length of the day (77%), with some reducing for only a portion of the day (23%).
- The few using a shifting strategy **shifted use away from super peak periods** for only a portion of the period (100%).

Commercial – Electric Water Heat – 42% Own / Pay For



66% of respondents with electric water heating did not reduce or shift its use

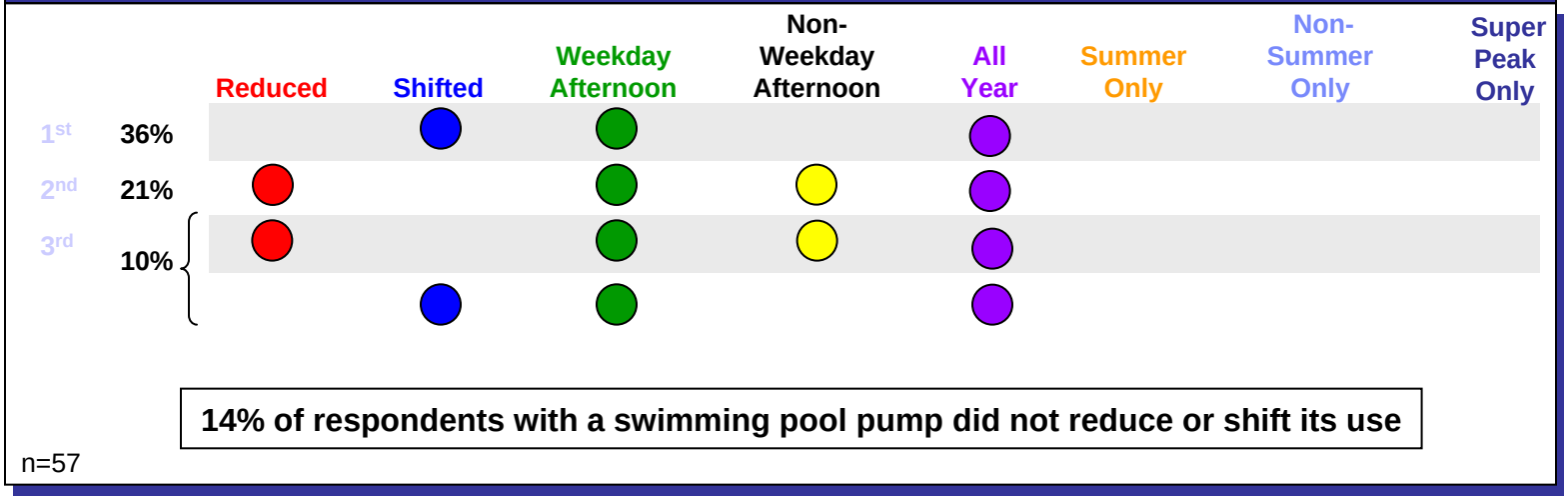
n=18

Q35: Which of the following best describes any changes in the way your business used water heater during the summer of 2004 as a result of being on the pricing program?
Q35a: Which of the following best describes how your business tried to REDUCE its water heater use during weekday afternoons while on the program?
Q35b: Which of the following best describes how your business tried to REDUCE its water heater use during all other times of the day or week while on the program?
Q35d: Which of the following best describes how your business tried to SHIFT its water heater use . . .?

Most of those participants with swimming pool pumps did change their use in response to the SPP program, with most either shifting their use away from weekday afternoons all year long, or simply reducing their use weekday afternoons all week, all year long.

- Those making reductions made **reductions on super peak days** primarily for the entire length of the day (83%), with some reducing for only a portion of the day (10%) or not at all (3%).
- Those using a shifting strategy tended to **shift use away from super peak periods** primarily for the entire length of the period (89%), with some doing so for only a portion of the period (11%).

Residential – Swimming Pool Pump – 20%* Own / Pay For



14% of respondents with a swimming pool pump did not reduce or shift its use

n=57

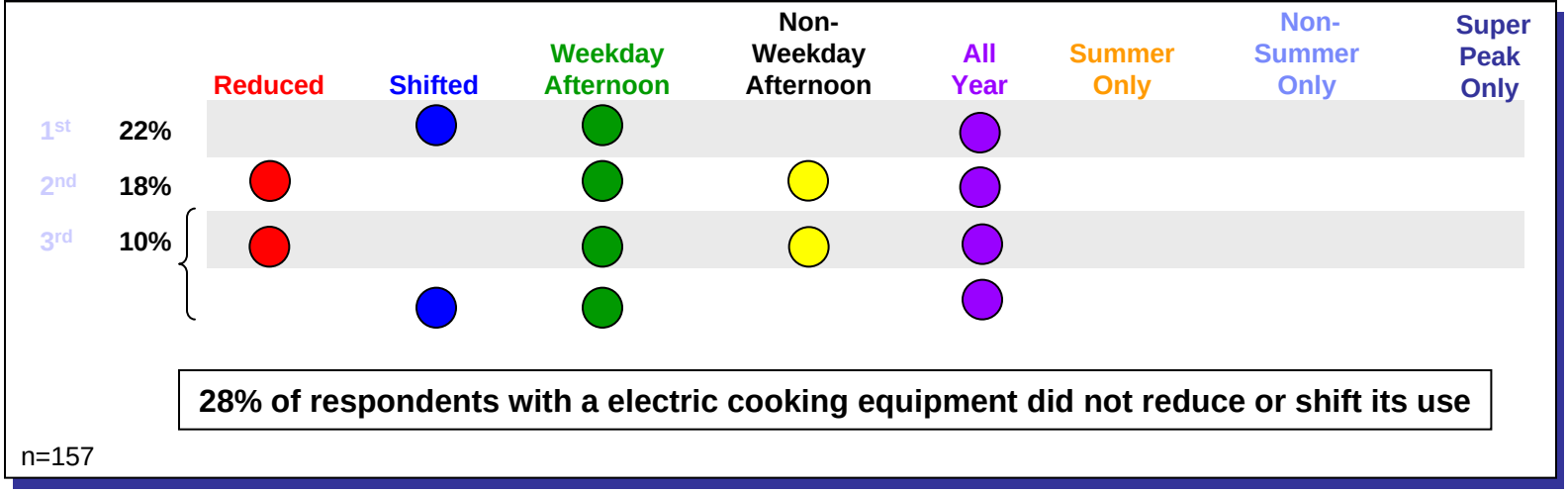
* Among those making any changes to electricity use

Q36: Which of the following best describes any changes in the way your household used its swimming pool pump during the summer of 2004 … program?
Q36a: Which of the following best describes how your household tried to REDUCE its pool pump use during weekday afternoons while on the program?
Q36b: Which of the following best describes how your household tried to REDUCE its pool pump use during all other times of the day or week while on the program?
Q36d: Which of the following best describes how your household tried to SHIFT its pool pump use . . .?

Reducing and shifting use of electric cooking all year long are the most common changes in use of electric cooking equipment.

- Those making reductions made **reductions on super peak days** primarily for the entire length of the day (82%), with some reducing for only a portion of the day (18%).
- Those using a shifting strategy tended to **shift use away from super peak periods** primarily for the entire length of the period (78%), with some doing so for only a portion of the period (22%).

Residential – Electric Cooking Equip. – 57%* Own / Pay For



28% of respondents with a electric cooking equipment did not reduce or shift its use

n=157

* Among those making any changes to electricity use

Q37: Which of the following best describes any changes in the way your household used its electric cooking equipment during the summer of 2004 as a result of being on the pricing program?

Q37a: Which of the following best describes how your household tried to REDUCE its electric cooking equipment use during weekday afternoons while on the program?

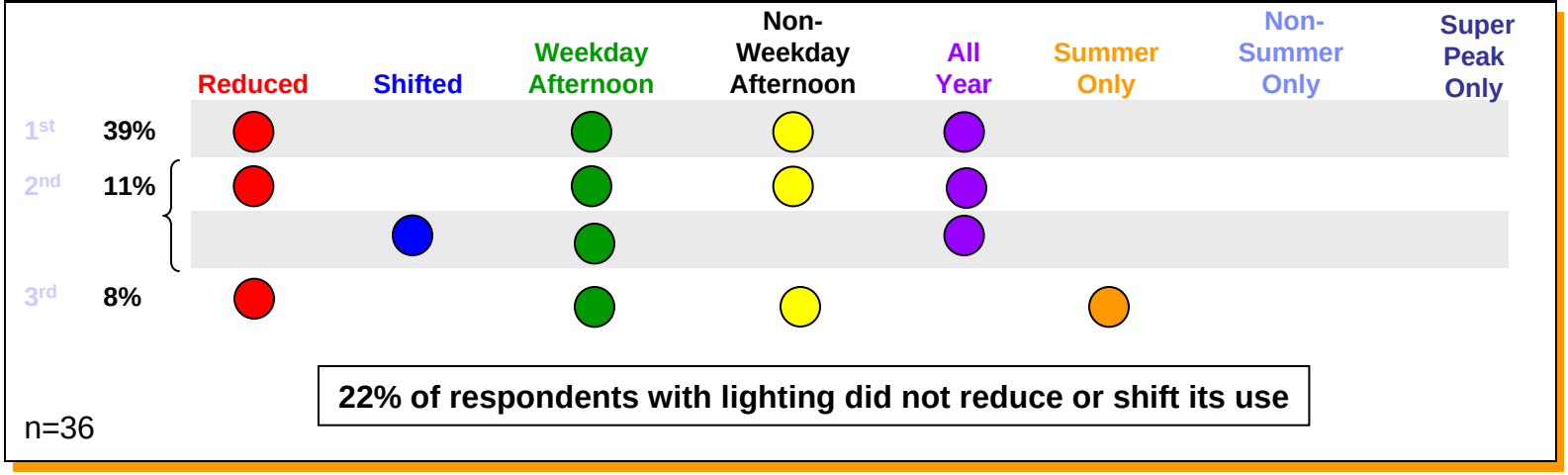
Q37b: Which of the following best describes how your household tried to REDUCE its electric cooking use during all other times of the day or week while on the program?

Q37d: Which of the following best describes how your household tried to SHIFT its electric cooking use . . .?

Once again, business participants tend to choose a reduction strategy for managing their use of lighting, with the majority of those making a change in use by reducing their use weekday afternoons all week, throughout the year.

- Those making reductions made **reductions on super peak days** primarily for the entire length of the day (54%), with some reducing for only a portion of the day (46%).
- Those using a shifting strategy tended to **shift use away from super peak periods** primarily for the entire length of the period (69%), with some doing so for only a portion of the period (31%).

Commercial – Lighting – 84% Own / Pay For

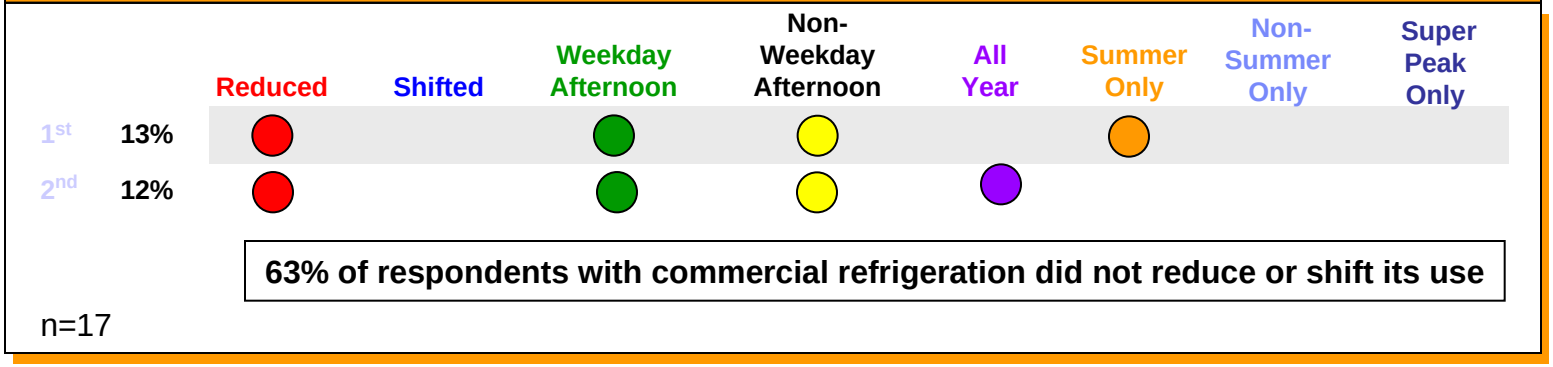


Q34: Which of the following best describes any changes in the way your business used lighting during the summer of 2004 as a result of being on the pricing program?
Q34a: Which of the following best describes how your business tried to REDUCE its lighting use during weekday afternoons while on the program?
Q34b: Which of the following best describes how your business tried to REDUCE its lighting use during all other times of the day or week while on the program?
Q34d: Which of the following best describes how your business tried to SHIFT its lighting heating use . . .?

Very few* of the business participants surveyed owned and / or paid for commercial refrigeration at their premise, and even fewer made any changes to how this equipment was used.

- The few that made reductions to commercial refrigeration made **reductions on super peak days** primarily for the entire length of the day (58%), with some reducing for only a portion of the day (42%).

Commercial – Refrigeration – 39% Own / Pay For



63% of respondents with commercial refrigeration did not reduce or shift its use

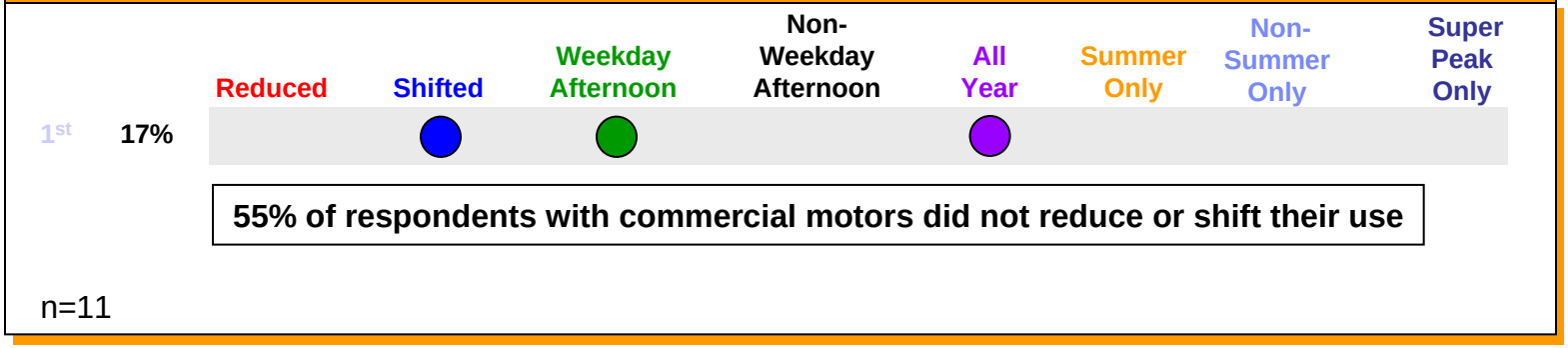
n=17

**** Due to the small number of participants that owned and changed their management of commercial refrigeration at their premise, the strategies in the table above is for only two businesses each. INTERPRET WITH CAUTION!***

Q36 Which of the following best describes any changes in the way your business used refrigeration during the summer of 2004 as a result of being on the pricing program?
Q36a: Which of the following best describes how your business tried to REDUCE its refrigeration use during weekday afternoons while on the program?
Q36b: Which of the following best describes how your business tried to REDUCE its refrigeration use during all other times of the day or week while on the program?
Q36d: Which of the following best describes how your business tried to SHIFT its refrigeration use . . .?

Over half of the very small number* of business participants surveyed with commercial motors at their premise did not employ a strategy to reduce or shift their use.

Commercial – Motors – 27% Own / Pay For



55% of respondents with commercial motors did not reduce or shift their use

n=11

**** Due to the small number of participants that owned and changed their management of commercial refrigeration at their premise, the strategy in the table above represents for only two businesses. INTERPRET WITH CAUTION!***

- Please note that business participants were also asked to report how they managed the use of their industrial manufacturing equipment (owned / paid for by 22% of our sample) and their electric cooking equipment (owned / paid for by 12% of our sample).

- Because the sample of those that own / paid for and actually changed the management of this equipment is so small, these figures are not be reported here. However, it was found that 63% did not reduce or shift the use of their manufacturing equipment and 78% did not shift or reduce use of their electric cooking equipment.

Q38: Which of the following best describes any changes in the way your business used electric motors during the summer of 2004 as a result of being on the pricing program?
Q38a: Which of the following best describes how your business tried to REDUCE its electric motor use during weekday afternoons while on the program?
Q38b: Which of the following best describes how your business tried to REDUCE its electric motor use during all other times of the day or week while on the program?
Q38d: Which of the following best describes how your business tried to SHIFT its electric motor use . . .?

Developing an aggregate view of the overall changes made in electricity use

- **For analytical purposes, the team chose to develop a single indexed measure of the degree to which participants made changes in their electricity use.**
  - The goal of this index was to create a single measure representing the extensiveness of changes made that could then be used to help profile the types of participants that tend to make a lot of changes vs. those that make very few.

- **Points were assigned to each possible change (reducing / shifting weekday afternoons, non-weekday afternoons, all year, summer only, super peak periods only) with more points assigned to those changes resulting in a bigger impact on electricity use (daily, peak, or annual, as the case may be).[1]**

- **A total number of points was then calculated for each respondent based on their responses regarding the changes made to overall energy use and the specific appliances / pieces of equipment they use and are responsible for paying for.**

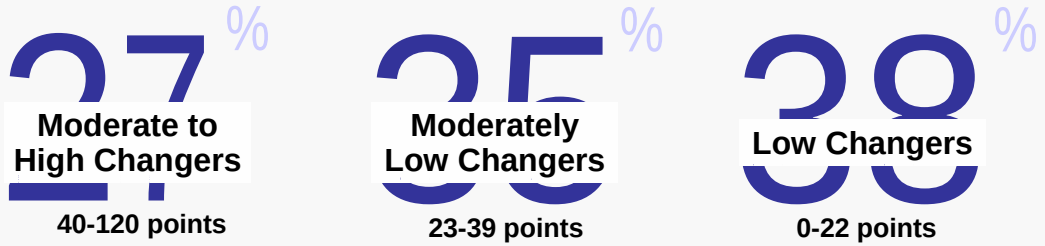
- **Respondents were then sorted into three categories depending on the way they scored on this index**
  - Moderate to high residential electricity use changers scored between 40-120 points; similar commercial participants scored between 29-96 points
  - Moderate to low residential electricity use changers scored between 23-39 points; similar commercial participants scored between 19-28 points.
  - Low residential electricity use changers scored between 0-22 points; similar commercial participants scored between 0-18 points.

[1] The strategy used for the assignation of points to the relevant questions answered in the survey (Q28-Q28e, Q32-Q32e, Q33-Q33e, Q34-Q34e, Q35-Q35e, Q36-Q36e, Q37-Q37e, Q38-Q38e, Q39-Q39e) can be found in the appendix.

Based on an aggregate view of the changes residential participants made, each participant was classified as either a high/moderate changer, a moderately low changer, or a low changer. A profile of these residential participant groups appears below.

Residential

Changes in Overall Electricity Use (Elec. Use Change Index)

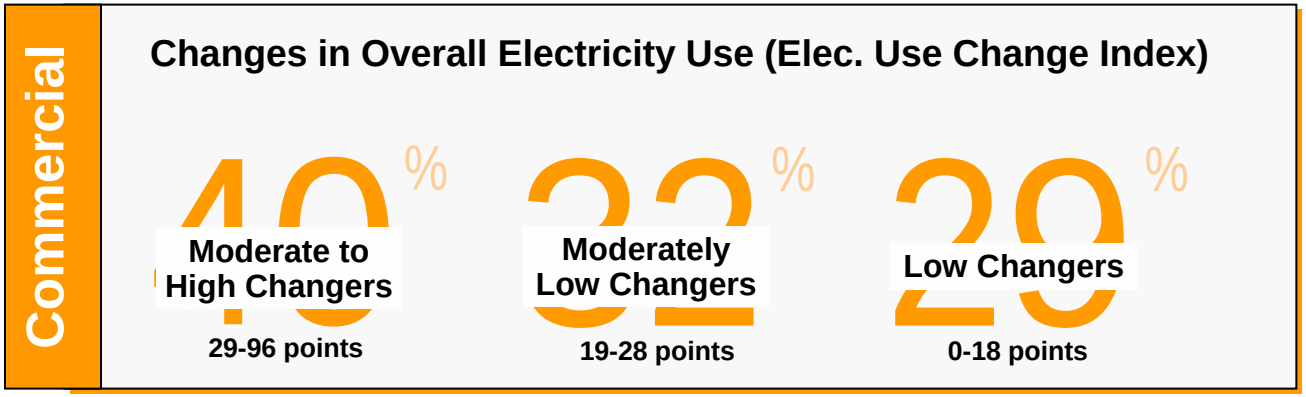


Moderate to High Changers – They Tend to Be…	
On CPP-V Rate	39%
On CPP-F Rate	29%
In CZ 2/3	30%
In CZ 4	35%
Particularly, CPP-V rate in CZ 2/3	39%
Or, CPP-F rate in CZ 4	44%
Enrolled in the program in 2003	29%
Have a high understanding of their billing	33%
Have 3-4 target appliances	52%
Have 5-6 target appliances	50%

Low Changers – They Tend to Be…	
On TOU Rate	51%
On Info Only program	61%
In CZ 1	62%
Particularly TOU rate in CZ 1	67%
Gives more control	7%
Need more info	7%
Enrolled in the program in 2004	16%
Have a poor understanding of their billing	55%
Have 1-2 target appliances	12%
Have 0 target appliances	0%

Residential n=277

Contrary to what was found for residential participants, those business participants claiming to have made the greatest changes in their electricity use are those on the TOU rate rather than the CPP-V rate. There is little else that could be found to characterize this population, partially due to small sample sizes.



Moderate to High Changers –Tend to Be…	
On TOU Rate	75%
Have 3-4 pieces of target equipment	67%
Have 5-6 pieces of target equipment	78%
Have 7-8 pieces of target equipment	53%

Low Changers – Tend to Be…	
On CPP-V Rate	32%
Have 1-2 pieces of target equipment	5%
Have 0 pieces of target equipment	0%

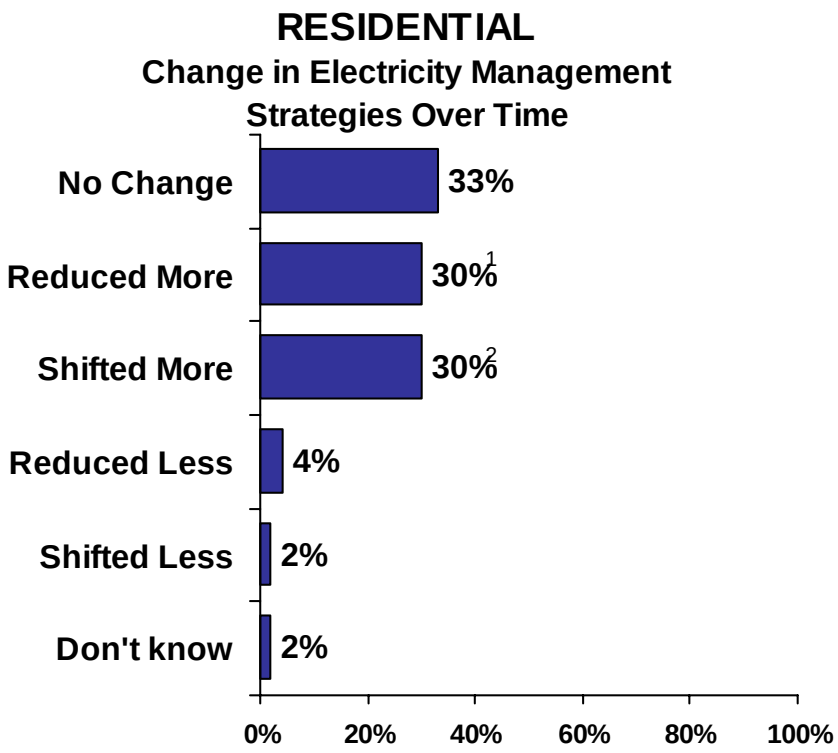
Commercial n=43

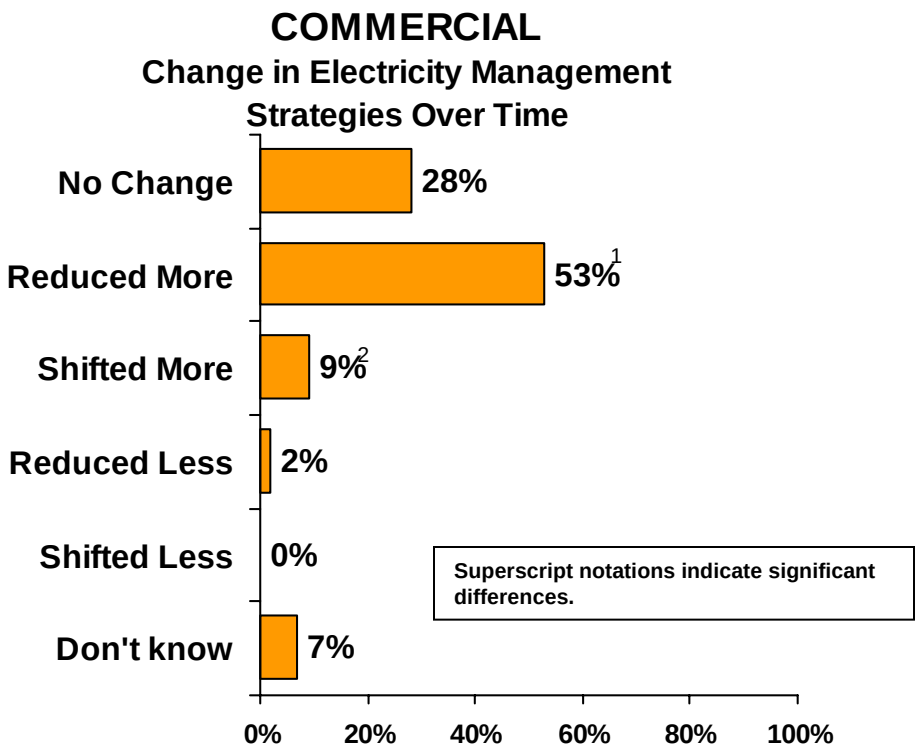
Change in Electricity Use Management Strategies Over Time

- **The team postulated that over time some learning may occur among pilot participants with regard to how to better manage electricity use within the confines of their rate program that might result in more efficient electricity management. With this in mind, participants were asked to describe what, if any, changes they made.**
  - Note that some participants were enrolled in the SPP in 2003, while others were enrolled later in 2004, resulting in more time for potential learning for some of those surveyed.

- **Recall the key takeaways here:**
  - ***Most participants did change electricity use management strategies over time, primarily to try to save money.***
    - *The most frequent change for residential participants was moving from an overall electricity use reduction strategy, to a strategy of shifting use to periods outside the peak.*
    - *Commercial participants most often opted to install a programmable thermostat.*

While approximately a third of residential and business participants say their strategy for managing electricity use did not change over time, more than half do indicate changes, either reducing or shifting more electricity use, with the preferred strategy among businesses being an increase in reductions in usage.





Q51: Did the way your household /business managed its electricity use change from earlier in the summer of 2004 to September 2004 while you were on the program?
Q51a: Overall, how did the way your household / business managed its electricity use change from earlier in the summer of 2004 to September 2004 while you were on the program?
Q54: Did the way your household / business managed its electricity use change from summer 2003 to summer 2004?
Q54a: Overall, how did the way you managed your electricity use change from summer 2003 to summer 2004?
Residential n=278 in 2004; Commercial n=43 in 2004

The types of changes made to either reduce or shift more usage vary from focusing on more energy efficient lighting, using less hot water in washing, focusing on different appliances generally, and raising the setting on the AC system, among others. There is a slightly greater emphasis on using less hot water in washing among those on the program since 2003. Participants indicate these changes were made primarily to save money or conserve electricity.

Residential Participant Changes in Actions Took from 2003-2004 or Earlier Summer 2004 to Late Summer 2004	Enrolled 2003	Enrolled 2004
Changed from reducing to shifting electricity use to periods outside the peak period	63%	48%
Replaced light bulbs with compact fluorescents / other low energy lighting / light bulbs	44%	35%
Washed clothes less often with warm or hot water	42%[1]	13%[1]
Changed the kinds of appliances we focused our electricity reduction / shifting on	33%	25%
Raised the setting on the air conditioning system	30%	27%
Replaced old appliances with more energy efficient models	25%[2]	2%[2]
Made some one-time improvements to home's structure to make it more energy efficient (added insulation, energy efficient windows, etc.)	22%	10%
Installed programmable thermostats to better regulate heating and cooling use	20%	8%
Used the "air dry" or "energy saver" or "heat off" setting on the dishwasher	18%[3]	7%[3]
Line dried clothes more often rather than using the dryer	13%	0%
We changed in a different way (Specify)	5%	8%

Superscript notations indicate significant differences.

Changes made to:
- ✓ Lower bill – 31%
- ✓ Save money – 26%
- ✓ Conserve – 25%

Q52: Which of the following best describes how your household changed the way it managed its electricity use from earlier in the summer to September 2004?
Q55: Which of the following best describes how your household changed the way it managed its electricity use from summer 2003 to summer 2004?
Q53/Q56: Why did your household change the way it managed its electricity use in 2004 / from summer 2003 to summer 2004?
Residential n=184

Those business participants indicating they changed their electricity management strategy most often note the installation of programmable thermostats, removal and / or replacement of light bulbs with more energy efficient units, and a change of focus on the types of equipment they were reducing / shifting use of. Like residential participants, most indicate these changes were made in an attempt to save money or conserve energy.

Commercial Participant Changes in Actions Took from 2003-2004 or Earlier Summer 2004 to Late Summer 2004	
Installed programmable thermostats to better regulate heating and cooling use	61%
Replaced light bulbs / light fixtures with more energy efficient products	44%
Removed lights or used lower watt bulbs	42%
Changed the kinds of equipment we focused our electricity reduction / shifting on	36%
Changed from reducing overall electricity use to shifting electricity use to periods outside the peak periods	33%
Installed timers to automatically turn off lights and equipment not in use	32%
Replaced old equipment with more energy efficient models	16%
Made some one-time improvements to businesses' structure to improve efficiency (added insulation, awnings, energy efficient windows, etc.)	10%
Changed hours of operation to reduce consumption during peak periods	10%
Shifted work schedules of employees to minimize staff and electricity use during peak periods	4%

Changes made to:
- ✓ Save money -- 61%
- ✓ Conserve energy – 34%
- ✓ Follow advice given by Edison representative – 3%

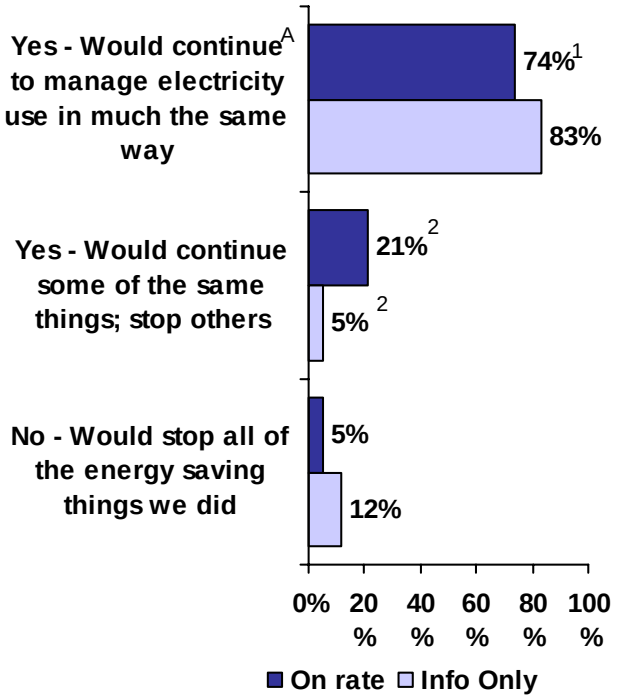
Q52: Which of the following best describes how your business changed the way it managed its electricity use from earlier in the summer to September 2004?
Q55: Which of the following best describes how your business changed the way it managed its electricity use from summer 2003 to summer 2004?
Q53/Q56: Why did your business change the way it managed its electricity use in 2004 / from summer 2003 to summer 2004?
Commercial n=31

Anticipation of Future Electricity Management

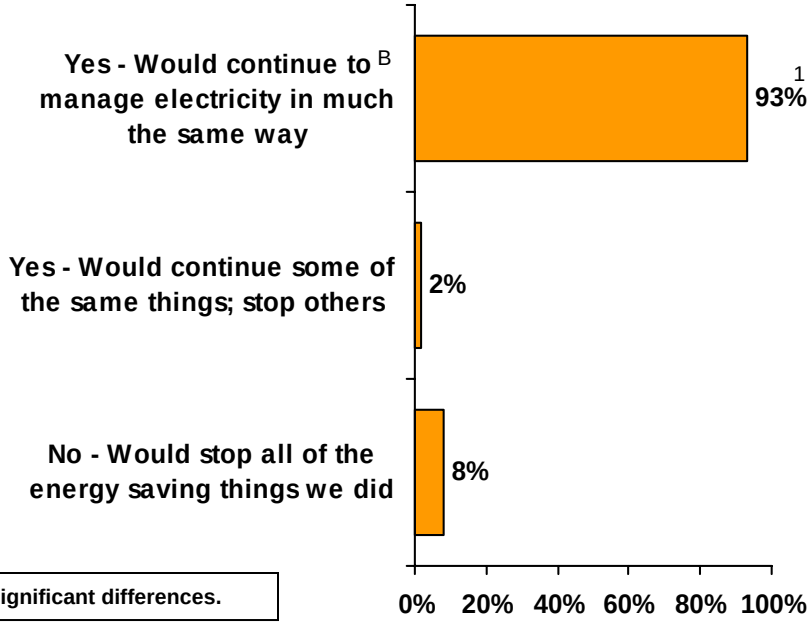
- **Recall the key takeaways here:**
  - ***The majority of those making changes to the way they managed their electricity use after going on the program would anticipate managing their electricity use in the same way after the program ends.***
    - *Those with a more accurate understanding of their rate are less likely to indicate they would manage their use in the same way.*
  - ***Slightly more than half of commercial participants feel they did all they could to manage their electricity use; a significant number of commercial participants believe that, though they did a lot, there was more they could do.***
  - ***In contrast, slightly more than half of residential participants think they did a lot, though there was more they could do; a significant number did, however, feel they did all they could do.***

Business participants are slightly more likely than residential participants on a rate to indicate they will continue to manage their electricity in the same way in the future. Participants' accuracy of understanding of their rate has an impact on their willingness to manage the same way in the future.

RESIDENTIAL
Will HH Manage Electricity the Same in the Future?



COMMERCIAL
Will Business Manage Electricity the Same in the Future?



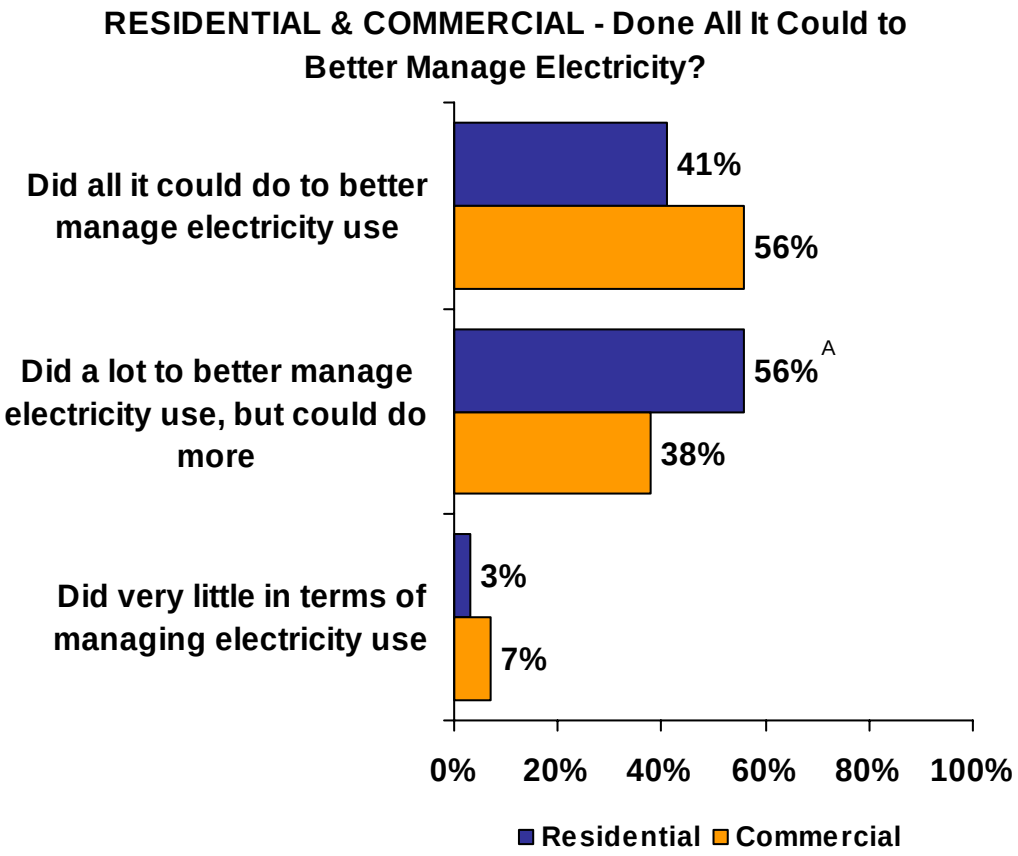
Superscript notations indicate significant differences.

A Those with the most accurate understanding of their rate are less likely to indicate they would manage their electricity the same way as they currently do (low accuracy – 84%; mod. low – 87%; mod. high – 74%; high accuracy – 58%)

B Those with the most accurate understanding of their rate are less likely to indicate they would manage their electricity the same way as they currently do (low accuracy – 100%; mod. low – 100%; mod. high – 100%; high accuracy – 69%)

Q57: If the **[PROGRAM]** you are on were to end tomorrow, would you continue to manage your electricity use in the same way, or would you stop some or all of the things you did while on the program
Residential - 2004 n=350; Commercial - 2004 n=43

Overall, residential and commercial participants have slightly different impressions of the amount of effort they have put forth in managing their electricity use. The majority of commercial participants feel they have done all that they can do, while the majority of residential participants believe they could do more.



[A] Those residential participants on the CPP-V rate were significantly more likely to indicate they've done a lot, but could do more to better manage their electricity use than those on the CPP-F rate (67% vs. 50%)

Q58: Given all the things your household did to manage electricity use at your residence, would you say that…
Residential - 2004 n=350; Commercial - 2004 n=43

Those Making No Changes After Program Enrollment

- **Recall the key takeaways here:**
  - ***Though most program participants did change their electricity usage behavior, a not-insignificant portion of participants (22% of residential and 38% of commercial participants) did not make any changes after enrollment.***
  - ***The primary reason no changes were made after program enrollment is that these participants report that they had already taken electricity reduction measures before signing up.***

Most residential participants who have not made any changes in their electricity use since signing up for their program *report* that this is because they had already taken measures to reduce electricity before participating in the SPP program. Most are unable to cite specifically what they were doing before they signed up, but the few who can recall are most likely to cite more careful use of lighting.

22% - No Changes Made in Electricity Use (2004) – Why?	n=80
Already taking measures to reduce my electricity use before signing up	57%
It is too much of a hassle/too hard to try to change our electricity consumption	6%
Some other reason	13%
Don't know / Not sure	20%

In 2003, 15% indicated making no changes, and among these, 51% indicated it was because they already to measures to reduce electricity use before signing up.

Those Taking Electricity Reductions Measures Before Signing Up -- Specifically What Doing?	n=47
More careful about turning lights off when not needed	28%
Washed clothes less often with warm or hot water	12%
Used appliances and other household electronics less	10%
Shifted the time for doing laundry to off-peak periods	9%
Raised the thermostat setting on the air conditioning system	5%
Turned the air conditioning off more often/used it less	5%
Replaced light bulbs w/compact fluorescents/other low energy lighting	5%
Shifted the time for running the dishwasher to off-peak periods	2%
Line drying clothes more often rather than using the dryer	2%
Something else	12%
Don't know / Not sure	38%

Q23/Q51: Why haven't you made any changes in how you use electricity since signing up for the **[INSERT PROGRAM]**?
Q25/Q52: Specifically, what were you doing to reduce your electricity use **before** signing up for your special pricing program?
Residential n=80; 47

Business participants indicating that they have not made any changes to their electricity use since signing up are most likely to report that, like residential participants, they already took measures to reduce use prior to signing up. These participants focused primarily on lighting and installing programmable thermostats, as well as AC use reduction. Some participants also cite the fact that making such changes are a hassle and / or could negatively impact participants or employees as their reasoning for not making any changes since signing up.

38% in 2004 and 46% in 2003 -- No Changes Made in Electricity Use – Why?	2003 n=40	2004 n=36
Was already taking measures to reduce my electricity consumption before I signed up	29%[1]	56%[1]
It is too much of a hassle/too hard to try to change our electricity consumption	6%[2]	27%[2]
Worried that any changes would negatively impact participants and / or employees	5%[3]	20%[3]
I thought my bill would drop even without doing anything	3%	14%
The potential cost savings is not worth the effort	2%	8%
Not concerned about a rate increase	26%[4]	3%[4]
Just not interested in conserving electricity	0%	3%
Obtaining cooperation from all household members to try to change electricity consumption was too hard / impossible	0%	3%

Those Taking Electricity Reductions Measures Before Signing Up -- Specifically What Doing Before? (2004)	n=20
Turned lights and equipment off when not needed	61%
Removed lights or used lower watt bulbs	56%
Installed programmable thermostats to better regulate heating and cooling use	53%
Replaced light bulbs / light fixtures with more energy efficient products	51%
Turned AC off more often / used it less	46%
Replaced old equipment with more energy efficient models	41%
Made improvement to facility's structure to make it more energy efficient	34%
Raised thermostat setting on the air conditioning system	31%
Installed timers to automatically turn off lights and equipment when not in use	21%

Q23/51: Why haven't you made any changes in how you use electricity since signing up for the **[INSERT PROGRAM]**?
Q25/52: Specifically, what were you doing to reduce your electricity use **before** signing up for your special pricing program?

Section 4: Notification & Response to Super Peak Days

Notification & Response to Super Peak Days

- **A subset of those participating in the SPP program on the CPP-F, CPP-V and Information-Only treatment programs were asked about their experience dealing with super peak periods in addition to the regular peak periods.**

- **The discussion that follows addresses participants' experiences with the automated control devices, super peak notifications and methods of notification, and the ease with which they were able to respond to one, two, and three-day super peak events.**

Section 4: Key Takeaways

- **Most CPP-V program participants chose to use the automated thermostat device as a part of their program. Satisfaction is slightly higher with all automated control devices in 2004 than in 2003 for both residential and commercial participants.**

- **Most participants recall having received between 1-10 super peak notices in 2004. A relatively large minority of participants do not recall having received any notices, or think no notices were given (17% of residential participants and 40% of commercial participants).**

- **Nearly half of all participants also do not recall any multi-day super peak notices – that is, super peak periods for multiple days in a row. Most of the remainder recall between 1-5 multi-day super peak notices.**
  - Residential participants who recall them found multi-day super peak days easy to respond to. Commercial participants who recall them found multi-day super peak days lasting only two days easy to respond to, but multi-day super peak days lasting 3 days significantly more difficult to respond to.

- **Most participants cite high temperatures and high usage / need to conserve as the reasons why multi-day super peak periods are called. A significant number of commercial participants, however, are unclear why the utility chose to call multi-day super peak periods.**

- **Most participants are using telephone or email to receive their super peak notifications and there is a high degree of satisfaction with these methods.**

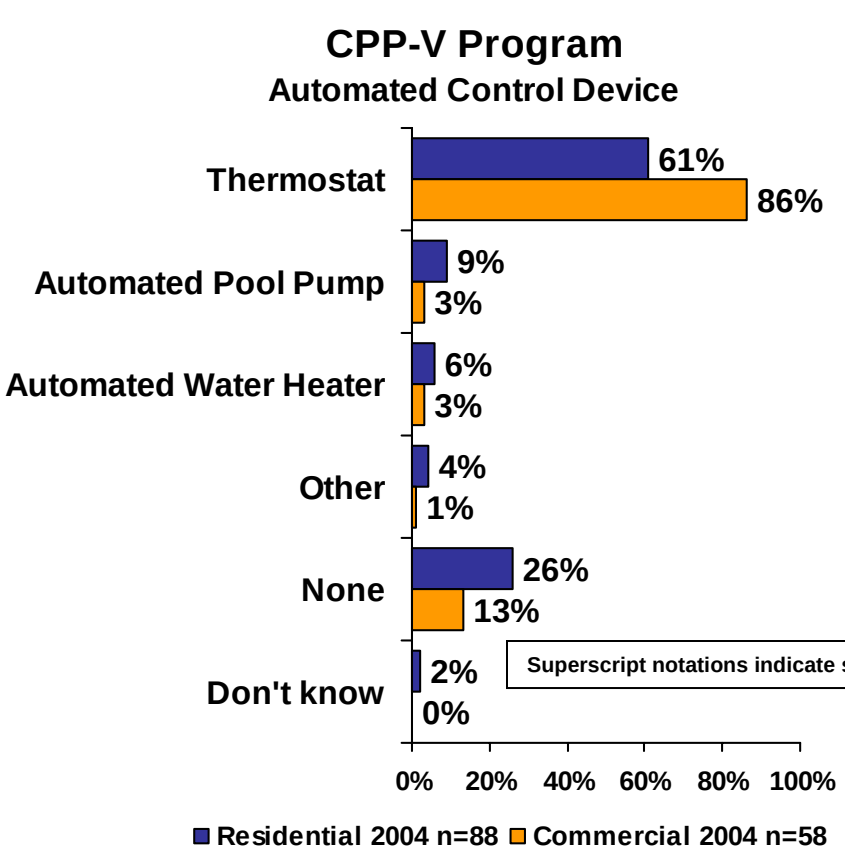
Section 4: Key Takeaways

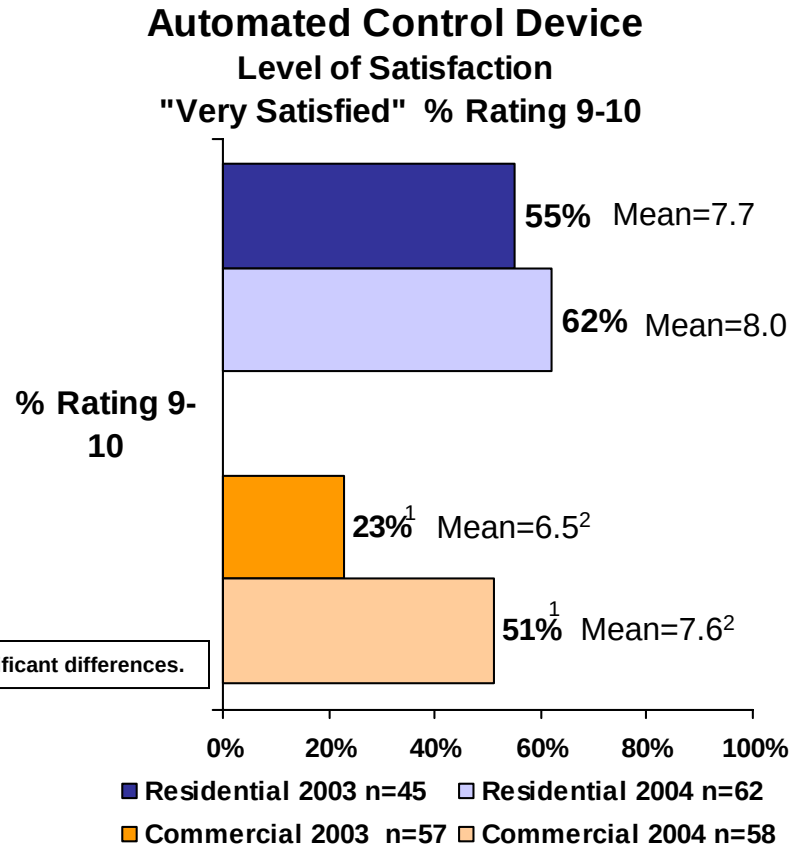
- **Few participants believe they missed a super peak notification in 2004. Those who think they missed at least one say that, on average, they missed three notifications.**

- **Once notified, most participants feel they are given enough notice to respond to these super peak events.**

- **If public notifications of super peak periods were offered, most would prefer a TV news or radio announcement.**

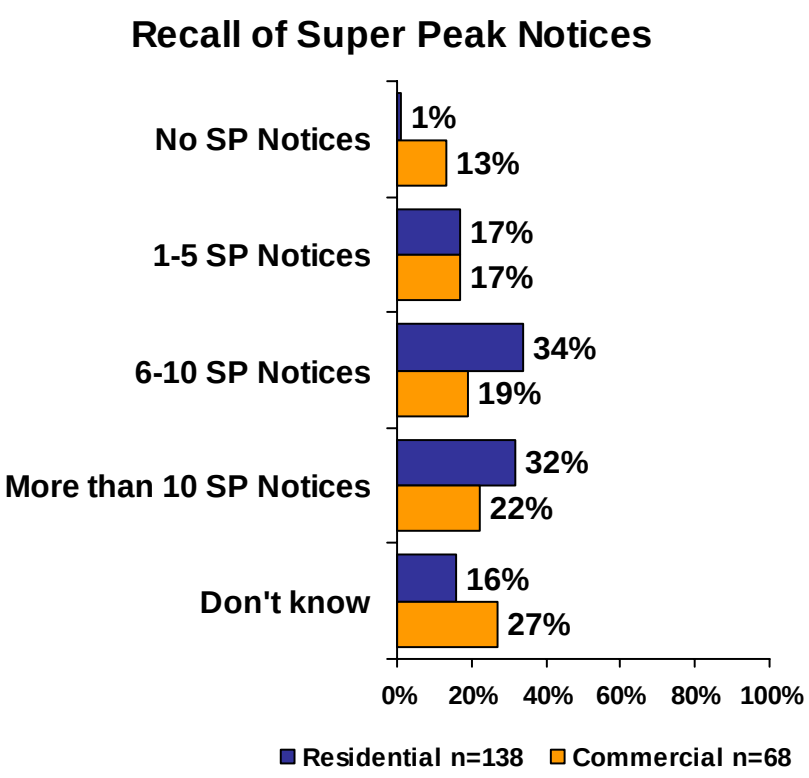
Programmable thermostats were used most by participants to automatically adjust electricity use. Satisfaction with these devices is similar for residential participants from 2003 to 2004, while there has been an increase in satisfaction among business participants in 2004.

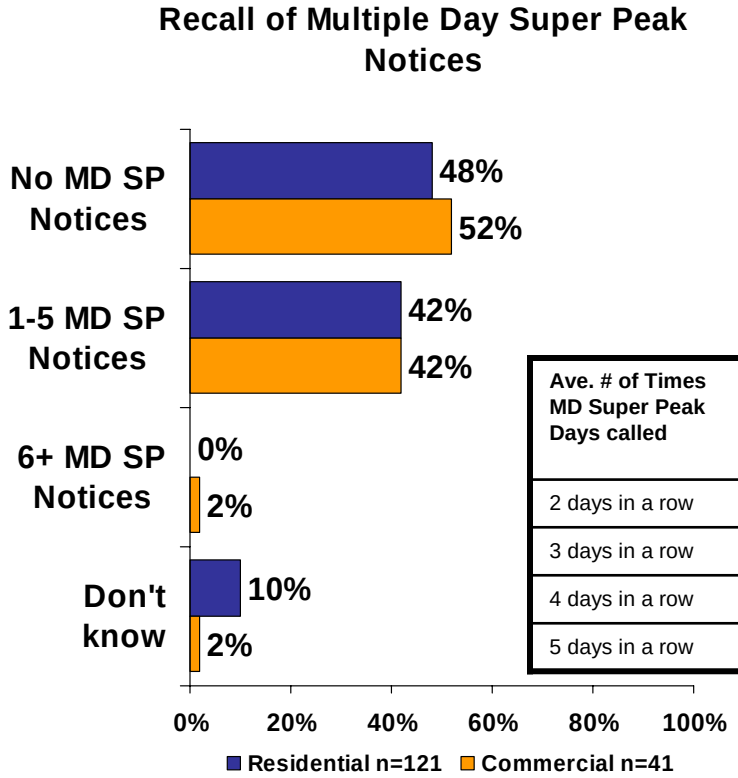




Q77b: Which, if any, of the following automated control devices was installed at your home / business as part of the Smart Shift & Save Pricing program? Q78: Under your new pricing program, your utility company is allowed to automatically adjust the setting on your programmable thermostat to reduce your electricity usage during Super peak periods. How satisfied are you with this process? Please give me a number between 1 and 10, where 1 is "very dissatisfied" and 10 is "very satisfied ."

Commercial participants appear less likely to recall receiving super peak notices than residential participants. Most participants who recall say they remember receiving between 1 and 10 such notices. Residential and commercial participants are equally likely to not recall multiple day super peak days, with nearly half indicating no multiple day super peak events were called.

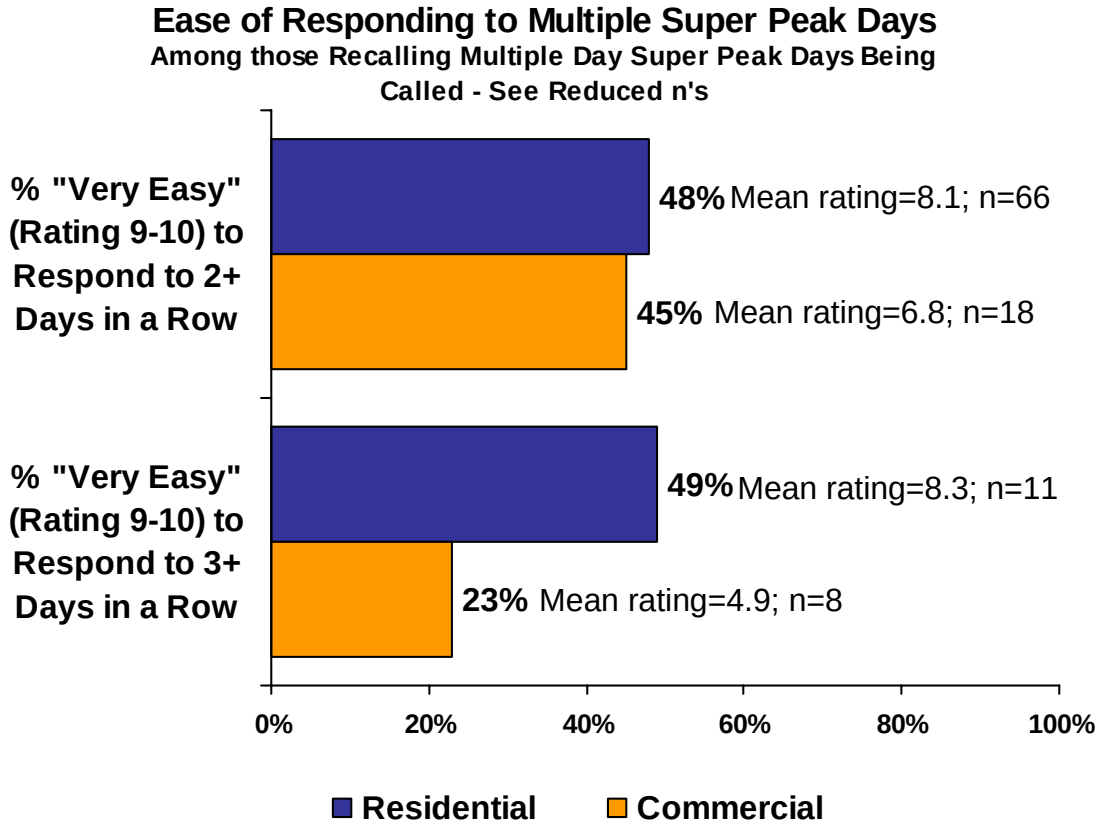




Ave. # of Times MD Super Peak Days called	Res. # of Times	Comm. # of Times
2 days in a row	1.8	1.8
3 days in a row	1.0	1.0
4 days in a row	.2	.9
5 days in a row	.4	1.1

59. In the summer of 2004, about how many Super Peak notices did you receive? 68. In 2004, were any multiple Super Peak days called? That is, a Super Peak event was called for two or more days in a row in a single week? 69. In 2004, how many times were Super Peak days called for two **or more** days in a row in a single week? 70. Out of the **[INSERT RESPONSE FROM Q69]** times that there were two or more Super Peak Days in a row, how many included just **two** Super Peak days in a row in a single week? 70a. In Out of the **[INSERT RESPONSE FROM Q69]** times that there were two or more Super Peak Days in a row, how many included **three** Super Peak days in a row in a single week? 70b. Out of the **[INSERT RESPONSE FROM Q69]** times that there were two or more Super Peak Days in a row, how many included **four** Super Peak days in a row in a single week? 70c. Out of the **[INSERT RESPONSE FROM Q69]** times that there were two or more Super Peak Days in a row, how many included **five** Super Peak days in a row in a single week?

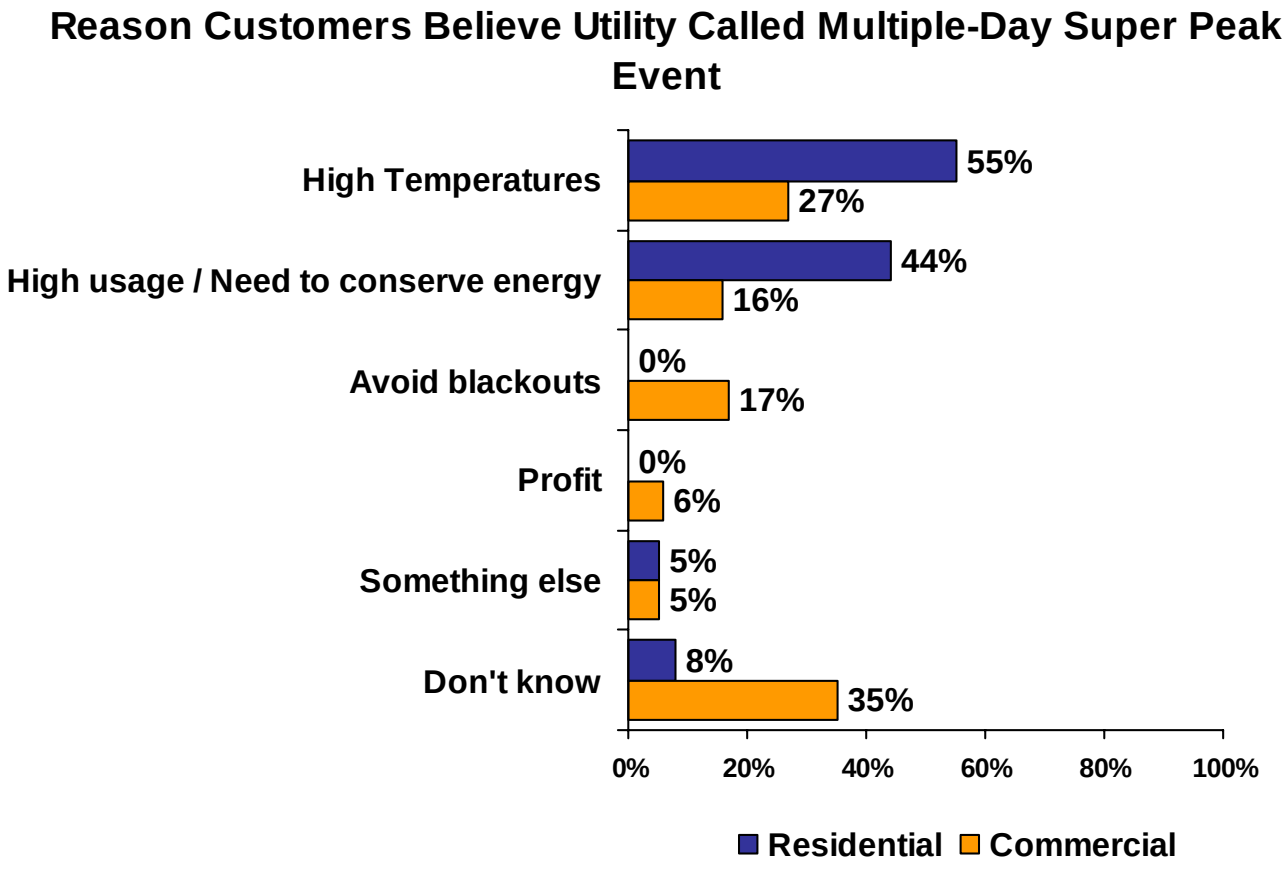
Residential participants find responding to multiple-day super peak days of two or three days equally easy. Commercial participants, however, report more difficulty in responding to multiple-day super peak days, particularly those that include three days in a row. Most indicate they shift or reduce less on the last day of such events.



	Res. (n=66)	Comm. (n=19)
Did response differ on last day of multiple day peak day event? (% Yes)	7%	37%
(Of those saying "Yes") Reduced / shifted more on first day than last	71%	87%
(Of those saying "Yes") Reduced or shifted the same amount on first day as last	0%	13%

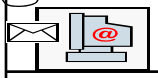
Q72: How easy or difficult was it to respond to the second day when two or more Super Peak days were called in a row in a single week? Please give me a number between 1 and 10 where 1 means it was "very difficult to respond or created a hardship to respond" and 10 means it was "very easy to respond". Q72a: How easy or difficult was it to respond to the third day when three or more Super Peak days were called in a row in a single week? Please give me a number between 1 and 10 where 1 means it was very difficult or created a hardship to respond and 10 means it was very easy to respond.

Among those participants recalling multiple-day super peak events, residential participants appear to have a better understanding of the reasons for this.



Q75: Thinking of the last time when two or more Super Peak days were called in a row, what, if anything, was the reason your utility did this?
Residential n=64; Commercial n=18

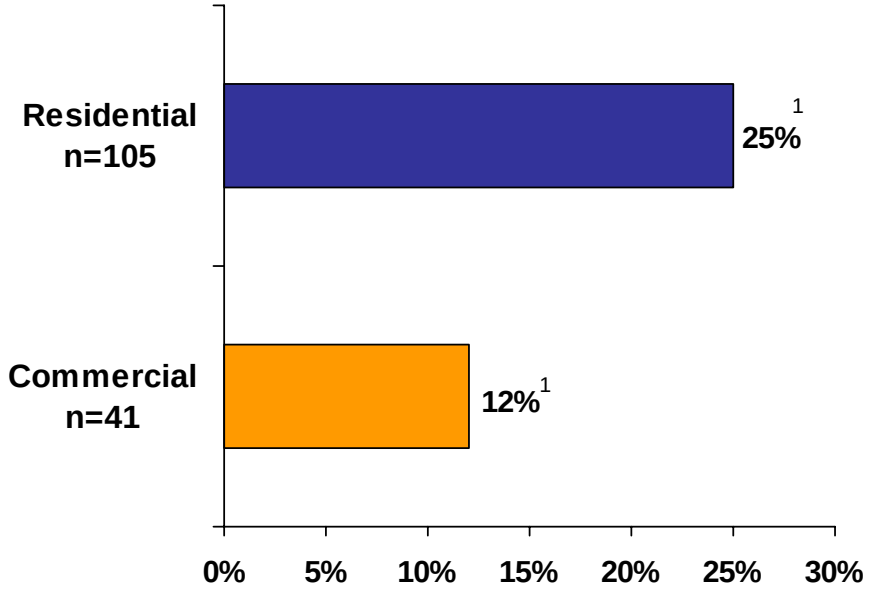
Most participants are currently using either telephone (not cell phone) or email notification methods, and there is a high level of satisfaction with these methods. Those not satisfied with their current notification method indicate preference for being notified by telephone, followed by email and cell phones (for residential).

	Residential			Commercial		
Method	% Using Notice Method	% Satisfied w/Method	Preferred Method If Not Satisfied	% Using Notice Method	% Satisfied w/Method	Preferred Method If Not Satisfied
 Telephone	96%	96%	57%	63%	92%	49%
 email	22%	94%	29%	39%	87%	36%
 Cell Phone	3%	100%	29%	5%	100%	0%
 Mail	0%	--	0%	0%	--	0%
 Pager	0%	--	0%	2%	0%	0%
Other	2%	100%	14%	5%	46%	15%

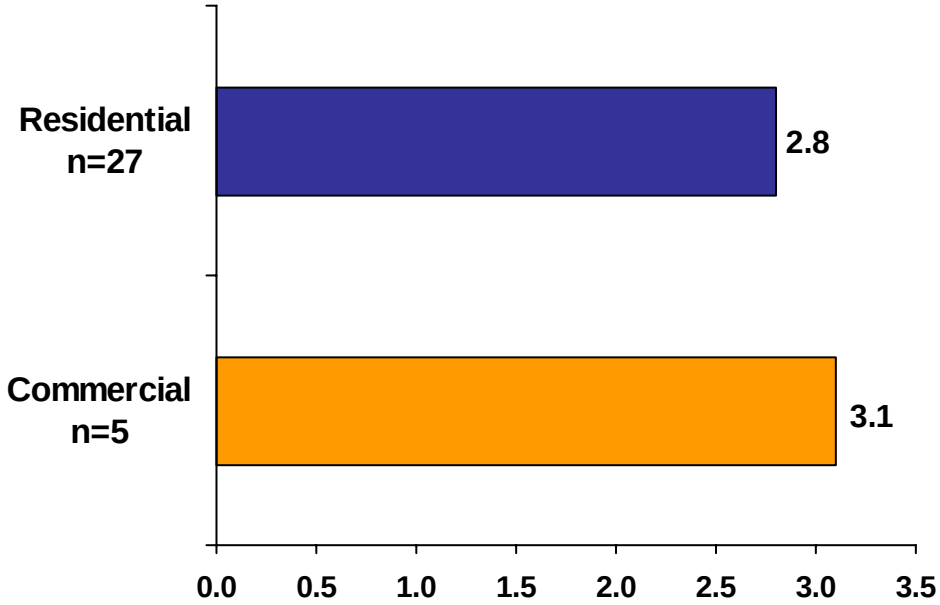
Q60: How were you notified about these Super peak days?
Q61: Were you satisfied with this notification method or would you prefer some other form of notification?
Q62: What form of notification would you prefer?
Residential n=105; Commercial n=41

Few participants overall believe they have missed a super peak notification in 2004, though residential participants are significantly more likely to indicate this than do business participants. On average, these participants note missing about three super peak notifications.

Customers Indicating One or More Super Peak Notifications Missed



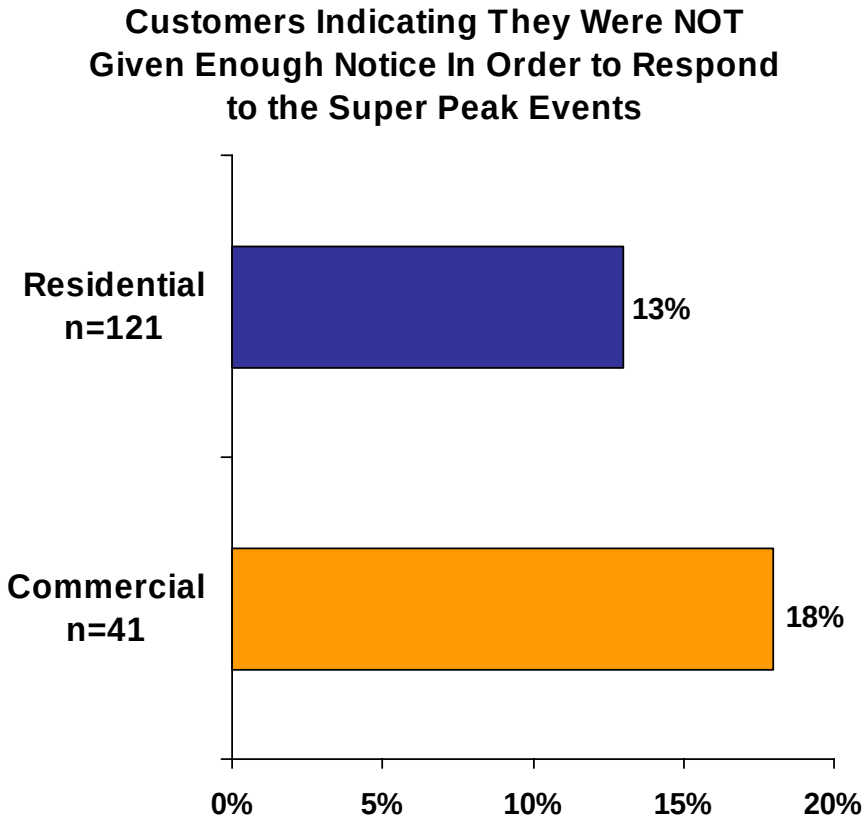
Average Number of Super Peak Notifications Missed Among Those Missing One or More Notifications

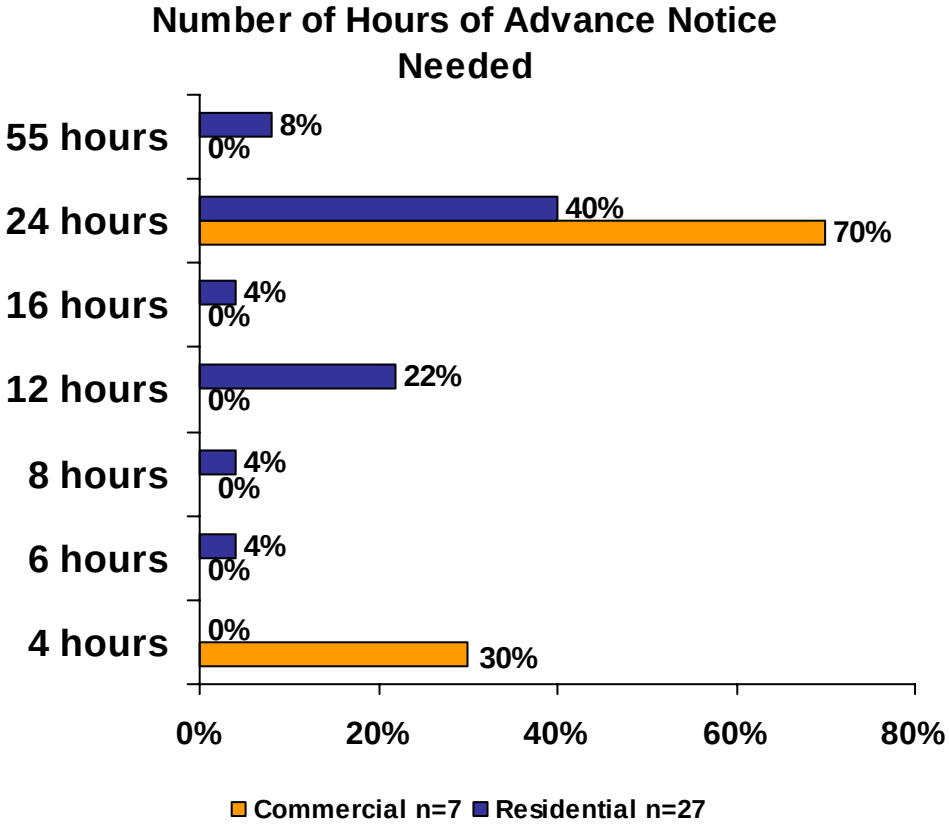


Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q64: Did you ever miss a Super Peak notification?
Q65: About how many Super Peak notifications did you miss?

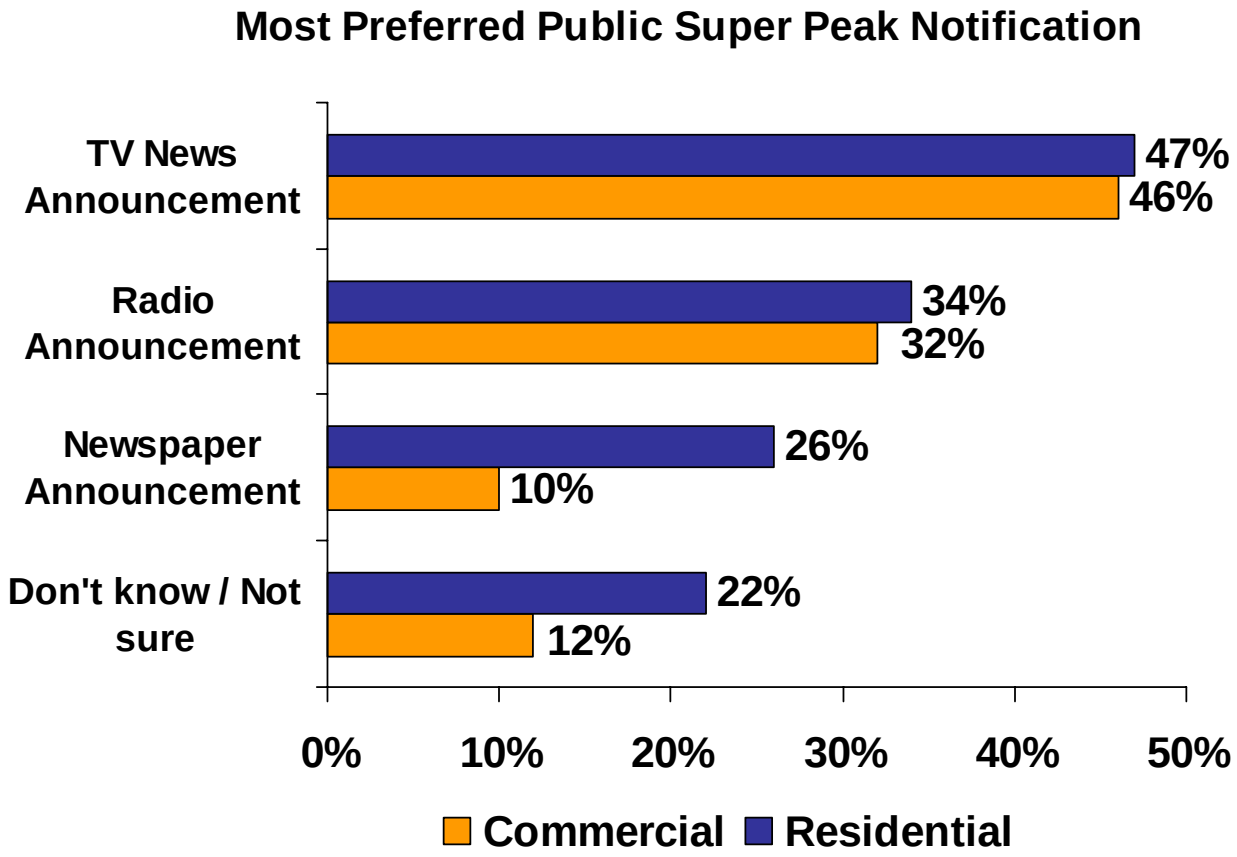
Most participants believe they are given enough notice to respond to super peak events. Most residential participants who would like more advance notice express a desire for a 24 hour notice. The few business participants who want more notice tend to suggest that a 24 hour notice is needed.





Q66: Were you given enough notice before Super Peak periods to allow you to change your electricity use if you wanted to?
Q67: How much advance notice do you need?

Both residential and commercial participants tend to agree that if public announcements of super peak periods were made, these should be done on either the TV news or as a radio announcement.



Q62a: Super Peak notifications were publicly announced, what forms of notification would you prefer?
Residential n=121; Commercial n=41

A small majority of participants find that the super peak notification methods work fine; others provide a few suggestions.

Q67a: What suggestions do you have for making the Super Peak notification work better?
Residential n=121; Commercial n=41

Section 5: Impressions of Impact of Program on Bill

Impressions of Impact of Program on Bill

- **This next section of the report explores the sampled SPP participants, impressions of the impact of the program on their bill and whether their expectations were met in terms of savings achieved.**

- **Please note that the figures here are participants' impressions only – it is quite likely that actual bill amounts vary from the amounts reported here.**

Section 5: Key Takeaways

- **Recalled highest monthly summer electric bill amounts rang from $1 - $200+ for residential participants and $1 - $3000+ for commercial participants.**
  - **Residential CPP-V and TOU participants recall paying significantly more a month than other participants.**

- **Not quite half of the participants indicate that their highest bill is about what they expected, and this does not vary much by what participants recall as their highest bill amount.**
  - Commercial participants with a bill amount between $1,001 and $3,000, however, more often indicate that their bill is more than what they expected.

- **Over half of residential and commercial participants feel they were able to save money on their electric bills, and the majority indicated that the dollar amount saved was what they expected. Nearly one-fourth of residential and commercial participants believe that they saved more than they expected to (22% and 23% respectively).**

- **Most indicate that they were aware of how much they saved on their bill because they reviewed their bill.**

Residential CPP-V and TOU participants recall paying significantly more a month, on average, compared to their counterparts. A significant number of both residential and commercial participants do not recall the amount of their highest monthly bill.

RESIDENTIAL
Highest Monthly Electric Bill

	Rate Type				
	2004	TOU	CPP-F	CPP-V	Info Only
$1-50	15%	19%[1]	20%[2]	3%[1,2]	15%
$51-$100	23%	25%	24%	19%	21%
$101-$200	21%	13%[3]	19%	32%[3,4]	24%
$201+	12%	17%	9%	17%	12%
Don't know	29%	26%	29%	29%	29%
Average Bill	$132	$127[1]	$118[2]	$168[1,2]	$142

Commercial
Highest Monthly Electric Bill

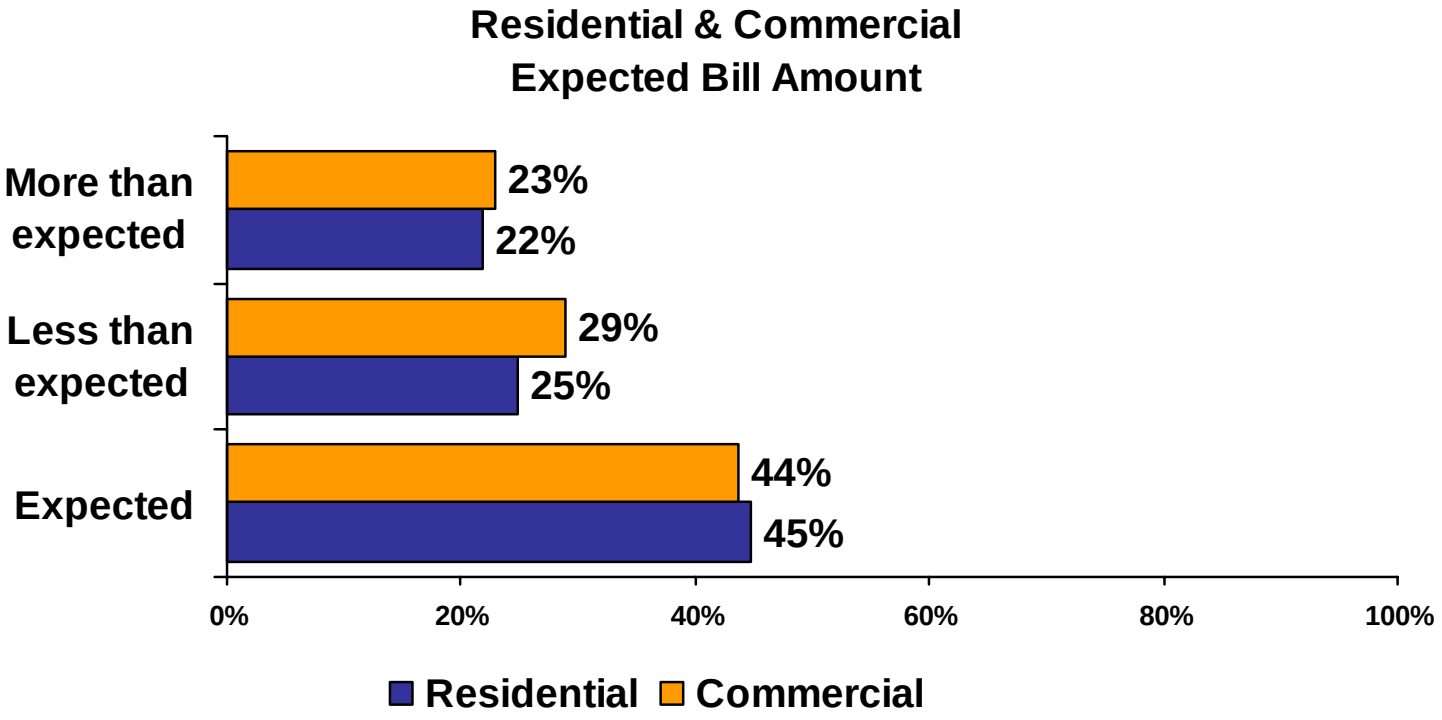
	Rate Type		
	2004	TOU	CPP-V
$1-$500	16%	15%	16%
$501-$1000	18%	12%	21%
$1001-$3000	22%	27%	20%
$3001+	5%	0%	8%
Don't know	39%	46%	36%
Average Bill	$1,305	$1,138	$1,359

Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q80/Q80B combined: What was your highest monthly electricity bill in the summer of 2004 while on the program?
Residential n= 375; Commercial n= 92

Less than half of Residential and Commercial participants said their bill amount was what they expected; the remainder split about evenly between more than expected and less than expected.

- However, within the residential market, those on a rate (CPP-V (29%), CPP-F(20%) and TOU (26%)) were significantly more likely than Information-Only participants (9%) to say their bill was more than expected.
- There were no significant differences by rate type among Business participants.



Q81: Given everything you did in response to your pricing program, was your HIGEST monthly bill under the new program more, less, or about what you expected?
Residential n=447; Commercial n=95

Participants' assessment of the highest bill amount received in the summer of 2004 vary considerably by bill amount

RESIDENTIAL
Highest Monthly Electric Bill

	2004	Expected? What* Expected	More	Less
$1-50	15%	51%	17%	28%
$51-$100	23%	42%	22%	31%
$101-$200	21%	46%	27%	22%
$201+	12%	38%	38%	20%
Don't know	29%	--	--	--
Average Bill	$138	$122	$161	$116

COMMERCIAL
Highest Month Electric Bill

	2004	Expected? What* Expected	More	Less
$1-$500	16%	33%	33%	34%
$501-$1000	18%	49%	18%	33%
$1001-$3000	22%	21%	45%	34%
$3001+	5%	50%	23%	27%
Don't know	39%	--	--	--
Average Bill	$1,305	$1271	$1384	$1266

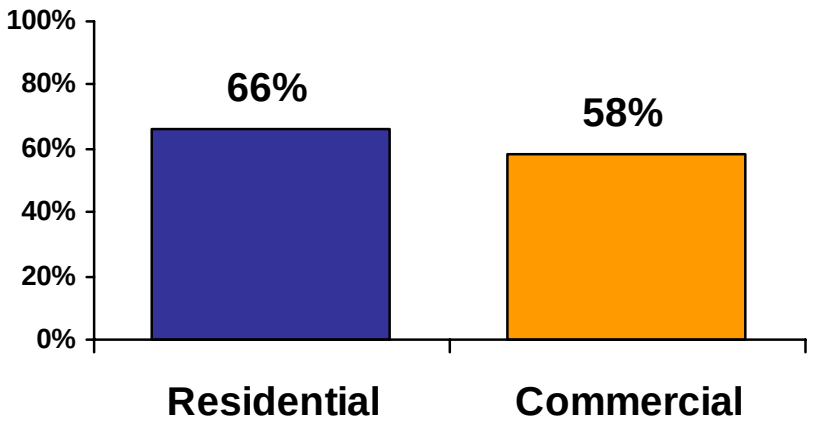
*Rows may not add 100% because of don't know responses

Q80/80B (combined for Residential), Q80(Commercial): What was your highest monthly electricity bill in the summer of 2004 while on the program?
Q81: Was your HIGHEST monthly bill under the new program more than, less than or about what you expected?
Residential: n=447, Commercial: n=95

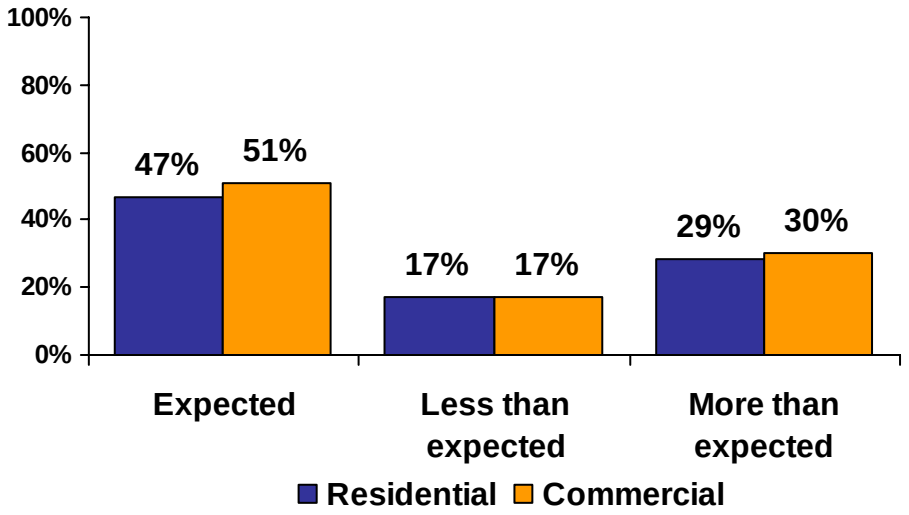
The majority of SPP participants (two-thirds of residential and slightly more than half of commercial) say they were able to save on their electric bills in the summer of 2004 and these savings met expectations for roughly half of residential and business participants.

- However, within the Residential market, CPP-F participants were significantly more likely (23%) to say their savings was less than expected compared to CPP-V (9%) or Info-Only (5%) participants.
- There were no significant differences by rate type among business participants.

Residential & Commercial Saved on Electric Bills in 2004



Residential & Commercial Expected Savings



Q82: Were you able to save any money your monthly summer electric bills in 2004 while on the [insert program]?
Q84: Was the largest monthly savings achieved in the summer of 2004 more than you expected, less than you expected, or about what you expected?
Residential n=447; Commercial n=95

Monthly savings met expectations across most bill amounts for most participants. Business participants with larger bills, however, are more likely to say they saved more than they expected.

RESIDENTIAL
Largest Monthly Savings*

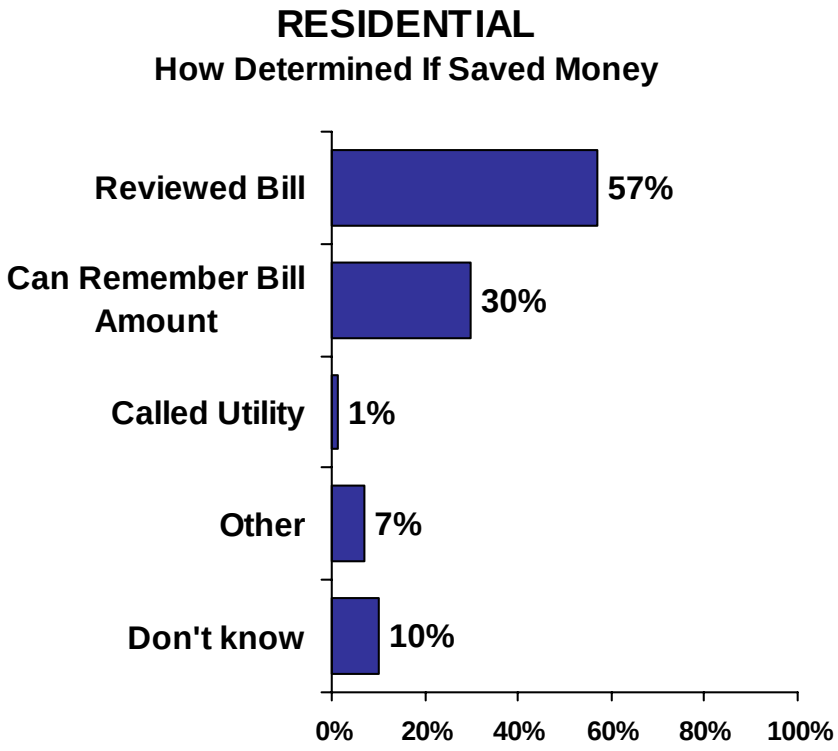
	2004	Expected? What Expected	More	Less
$1-10	13%	40%	26%	34%
$11-20	13%	58%	19%	23%
$21-50	24%	53%	38%	9%
$51+	14%	43%	27%	15%
Don't know	36%	--	--	--
Mean Savings	$40	$33	$52	$31

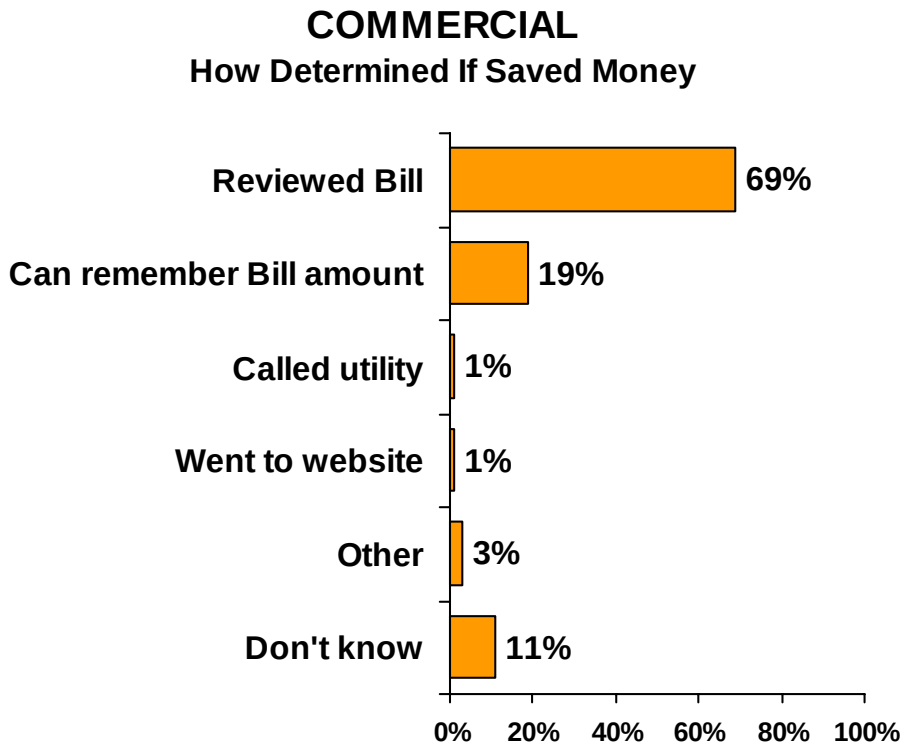
Commercial
Largest Monthly Savings*

	2004	Expected? What Expected	More	Less
Less than $100	16%	53%	27%	20%
$100 to $250	24%	63%	37%	0%
Over $250	23%	17%	63%	15%
Don't know	37%	--	--	--
Average Savings	$328	$246	$394	$244

Q83: What was the largest monthly savings your household was able to realize in the summer of 2004?
Q84: Was the largest monthly savings achieved in the summer of 2004 more than you expected, less than you expected, or about what you expected?
Residential: n=447, Commercial: n=95

The majority of participants reviewed their bill to determine if they saved money while on the program during the summer in 2004.





Q82A: How were you able to determine whether or not you were saving money on your monthly summer electric bills in 2004?
Residential n=447; Commercial n=95

Section 6: Evaluation of Other Elements of SPP Program

Section 6: Key Takeaways

- **This section of the report explores the sampled SPP participants' impressions of and satisfaction with the research support / energy information center, website, and comparison bill.**

- **Though most did not call the research support / energy information center for their respective utilities, those who did so were calling primarily with bill questions or, in the case of commercial participants, also questions about their thermostat.**
  - Among those utilizing this service, satisfaction with the research support centers improved slightly from 2003 to 2004, except for those on the CPP-F rate which experienced a decrease in satisfaction.
  - Satisfaction increased slightly for business participants enrolled in the CPP-V rate and decreased for those on the TOU rate from 2003 to 2004.

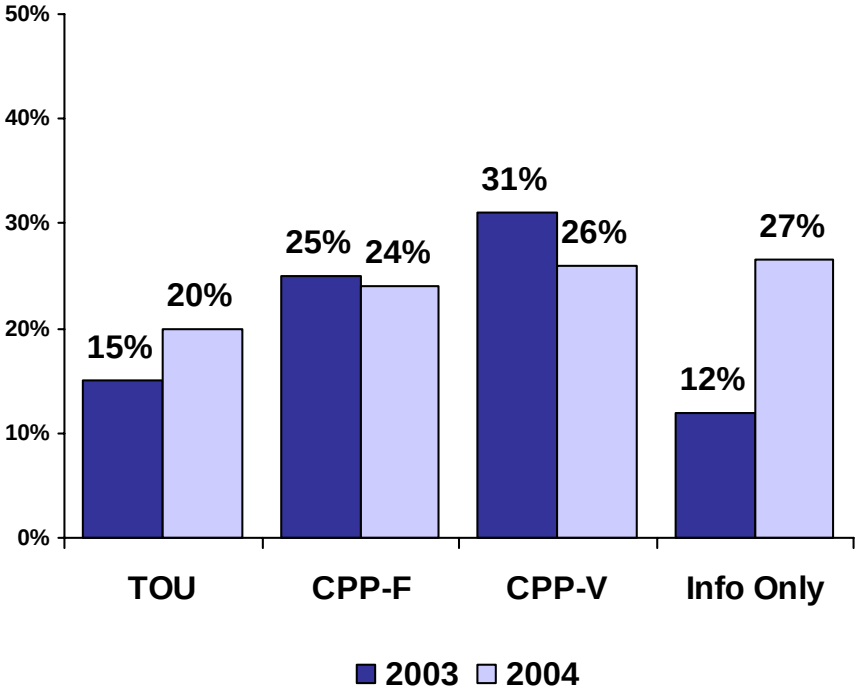
- **Though the number visiting their respective utility's website has increased slightly from 2003 to 2004, most participants still do not visit it, with most indicating they simple have no need to, have no internet access, or do not have enough time.**
  - On average, residential participants visited their utility's website more often than commercial participants.

- **Nearly half of residential participants recall having received their comparison bill in 2003 and 2004, and about a third indicate that the comparison bill was "very useful." Slightly fewer commercial participants recall having received their comparison bill, though slightly more think the comparison bill was "very useful" versus residential participants.**

Most participants across both markets did not call the research support/energy information center in 2003 or 2004, though those on the CPP-V rate appear to have called slightly more often than others.

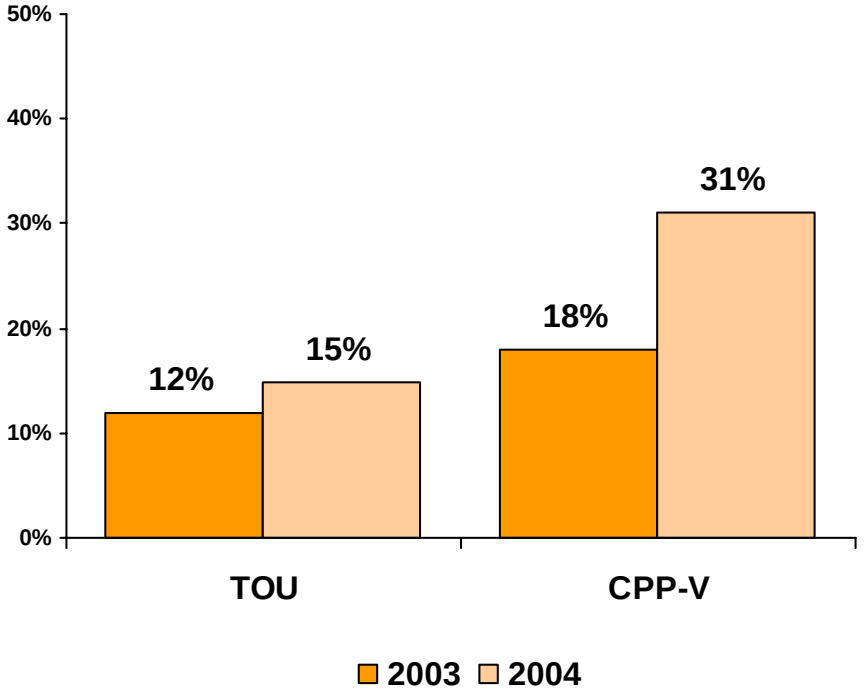
RESIDENTIAL

Percent That Called Research Support/ Energy Info Center



COMMERCIAL

Percent That Called Research Support/Energy Info Center



Q9: Have you ever called **[IF CELL = B01, BO2, B03** "the San Francisco Co-op, or"**]** your utility's Research Support Center or Energy Information Center?
2003 Q13/Q15 combined: Q13: Since enrolling in the pilot program have you ever called the research support center or energy information center? OR Q15. Other than when you enrolled in the program over the phone, have you ever called the research support center or energy information center?
Residential 2004 n=447; 2003 n=364; Commercial 2004 n= 95; 2003 n=82

In 2003 and 2004, residential participants, tended to call most often to clear up questions related to their bill. Business participants, on the other hand, called most often to ask the thermostat.

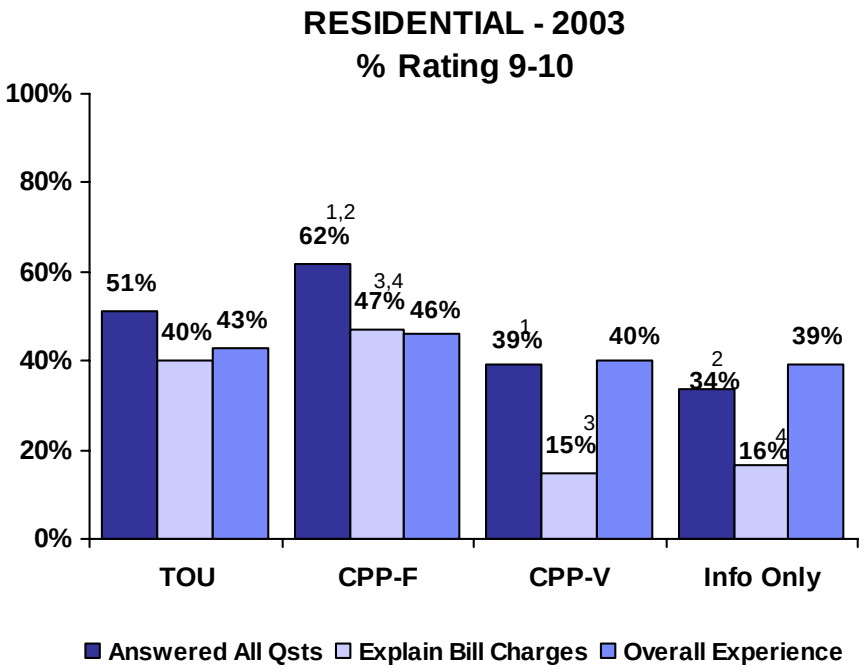
Residential		
Reasons	**2003**	**2004**
Bill Questions	23%	20%
Follow-up on poor participant service	17%[1]	2%[1]
Questions about peak hours	16%	7%
See when incentive would arrive	16%	NA
Website questions	9%	7%
Update account info	7%	2%
Maintenance/repair issues	6%	3%
Thermostat/time questions	6%	4%
Other questions non-specific	NA	39%
Other/non-Specific	8%	8%

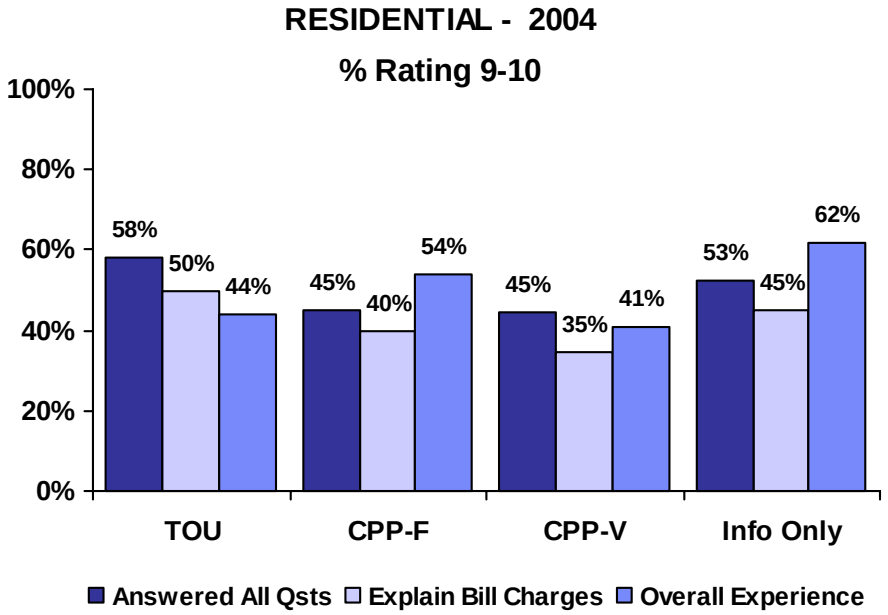
Commercial		
Reasons	**2003**	**2004**
Thermostat-related questions	36%	25%
Maintenance/repair issues	16%	4%
Update account information	14%	4%
Other questions/non-specific	20%	12%
See when incentive would arrive	13%	0%
Bill Questions	9%	41%
Questions about peak hours	6%	4%

Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q10: Why did you call **[IF CELL = B01, BO2, B03** "the San Francisco Co-op, or"**]** your utility's Research Support Center or Energy Information Center?
Residential 2004: n=108; 2003 n=88; Commercial 2003 n=16; 2004 n=25

Overall, satisfaction with the support center has improved slightly from 2003 to 2004 for residential participants enrolled in all rate treatments except those on the CPP-F rate.

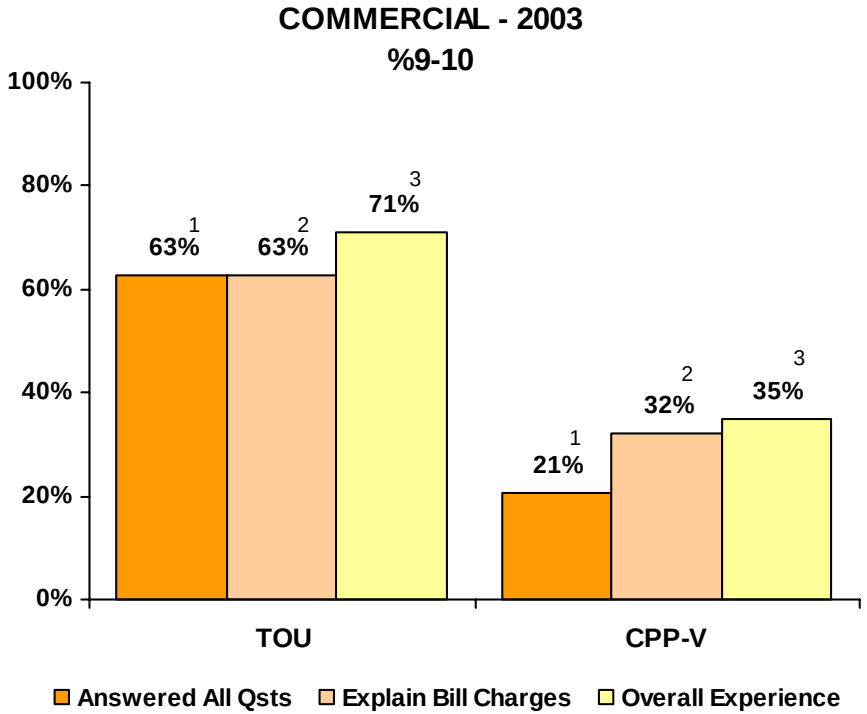


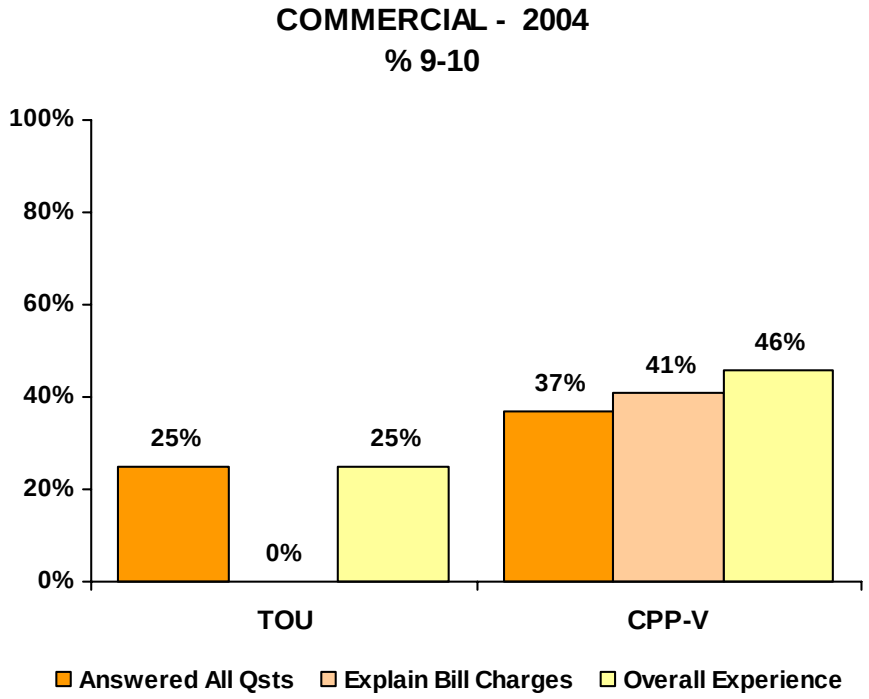


Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q11: How would you rate **[IF CELL = B01, BO2, B03** "the San Francisco Co-op's or,"**]** the Center's performance on the following specific items?
2003 n= 138, 2004 n=105

Business participants enrolled in the TOU rate program in 2004 rate the support center notably lower than participants enrolled on this rate in 2003. The support center experienced a slight increase in satisfaction over 2003 for those participants enrolled in the CPP-V rate treatment, however.





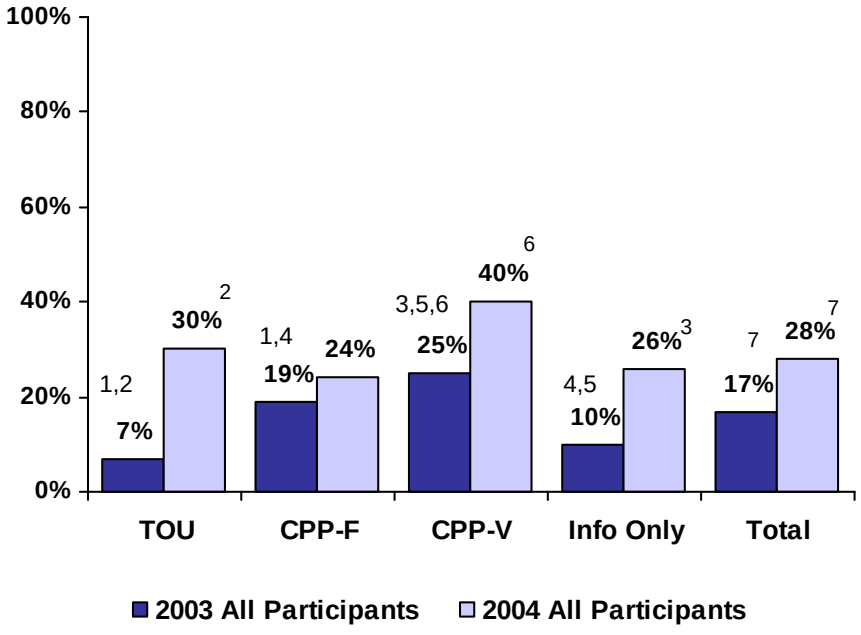
Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q11: How would you rate **[IF CELL = B01, BO2, B03** "the San Francisco Co-op's or,"**]** the Center's performance on the following specific items?
2003 n=40; 2004 n=25

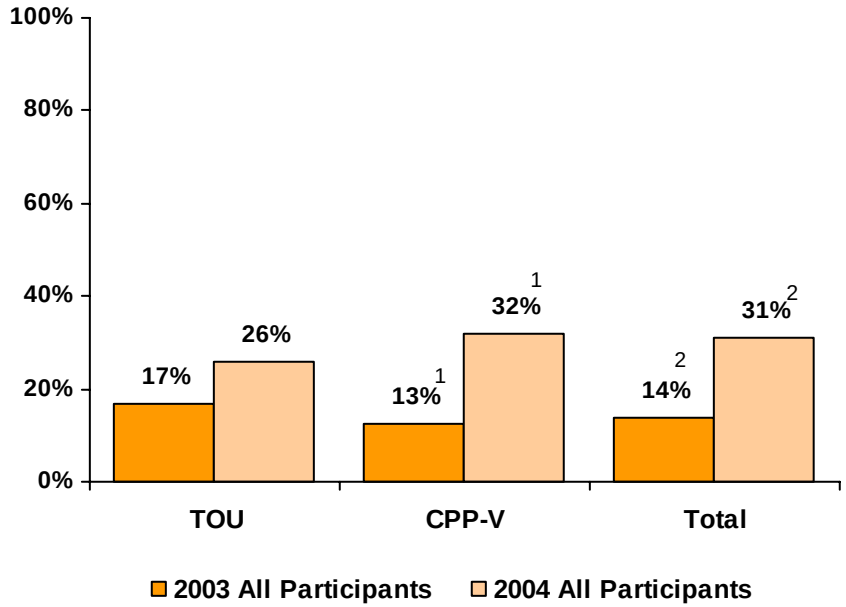
Overall, the percentage of participants reporting that they have visited their utility's website has increased somewhat from 2003 to 2004.

- In particular, those residential participants on the TOU and CPP-V rate plans have seen an increase as well as business participants on the CPP-V rate plan.

Residential - Percent Visiting the Website



Commercial - Percent Visiting the Website



Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

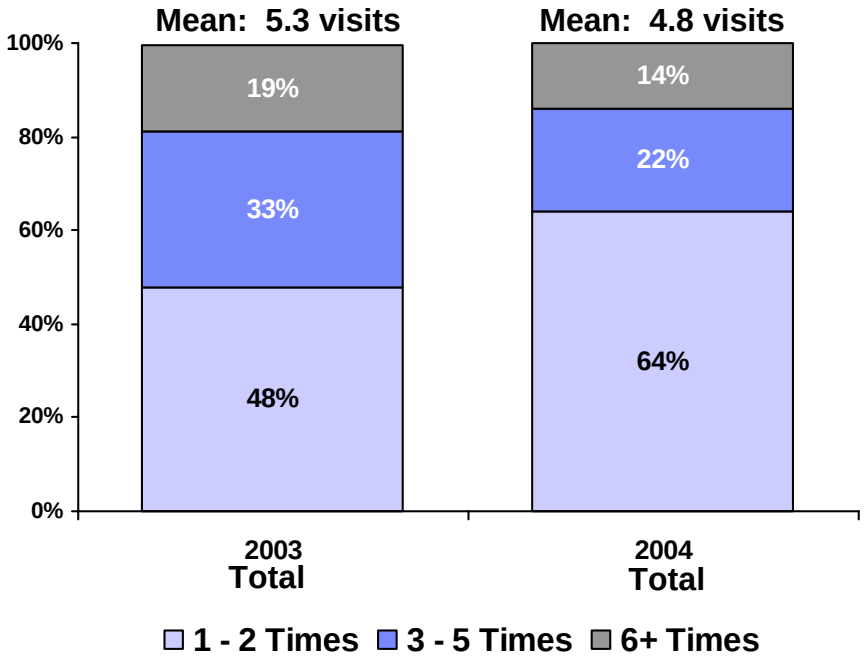
Q12/Q40: Have you ever visited your utility's website to learn more about the **[INSERT PROGRAM]**?
Residential 2003 N=398, 2004 n=447, Commercial 2003 N=92; 2004 n=95

The number of times participants visited the website changed little from 2003 to 2004. Among those who visited the website, most only visited one or two times while participating in the pilot. On average, however, residential participants visited the site more than commercial participants since signing up.

- Website visits are similar across rate treatments, though residential CPP-V participants visited slightly less often than residential participants in other rate treatments.

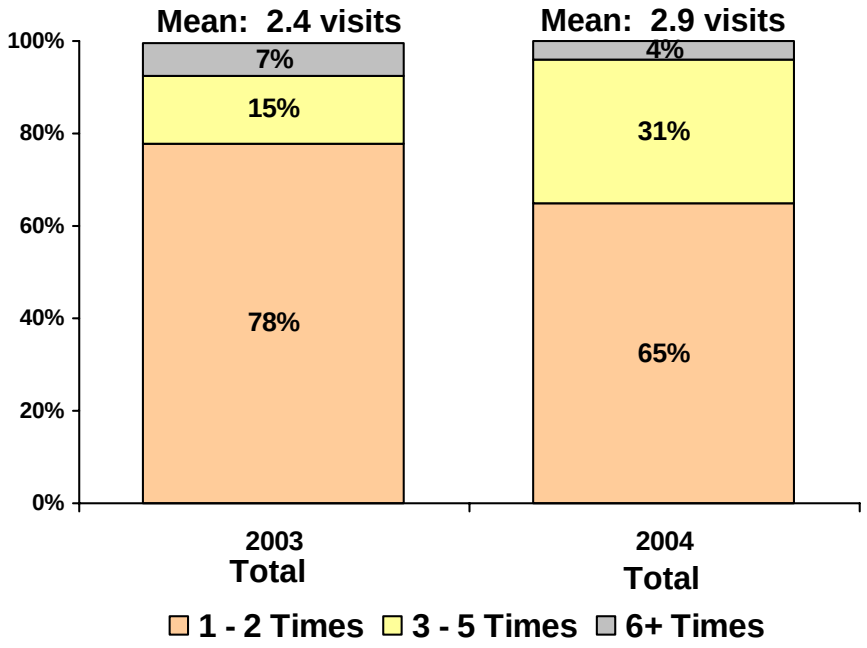
RESIDENTIAL

Website usage among those who use the site



COMMERCIAL

Website usage among those who use the site



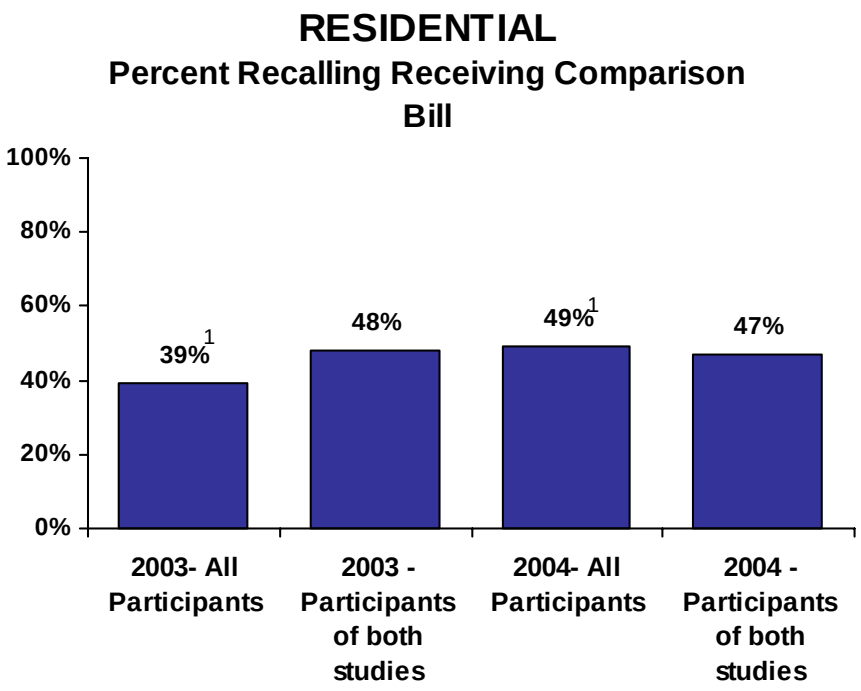
Q12/Q40: Have you ever visited your utility's website to learn more about the **[INSERT PROGRAM]**?
Q13/Q41: About how many times have you visited the site since signing up?
Residential 2003 n=65, 2004 n=123; Commercial 2003 n=13, 2004 n=26 2003

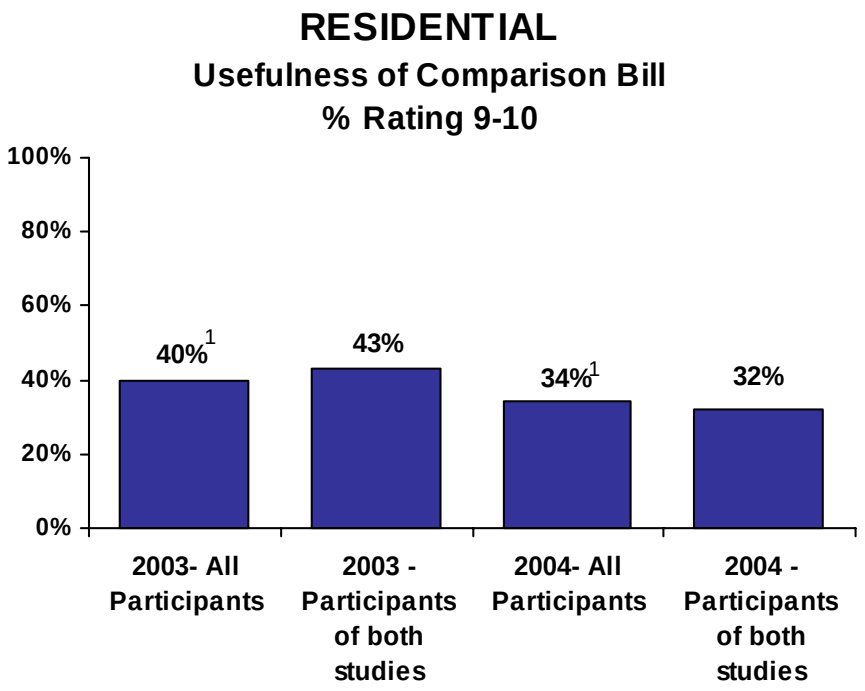
Among participants who did not visit the website, no need / had sufficient information, no Internet access, and not having enough time top the list of reasons for both residential and business participants in 2003 and 2004.

	Residential		Commercial	
Reasons	**2003**	**2004**	**2003**	**2004**
No need, had sufficient information	21%	36%	23%	26%
No internet access/no computer	32%	36%	13%	26%
No time	17%	10%	55%	33%
No interest	22%	9%	4%	0%
Didn't know about the website	5%	7%	8%	17%
Not familiar with internet	4%	0%	1%	0%
Other	4%	3%	0%	5%

Q46/Q18: Why didn't you choose to visit your utility's website for pilot program information?
2003 Residential n=334, Commercial n=77; 2004 Residential n=324, Commercial n=66

Residential participants in the 2004 survey more frequently recall having received their comparison bill than those in 2003. However, the usefulness of this bill is rated slightly lower in 2004.



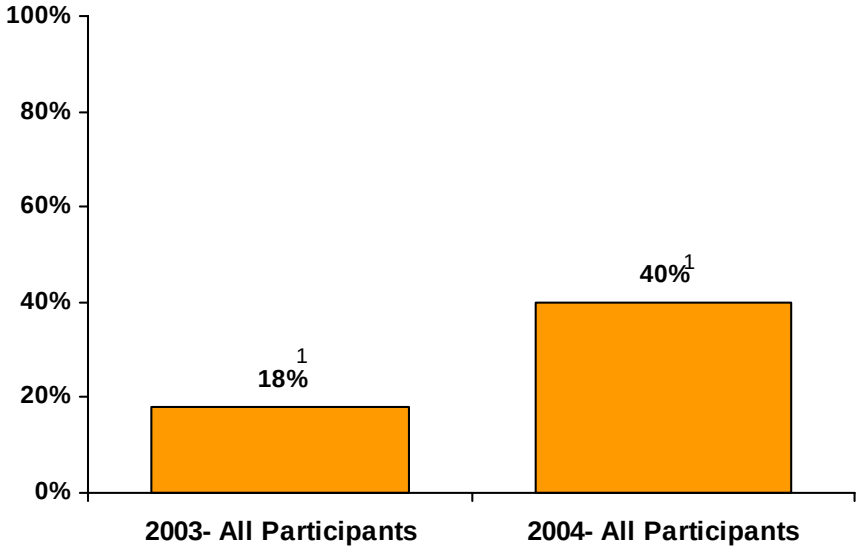


Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

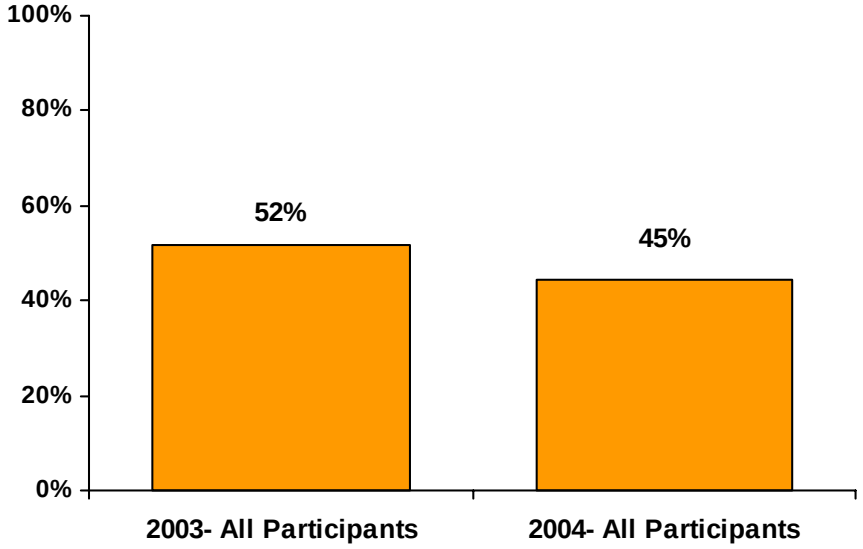
Q19 (Q47 2003): Have you received a comparison bill that showed what your monthly electricity costs would have been under your old electricity pricing program along with your monthly electricity costs under the new program?
Q20 (Q48 2003: On a scale from 1 to 10, where 1 is not at all useful and 10 is very useful, how would you rate the usefulness of the comparison bill in helping you manage your electricity use?
Residential 2003, n=398, 2004 n=447; Participants of both years studies n=155

Similarly, commercial participants in 2004 tend to better recall having received their comparison bill, though they also rate the usefulness of the bill slightly lower than participants in 2003.

COMMERCIAL
Percent Recalling Receiving Comparison Bill



COMMERCIAL
Usefulness of Comparison Bill % Rating 9-10



Superscript notations indicate significant differences. The same notation appearing next to two different statistics indicates a significant difference. Those statistics without a notation indicates that no statistically significant differences exist.

Q19 (Q47 2003): Have you received a comparison bill that showed what your monthly electricity costs would have been under your old electricity pricing program along with your monthly electricity costs under the new program?
Q20 (Q48 2003): On a scale from 1 to 10, where 1 is not at all useful and 10 is very useful, how would you rate the usefulness of the comparison bill in helping you manage your electricity use?
Commercial 2003 n=92, 2004 n=95

Section 7: Reactions to Possible Future Features of a TD Rate Program

Section 7: Key Takeaways

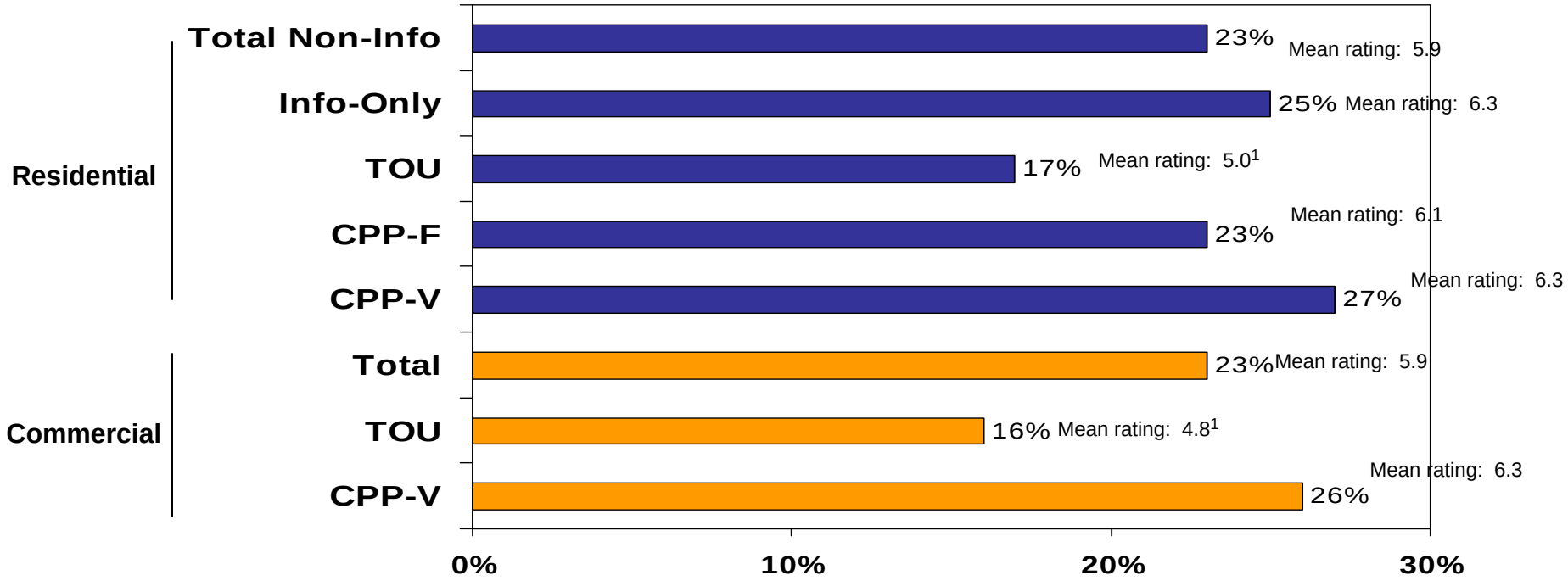
- **This last section describes participant reactions to some possible future time-differentiated rate features that could be offered.**

- **Overall, there is not a great deal of interest in a pure-CPP option among either residential or commercial participants (at least as it was described in this survey), with those currently enrolled in the TOU rate having the least interest in such an option. About one in four participants in CPP-F or CPP-V have high levels of interest.**
  - A pure-CPP option was described as a rate that did not have peak periods everyday, but rather only 15 days per year. It was further explained that during these 15 days the price could be 5-10 times higher during the peak period, but that they would pay less than what they pay now for all other hours the other 350 days of the year.

- **From the variety of alternative peak period time blocks suggested, residential participants tend to prefer early peak pricing time blocks, or those starting at noon. Commercial participants tend to prefer the later time blocks or those starting at 3 pm or 4 pm and ending at 7 pm. There is some interest among commercial participants, however, for time blocks that start at noon and end at either 3 pm or 4 pm.**

TOU participants in both participant classes are less interested than others in a "pure CPP" option. There is strong interest in such an option for about one-fourth of other participants. Overall interest is moderate at best.

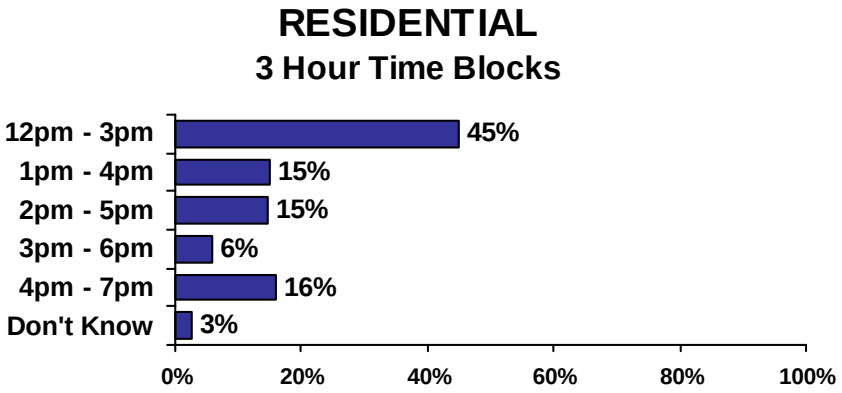
Interest (% 9-10) in "Pure CPP" Option" (Peak periods on only 15 days when prices would be 5-10X prices for all other hours of the year)

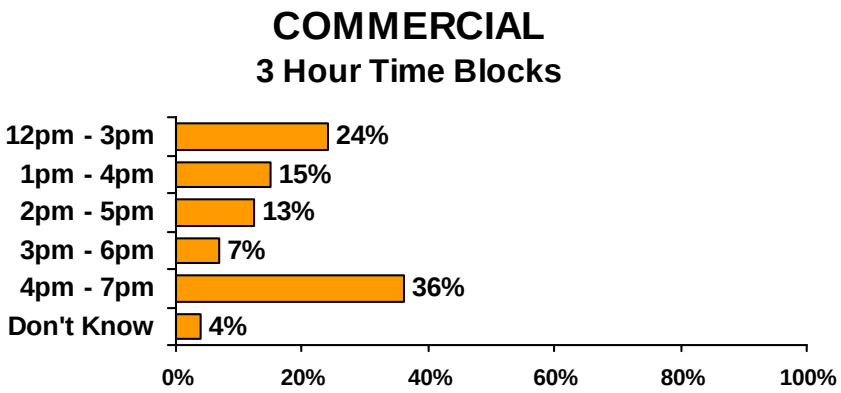


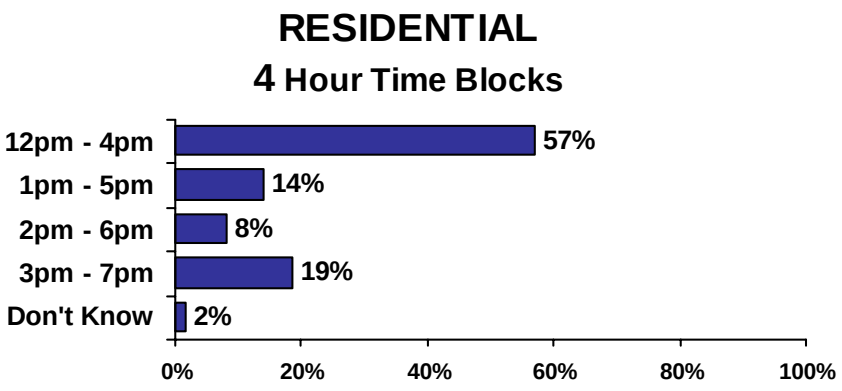
[1] Rating is significantly lower than for other program treatments.

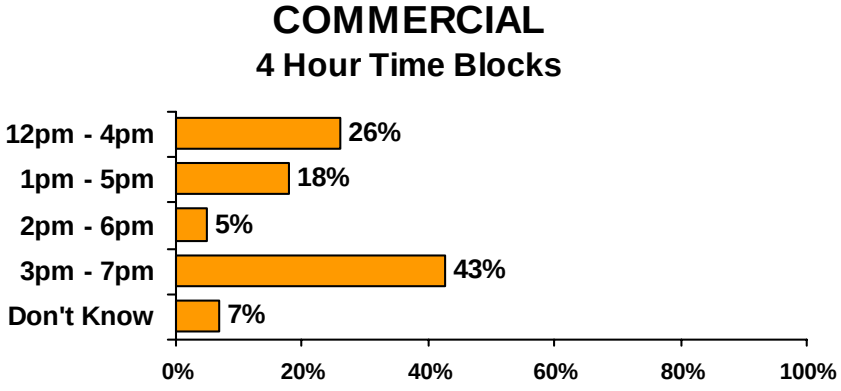
Q104a: What would be your interest in a program that did **not** have peak periods everyday but rather only 15 days per year. Keep in mind, for these 15 days the price could be 5 to 10 times higher during the peak period but you would pay less than what you pay now for all other hours the other 350 days of the year. Please give me a number between 1 and 10, where 1 is "Not at all interested" and 10 is "Extremely Interested."
Residential n=447; Commercial n=95

Residential participants prefer the early peak pricing time blocks (12-3 pm or 12-4 pm), while most commercial participants tend to prefer the later time blocks (4-7 pm or 3-7 pm).









Q77: If we were to offer your program a peak pricing period that occurred only once a day, in three hour time blocks, which block of time would you prefer MOST?
Q77a: Now, if we were to offer your program a peak pricing period that occurred only once a day, in four hour time blocks, which block of time would you prefer MOST?
Residential n=397; Commercial n=95

Appendix A: Detail on Created Indices

Accuracy of Understanding of Pricing Program Index
Electricity Use Change Index

Accuracy of Understanding of Pricing Program Index

The pattern of answers used to create the index were as follows:

CORRECT RESPONSE BY PROGRAM TYPE:

	TOU	CPP-F	CPP-V	Info only
Q1a	2	2	2	1
Q1b	1	1	1	1
Q1c	1	1	1	2
Q1d	1	1	1	2
Q1e	2	2	2	1
Q1f	2	1	1	2
Q3	1	3	3	4
Q4	2	2/3	2/3	1
Q5	2/3	4-7	4-8	0
Q6	[if Q5 = DK/NS then give 0.5 pts if yes to Q6]			

Accuracy of Understanding of Pricing Program Index

Q3 was asked as an open-ended question that allowed multiple responses from the pre-coded response options. For each program type only one response was actually correct. To account for the possibility of respondents giving both the "correct" response AND additional incorrect responses, we created a coding scheme to give partial credit as follows:

1 correct selection and no other responses = 1 point.
2 responses of which one was correct = .75
3 responses of which one was correct = .50
4 responses of which one was correct = .25
IF "0' correct = 0 points.

Then an index for program knowledge was created by counting the number of correct responses for each respondent. Scores can range from 0-9. Four levels of "program accuracy" were examined in our analysis.

- Low:<=3
- Mod. Low: >3 to <5
- Mod. High: 5 to <6
- High: >= 6

Electricity Use Change Index

The following two pages describe the points assigned to each of the relevant questions regarding overall electricity use management and appliance / equipment specific management.

Residential - Reducing -- Q28a-c; 32a-c; 33a-c; 34a-c; 35a-c; 36a-c; 37a-c

- WD Afternoons, All year – 6 points
- WD Afternoons, Summer only – 3 points
- WD Afternoons, Super Peak only – 2 points
- WD Afternoons, Non-summer only – 1 point
- WD Afternoons, Never – 0 points

- Non-WD Afternoons, All year – 6 points
- Non-WD Afternoons, Summer only – 3 points
- Non-WD Afternoons, Non-summer only – 1 point
- Non-WD Afternoons, Never – 0 points

Residential - Shifting – 28d-e; 32d-e; 33d-e; 34d-e; 35d-e; 36d-e; 37d-e

- WD Afternoons, All year – 6 points
- WD Afternoons, Summer only – 3 points
- WD Afternoons, Non-summer only – 1 point
- WD Afternoons, Never – 0 points

- Total possible points for Residential participants on CPP / Info Only (assuming ownership of all appliances – 24*7=168
- Total possible points for Residential participants on a TOU rate (assuming ownership of all appliances – 18*7=126

Electricity Use Change Index

Commercial - Reducing -- Q28a-c; 32a-c; 33a-c; 34a-c; 35a-c; 36a-c; 37a-c; 38a-c; 39a-c

- WD Afternoons, All year – 6 points
- WD Afternoons, Summer only – 3 points
- WD Afternoons, Super Peak only – 2 points
- WD Afternoons, Non-summer only – 1 point
- WD Afternoons, Never – 0 points

- Non-WD Afternoons, All year – 6 points
- Non-WD Afternoons, Summer only – 3 points
- Non-WD Afternoons, Non-summer only – 1 point
- Non-WD Afternoons, Never – 0 points

Commercial - Shifting – 28d-e; 32d-e; 33d-e; 34d-e; 35d-e; 36d-e; 37d-e; 38d-e; 39d-e

- WD Afternoons, All year – 6 points
- WD Afternoons, Summer only – 3 points
- WD Afternoons, Non-summer only – 1 point
- WD Afternoons, Never – 0 points

- Total possible points for commercial participants on CPP rate (assuming ownership of all equipment) – 24*9=216
- Total possible points for commercial participants on a TOU rate (assuming ownership of all equipment) – 18*9=162

Appendix B: Addressing Issues of Non-response Bias

Addressing Issues of Non-response Bias

- Following market research best practices, the sampling method used for this research was Epsem sampling – that is, each population element had an *equal* and *known* probability of selection.
    - Originally, a stratified method of sampling was put in place, with strata defined around pilot "cells." However, in practice, no potential respondent was rejected from participation due to their cell membership, leaving us with a simple, random probability sample.

- However, errors that can and often do arise in surveys violate the assumption that each person has an equal and known probability of selection. With the End of Pilot research in particular, these errors were primarily non-sampling or non-response errors, including the following:
  - *Non-sampling biases related to non-coverage:* While each utility provided a complete listing of pilot participants to date, there were some participants for which correct phone numbers could not be located.
  - *Non-sampling biases related to non-observation:* These types of biases arise from being unable to survey pilot participants either because they could not be reached (there was no answer at the household, a qualified, knowledgeable, adult HH member was not available, etc.) or because of refusals to participate in the survey.

- What impact might these non-sampling biases ultimately have had on the survey results?

Addressing Issues of Non-response Bias

- Although there is a seemingly simple answer to this question, it is a though a difficult question to answer in practice.
- The simple answer is to say that if the non-response mean differs little from the response mean on key survey statistics, then the relative bias is small.
- Of course, it is impossible to compare the non-response and response means on all of the relevant survey statistics. What we can do, however, is compare the means on various statistics for these two groups for data that we do have.
- First, the team looked at the characteristics available in the sample frame provided for the populations of SPP participants for those that completed the 2004 End of Pilot study, those that refused to participate, and those we were unable to contact (no answers, busy signals, wrong numbers that could not be looked up, etc.). These three groups were compared on a variety of different attributes available, including:
  - Utility (for residential only – all C&I participants were SCE customers)
  - Climate Zone (climate zone information not available for C&I participants)
  - Rate / Program Type
  - Track
  - Enrollment Date
- Based on the information available, there is little difference between those that completed the survey and those that refused or could not be contacted among both residential and commercial participants.

Within each subgroup, roughly equal numbers of SPP participants were classified as "complete," "refused," or "non-contact." If a significantly higher percentage of refusals were found in a given climate zone, for example, this might have suggested that there was something unique about that climate zone that was not captured by the End of Pilot survey.

Residential SPP Participants (N=1232); Column %	Completed	Refused	Other Non-contact
PG&E	58%	51%	59%
SCE	19%	25%	27%
SDG&E	23%	24%	14%
Climate Zone 1	25%	24%	30%
Climate Zone 2	28%	35%	31%
Climate Zone 3	33%	30%	28%
Climate Zone 4	15%	10%	11%
CPP-F	52%	54%	58%
CPP-V	20%	17%	12%
TOU	17%	13%	16%
Info Only	11%	17%	15%
Track A	69%	73%	73%
Track B	16%	18%	23%
Track C	15%	9%	4%
Enrolled before 10/1/03	86%	81%	83%
Enrolled after 10/1/03	14%	19%	17%
Total	**100%**	**100%**	**100%**

Furthermore, while there is some variability across participant characteristics (utility, climate zone, etc.) in terms of the percentages of participants that completed the survey, refused to complete the survey or could not be contacted, for the most part the data below suggests that roughly equal numbers completed the study across these subgroups. Only for Track C does it seem that the rate of non-contact was somewhat lower, resulting in a higher percentage of Track C participants completing the survey.

Residential SPP Participants (N=1232); Row %'s	Completed	Refused	Other Non-contact
PG&E	37%	26%	37%
SCE	29%	31%	40%
SDG&E	42%	34%	24%
Climate Zone 1	34%	27%	39%
Climate Zone 2	33%	33%	35%
Climate Zone 3	39%	29%	32%
Climate Zone 4	44%	25%	32%
CPP-F	35%	29%	37%
CPP-V	44%	31%	25%
TOU	41%	24%	35%
Info Only	29%	34%	37%
Track A	35%	29%	35%
Track B	31%	28%	41%
Track C	57%	27%	16%
Enrolled before 10/1/03	37%	28%	35%
Enrolled after 10/1/03	31%	34%	35%
Total	**36%**	**29%**	**35%**

Within a given C&I participant subgroup (rate, track, etc.) there also appears to be little variability in terms of the number of participants that completed, refused, or were not contacted. For example, among CPP-V rate participants, roughly equal numbers turned into completes, refusals, and not contacts. However, with Track A there does appear to be slightly more participants that refused to participate in the survey than either completed the survey or were not contacted in Track A. In Track C, however, there appears to be have been a slightly lower rate of refusals.

C&I SPP Participants (N=336); Column %'s	Completed	Refused	Other Non-contact
CPP-V	72%	67%	72%
TOU	28%	33%	28%
Track A	62%	82%	64%
Track C	38%	18%	36%
Enrolled before 10/1/03	60%	49%	56%
Enrolled after 10/1/03	40%	52%	44%
Total	**100%**	**100%**	**100%**

When looking across C&I participant characteristics (rate, track, etc.) there is also little variability. Regardless of the rate, track, or enrollment data, roughly 28% completed the study, 10% refused, and 62% were unable to be contacted.

C&I SPP Participants (N=336); Row %'s	Completed	Refused	Other Non-contact
CPP-V	28%	9%	63%
TOU	28%	12%	60%
Track A	27%	12%	61%
Track C	31%	5%	64%
Enrolled before 10/1/03	30%	9%	61%
Enrolled after 10/1/03	26%	12%	63%
Total	**28%**	**10%**	**62%**

Addressing Issues of Non-response Bias – Residential Participants

- Next, the team looked at the differences between the set of residential survey respondents that completed both the 2003 End of Summer study and the 2004 End of Pilot study and those that completed the 2003 study only.

- Are responses to pertinent questions of interest, such as satisfaction with the SPP program, substantially different for those that participated in one study versus both?

- With this analysis we are able to review differences on substantive survey data rather than just the basic program characteristics of each participant.

- The responses of these two groups of residential participants were reviewed on a variety of different items, including:
  - Utility
  - Perception of utility's overall performance
  - Climate zone
  - Rate / Program Type
  - Level of understanding of SPP rate programs & billing
  - Income
  - Education level
  - Type of home (single family detached, townhouse, etc.)
  - Whether home is owned / rented
  - Average number of bedrooms in home
  - Number of home appliances
  - How AC typically operated
  - Whether changes have been made in the way electricity is used at the residence

Addressing Issues of Non-response Bias – Residential Participants

- Whether participants made a variety of different changes in electricity use management (installation of programmable thermostats, installing energy efficient light bulbs, etc.)
- Satisfaction with Super Peak / Critical Peak Alert pricing notifications
- Awareness of Super Peak before it occurred
- Given enough notice to respond to Super Peak periods
- Satisfaction with device installed to automatically respond to Super Peak periods
- Expectations for monthly bill while on the program
- Whether program has worked as expected
- Satisfaction with the program
- Interest in remaining on their pricing plan after program is over.

- As can be seen on the next five slides, there are differences between residential participants that only participated in the 2003 survey and those that participated in both the 2003 and 2004 surveys – *however*, *while a few differences are statistically significant, they are all very small.*

- Thus, while the possibility of non-response bias in the 2004 residential survey cannot be completely ruled out, the analysis here does at least suggest that it is not large.

The table below suggests that there are some, small differences in those that participated in one survey vs. both surveys by utility and climate zone. The differences found, while statistically significant, were not large.

End of Summer Data - 2003	Completed 2003 Survey Only (n=243*)	Completed 2003 & 2004 Survey (n=155*)
PG&E customer	50%	59%
SCE customer	29%	19%
SDG&E customer	21%	21%
Perceived performance of utility – Poor	2%	1%
Perceived performance of utility – Fair	11%	12%
Perceived performance of utility – Good	66%	59%
Perceived performance of utility – Excellent	21%	27%
Climate zone 1	11%	13%
Climate zone 2	38%	29%
Climate zone 3	37%	37%
Climate zone 4	14%	21%
On CPP-F	49%	50%
On CPP-V	11%	17%
On TOU	22%	21%
On Info Only	13%	12%
Average “Program Knowledge” index score (Min=0, Max=8)	4.5	4.8

*Sample sizes slightly smaller for some questions Highlighted cells indicate statistically significant differences.

Similarly, some differences were found between these two sets of survey participants in terms of their annual income and home ownership which were, again, relatively small.

End of Summer Data - 2003	Completed 2003 Survey Only (n=243*)	Completed 2003 & 2004 Survey (n=155*)
<$25,000 annual income	20%	16%
$25K - $49.9K annual income	19%	23%
$50K - $74.9K annual income	16%	24%
$75K - $99.9K annual income	17%	11%
$100K - $149.9K annual income	9%	13%
$150K+ annual income	13%	9%
Elementary education	1%	1%
Some high school	5%	2%
High school graduate	8%	10%
Some college	30%	32%
College graduate	34%	28%
Postgraduate	22%	26%
Single family detached	72%	78%
Townhouse	6%	2%
Apartment (2-4 units)	5%	6%
Apartment (5+ units)	13%	10%
Mobile Home	3%	4%
Own	76%	84%
Rent	23%	16%
Average number of bedrooms	**4.0**	**4.0**

*Sample sizes slightly smaller for some questions Highlighted cells indicate statistically significant differences.

Those completing the survey both years were slightly more likely to indicate they use a shifting strategy for their electricity management – they are slightly more likely to program their AC thermostat to automatically change temperatures and shift their dishwasher use to off peak hours. Again, however, these differences were small.

End of Summer Data - 2003	Completed 2003 Survey Only (n=243*)	Completed 2003 & 2004 Survey (n=155*)
Maintains AC thermostat at constant temperature	9%	6%
Raises AC thermostat when no one home	7%	9%
AC Thermostat settings automatically change	7%	15%
Manually turn AC on / off	36%	28%
Rarely use AC	8%	11%
Made changes to way use electricity since signing up for program	85%	84%
Shifted time to do laundry to off peak hours	33%	34%
Use HH appliances less	17%	22%
Turned AC off more / use it less	14%	13%
More careful about turning off lights when not needed	14%	19%
Raised thermostat setting on AC system	6%	4%
Shifted dishwasher use to off peak hours	5%	12%
Installed a programmable thermostat	3%	5%
Made improvements to home's structure	3%	8%

*Sample sizes slightly smaller for some questions Highlighted cells indicate statistically significant differences.

Those SPP participants responding again to the 2004 survey appeared to be slightly more likely to feel that their monthly bill was less than expected. This difference was, again, not large.

End of Summer Data - 2003	Completed 2003 Survey Only (n=243*)	Completed 2003 & 2004 Survey (n=155*)
Satisfied with Super Peak notification method	90%	95%
Always aware of Super Peak Period before it happened	68%	76%
Usually aware of Super Peak Period before it happened	20%	14%
Sometimes aware of Super Peak Period before it happened	8%	4%
Never aware of Super Peak Period before it happened	4%	7%
Yes, given enough notice of Super Peak to respond	89%	94%
Mean satisfaction with how installed device automatically adjusted electricity usage during super / critical peak periods (1-10 scale)	7.6	7.6
Feel monthly bill more than expected on program	23%	19%
Feel monthly bill less than expected on program	26%	35%
Feel monthly bill about what expected on program	51%	47%
Pilot program has worked as expected	85%	90%
Mean satisfaction with the SPP program (1-10 scale)	7.6	8.0
Would prefer to continue on new plan once pilot is over	76%	82%
Would prefer to go back to previous rate plan once pilot is over	24%	18%

*Sample sizes slightly smaller for some questions Highlighted cells indicate statistically significant differences.

Addressing Issues of Non-response Bias – Commercial Participants

- Next, the team looked at the differences between the set of survey C&I respondents that completed both the 2003 End of Summer study and the 2004 End of Pilot study and those that completed the 2003 study only.

- The responses of these two groups of C&I participants were reviewed on a variety of different items, including:
  - Rate
  - Track
  - Rate / Track
  - Level of understanding of SPP rate programs & billing
  - Building Type
  - Whether changes have been made in the way electricity is used at the business
  - Whether participants made a variety of different changes in electricity use management (installation of programmable thermostats, installing energy efficient light bulbs, etc.)
  - Satisfaction with Super Peak / Critical Peak Alert pricing notifications
  - Awareness of Super Peak before it occurred
  - Given enough notice to respond to Super Peak periods
  - Satisfaction with device installed to automatically respond to Super Peak periods
  - Expectations for monthly bill while on the program
  - Whether program has worked as expected
  - Satisfaction with the program
  - Interest in remaining on their pricing plan after program is over.

Addressing Issues of Non-response Bias – Commercial Participants

- As can be seen on the next two slides, there *are* differences between businesses that only participated in the 2003 survey and those that participated in both the 2003 and 2004 surveys.

- The number and size of these differences do appear to be greater than was found for residential customers. However, while some of these differences were in fact found to be statistically significant, the small sample sizes do work to make the magnitude of these differences appear somewhat inflated (the number of commercial participants that participated in both the 2003 and 2004 surveys was only 26).

- Furthermore, on most of substantive questions these two groups were compared on (satisfaction with the program, etc.) there was little to no difference between those participating in both surveys and those participating in only the 2003 survey. Thus, while the possibility of non-response bias in the 2004 residential survey cannot be completely out, the results here suggest it is small. If such a bias is in effect, it could mean that the views and experiences of some SPP participants are overemphasized – in particular those on a TOU rate, those businesses whose building is a standalone structure, those less aware of Super Peak events before they happen, and those that did not make changes since signing up for the SPP program.

There appeared to be several differences between commercial customers that completed both waves of the survey and those that completed only the first wave in terms of rate / track, building type, and the number of participants indicating they made changes to how they used electricity after going on the program. These sample sizes are small, however, and thus the relative magnitude of these differences are somewhat inflated.

End of Summer Data - 2003	Completed 2003 Survey Only (n=66*)	Completed 2003 & 2004 Survey (n=26*)
CPP-V	68%	46%
TOU	32%	54%
Track A	55%	54%
Track C	45%	46%
CPP-V – Track A	23%	0%
CPP-V – Track C	46%	46%
TOU – Track A	32%	54%
Average "Program Knowledge" index score (Min=0, Max=8)	3.4	3.6
Business in a building that is a standalone structure	28%	53%
Business in a building that is part of a larger structure	72%	47%
Made changes to way use electricity since signing up for program	67%	31%
	n=44	n=8
Turned off lights / equipment when not needed	48%	63%
Turned off AC more / used it less	25%	13%
Made improvements to building's structure	0%	25%
Changed hours of operation	5%	13%
Installed programmable thermostats	11%	0%
Raised thermostat setting on AC	11%	0%

*Sample sizes slightly smaller for some questions Highlighted cells indicate statistically significant differences.

Those commercial participants going on to complete the second wave of the study (the End of Pilot survey) were slightly more likely to indicate that they were never aware of a super peak period before it happened.

End of Summer Data - 2003	Completed 2003 Survey Only (n=66*)	Completed 2003 & 2004 Survey (n=26*)
Satisfied with Super Peak notification method	95%	100%
Always aware of Super Peak Period before it happened	26%	17%
Usually aware of Super Peak Period before it happened	42%	67%
Sometimes aware of Super Peak Period before it happened	11%	17%
Never aware of Super Peak Period before it happened	21%	0%
Yes, given enough notice of Super Peak to respond	68%	83%
Mean satisfaction with how installed device automatically adjusted electricity usage during super / critical peak periods (1-10 scale)	6.2	6.8
Feel monthly bill more than expected on program	21%	12%
Feel monthly bill less than expected on program	32%	35%
Feel monthly bill about what expected on program	47%	54%
Pilot program has worked as expected	83%	89%
Mean satisfaction with the SPP program (1-10 scale)	6.9	7.3
Would prefer to continue on new plan once pilot is over	67%	69%
Would prefer to go back to previous rate plan once pilot is over	33%	31%

*Sample sizes slightly smaller for some questions Highlighted cells indicate statistically significant differences.