



# NV Energy Nevada Dynamic Pricing Trial Interim Report – Volume 3: Focus Group Results

Nevada Dynamic Pricing Trial marketed as the NV Energize  
Choose When You Use Program

An interim evaluation of the pilot's design, implementation and evaluation of Year 1 of NV  
Energy's Choose When You Use Program – Focus Groups



## Table of Contents

Table of Contents.....	1
List of Tables .....	4
List of Figures.....	5
NV Energy Nevada Dynamic Pricing Trial Interim Report – Volume 3: Focus Group Results.....	6
The Role of Focus Group Research in the NDPT.....	6
Focus Groups as a Research Method.....	7
The NDPT Focus Groups: The Story Line .....	8
First Set Of Focus Groups .....	13
Signing Up For a New Program.....	13
Being Introduced To Time-Varying Rates .....	13
Second Set Of Focus Groups.....	14
Coping With Time-Varying Rates through a Hot Summer.....	14
Third Set Of Focus Groups .....	16
Comparing Economic Results against Efforts to Change.....	16
Fourth Set Of Focus Groups.....	17
Deciding Whether Or Not to Reenlist For a Second Year .....	17
The NDPT Focus Groups: Administration .....	20
Focus Group Set One: Recruitment.....	21
Schedule, Topics, & Protocol.....	21
Schedule .....	21
Topics .....	22
Protocol.....	22
Focus Group Set Two: First Summer.....	22
Schedule, Topics, & Protocol.....	22
Topics .....	23
Protocol.....	23
Focus Group Set Three: Reenlistment Considerations .....	24
Schedule, Topics, & Protocol.....	24
Schedule .....	24
Topics .....	25
Protocol.....	25



Focus Group Set Four: Reenlistment.....	25
Schedule, Topics, & Protocol.....	25
Narrative Overview .....	27
Focus Group Set One: Recruitment.....	27
Motivations and Understanding.....	27
Initial Experiences with Learning, Behavior and Bills.....	31
Expectations and Outlook.....	33
Focus Group Set Two: First Summer.....	36
Motivations and Understanding.....	36
Experiences with Learning, Behavior and Bills.....	44
Expectations and Outlook.....	59
Focus Group Set Three: Reenlistment Considerations .....	67
Motivations and Understanding.....	67
Experiences with Learning, Behavior and Bills.....	82
Expectations and Outlook.....	94
Focus Group Set Four: Reenlistment.....	99
Results.....	99
North Opt-in.....	99
Motivations and Understanding.....	99
Experiences with Learning, Behavior and Bills.....	101
Expectations and Outlook.....	104
South Opt-In.....	108
Motivations and Understanding.....	108
Experiences with Learning, Behavior and Bills.....	108
Expectations and Outlook.....	111
North Opt-Out .....	113
Motivations and Understanding.....	113
Experiences with Learning, Behavior and Bills.....	115
Expectations and Outlook.....	119
South Opt-out.....	121
Motivations and Understanding.....	121
Experiences with Learning, Behavior and Bills.....	122



Expectations and Outlook.....	124
Energy Ownership in the Focus Groups.....	128
An Introduction to Energy Ownership .....	128
Indicators of Energy Ownership Behaviors, Attitudes, and Dynamics.....	130
Focus Group Materials.....	130
Energy Ownership in the First Set of Focus Groups .....	130
Energy Ownership in the Second Set of Focus Groups .....	133
Energy Ownership in the Third Set of Focus Groups .....	136
Energy Ownership in the Fourth Set of Focus Groups .....	138



*List of Tables*

*Table 1: Focus Group Set 1 Characteristics*.....21  
*Table 2: Focus Group Set 2 Characteristics*.....23  
*Table 3: Focus Group Set 3 Characteristics*.....24  
*Table 4: Focus Group Set 4 Characteristics*.....26



*List of Figures*

*Figure 1: Focus Group Timeline* .....20



# *NV Energy Nevada Dynamic Pricing Trial Interim Report – Volume 3: Focus Group Results*

Nevada Dynamic Pricing Trial marketed as the NV Energize Choose When You Use Program

## *The Role of Focus Group Research in the NDPT*

The NDPT was designed to test four hypotheses about participant behavior and attitudes.<sup>1</sup> The three primary hypotheses (considered at some length in this Interim Report) are each assertions about participants' behavior: (1) i.e., provided these treatments, the participants will shift and save energy; (2) these shifts and savings will take place for different participants at different times, and (3) these shifts and savings will differ in impact when provided together, as compared to when they are provided individually. Taken together, these three hypotheses suggest that providing new rates, technology, and education to residential utility customers will influence their electricity use.

The fourth primary hypothesis is about participants' attitudes, asserting that (4) the participants' energy management responses to the treatments are significantly correlated with the attitudes of energy ownership, and satisfaction with energy ownership. Our fourth hypothesis suggests that the energy ownership attitudes of residential utility customers influence their responses to rates, technology, and education.

We assess participants' attitudes through their testimony, which provides their perceptions, recollections, and reflections. Testimony can arise in a number of settings (e.g., focus groups, interviews, on-site observation, customer service calls). The NDPT employs testimony gathered across all of these settings. Below, this Interim Report includes the narrative from a series of focus groups.

There were four sets of NDPT focus groups across Program Year 1, each oriented toward what attendees had been experiencing recently: (1) Recruitment, (2) First Summer, (3) Reenlistment Considerations, and (4) Reenlistment. Each focus group of typically 8-14 volunteer participants lasted two hours, and was conducted according to a protocol including an introduction and a set of questions. The questions were posed similarly but not identically to each group, and in a similar but not identical order. Many focus groups included additional questions specific to the participants' treatment cell (e.g., technology, education, CPP or TOU rate).

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<sup>1</sup> The NDPT investigated both behavior and attitudes because attitudes and behavior are highly correlated. Attitudes can predispose behavior, and once identified, can be changed through persuasion. Creating and reinforcing attitudes is thus an important pathway to behavior change. Utilities may be able to create and reinforce attitudes of energy ownership, and thereby change customers' electricity usage.



For each of these four sets of focus groups, the narrative below addresses participants' (1) motivations & understanding, (2) experiences with learning, behavior, and bills; and (3) expectations and outlook. The narrative condenses over 80 hours of discussion with 219 different NDPT participants, across 40 focus groups. The narrative is a means of organizing the focus group testimony, and making it accessible, but it is not a complete or definitive analysis. A more complete analysis of NDPT testimony will be provided in our Final Report.

## *Focus Groups as a Research Method*

While focus groups are an excellent source of testimony, they have several limitations as a research technique:

- First, focus group participants are a small set of volunteers, called together at a particular point in time, providing a limited sample of their personal experiences, attitudes, and recollections. Each attendee will understand each question in their own way, and will provide their own kind of answer.
- Second, at most, focus group volunteers can speak only for themselves and their household, rather than for the entire set of research participants. Attendees may not even speak frankly for themselves, being among strangers, in a strange location, responding to unfamiliar questions.
- Third, despite the best efforts of attendees and evaluators, both the content of attendees' testimony and the interpretation of that testimony can be influenced by many biases: e.g., recall, selection, availability, social preference, anchoring, vividness, and persistence. All of these biases influence you, the reader of this report, as you read our second-hand description of the focus groups.

These and other limitations arise even when (as in this case) there are a series of focus groups led by an experienced moderator according to a guiding protocol.

However, focus groups also have particular strengths as a research technique. First, focus groups offer participants a conversational setting where they provide their perceptions, recollections, and reflections. Second, focus groups can reveal relatively common views or strong differences of opinion among participants. Third, and most important, focus groups offer reasonably direct access to how some participants think, expressed in their own terms.

As a result of these distinctive limitations and strengths, focus group testimony is best used to suggest hypotheses about the participants' experiences, rather than to draw conclusions. Participants may offer these hypotheses explicitly (e.g., as a participant offers an explanation) or these hypotheses may emerge from the pattern of conversation (e.g., as a particular term or turn of phrase arises again and again). Broad questions may elicit similar responses from diverse attendees. Hypotheses may arise again and again across a set of groups. Focus group participants may not be representative, but they are often consistent, and the hypotheses they offer are often substantiated by further research.

As described below in the narrative, the NDPT focus groups offered up a detailed story about participants' NDPT experiences, consistent across regions and treatments in many respects. The focus groups also included considerable discussion regarding the individual treatments' performance (e.g., thermostats,



websites, energy reports, alerts, gameplay and print education materials)<sup>2</sup>. Performance of the individual treatments will be described in our final report, in conjunction with establishing engagement indices. Our final report will also revisit our initial hypotheses for the NDPT, and examine others suggested by further analysis of the focus group testimony.

### *The NDPT Focus Groups: The Story Line*

The focus groups reveal a general story line for the first year of customer experience in the Choose When You Use program. We describe this story line below, as an introduction to the detailed focus group narrative that follows. The story line may seem simple and straightforward, but it is selective: the narrative will later illustrate how many different ways participants had of telling the program's story.

The story begins as the participants are recruited, and much that follows hinges on the observation that Choose When You Use recruits saw their program as an opportunity to save money by taking action<sup>3</sup>, but the actions to take weren't specified. While the program's recruiting materials had cited examples of individual electricity uses (e.g., air conditioning), and indicated that participants might modify these uses to save money, these materials did not provide participants with step-by-step instructions to achieve savings. There were no such instructions available through the utility website or program call center representatives. While the home energy reports the participants received in parallel with their monthly bills indicated the savings achieved, and included tips about actions to try, these reports did not quantify the savings achieved by individual actions. Finally, although participants did receive a first-year bill guarantee, assuring that their participation wouldn't cost them more money than their prior flat rate would have, there was no guarantee of savings. Losses might be real during the second year of the program. As a result, participants had to make their own choices about their level of participation in the program.

Participants displayed two typical methods of engaging with the program<sup>4</sup>. First, a majority of Choose When You Use recruits responded by experimenting with the program, and a minority became immediately devoted to the program. The experimental majority reported that they saw the program as a trial offer. Most of these lightly-engaged participants looked for a place to start, identified a few of their individual energy uses, and tried out a few new behaviors that came to mind (e.g., examples cited in the recruiting materials). Few of the experimenters spent time calculating, assessing, or modeling the individual or cumulative impacts of their modifications in electricity use behavior<sup>5</sup>. Instead, as the program got underway and summer bills began to arrive, the experimenters engaged more and more with the program. The experimenters sufficed: their method of engagement was to try a few things, wait for results, and then

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<sup>2</sup> Through this testimony, the focus groups helped the NDPT to maintain and improve treatment performance.

<sup>3</sup> There were a few focus group attendees who seemed to believe that the only action required of them to yield savings was enlistment in the program. Given the NDPT rate designs and household usage patterns, that outcome was possible but not guaranteed.

<sup>4</sup> We use the term 'program' to designate the NDPT itself, and we use the term 'method of engagement' to designate how the participant chose to take part in the NDPT. After recruitment, a participant's method of engagement could range from one extreme of paying no attention, taking no action, and being aware of no feedback -- to the other extreme of undertaking an intensive set of activities that included paying attention to the program's communications, taking actions explicitly aligned with the program's objectives of saving money through altering household electricity use, and receiving feedback about the results of those actions.

<sup>5</sup> There were exceptions to the narrative throughout: a few focus group attendees were analytic and detailed from the outset.



either keep trying, or stop trying. For them, Choose When You Use was an experiment.

In contrast, a minority of Choose When You Use participants were devoted to the program from the start. Some of these partisans had already been trying to manage their household electricity use, or were analytic as household managers. Some were inspired by what they saw as the program's values. The partisans weren't necessarily knowledgeable about energy use (e.g., they may have been unsure of the savings impact a particular modification might deliver), but they tended to be thoughtful and attentive to the program from the outset. The partisans were committed; their method of engagement was to modify as many of their electricity uses as they could in the pursuit of savings. Some partisans were also very interested in the underlying costs and physics of these electricity uses, and a few of them set goals for the program. For them, Choose When You Use was a new routine.

Because the Choose When You Use story has a second year to run, it is still unclear whether or not the distinction between experimenters and partisans will have a lasting impact on program results. As the focus group narrative will indicate below, both methods of engagement are represented North and South, and across treatments. Both methods of engagement followed a similar cycle of receiving information, taking action, and receiving feedback as the program continued; we have no indication that experimenters were more attentive or successful than partisans, or vice versa. We can note that across the first year of the program, as the focus groups were conducted, both voices were heard often, and we will hear from them again in our final report.

As we previously noted, whether experimenters and partisans, all Choose When You Use participants experienced the program as a repeating three-stage cycle.

In the first stage, participants received information. All participants received the initial recruiting materials, ongoing electric bills, and regular energy reports. Participants could choose to pay attention to their new rate schedules that specified more-expensive and less-expensive times to use electricity. All participants could observe the weather, and the conditions in their household, as the seasons progressed. For those participants on the NDPT's CPP rate, there were alerts about events. For those participants receiving the technology treatment, there was the on-site installation experience. For those participants receiving the education treatment, there were the solicitations to download and install the Ring-O-Rang game. For many participants, there was also a new awareness of how electricity was being used in their homes, as they paid more attention to what was plugged in, turned on, or operating. For some participants, there were also conversations about electricity uses, and the occasional bit of research. Participants began Choose When You Use with different levels and types of information about household electricity use, and depending upon how they engaged with the program (e.g., paid attention to the information, or did not), participants had different levels and types of information to call upon as the program proceeded.

In the second stage, participants took action. Many participants changed behavior, shifting electricity uses from more-expensive to less-expensive times (e.g., pre-cooling, laundry, cooking, pumping and filtration), and they curtailed or eliminated some uses (e.g., lighting, plug loads, dishwashing loads). While some partisans began to take deliberate action shortly after recruitment, and some participants took little or no action across the first year of the program, most participants increased their engagement with the program



as summer began, temperatures rose, and air-conditioning usage increased electric bills. It is important to note that participants' actions not only included whatever deliberate steps they were taking with reference to Choose When You Use, but all of their electricity uses. Weather conditions, family members, or changes in household routines could also impact electric bills and energy reports. Participants began Choose When You Use with different sets of actions than they were taking regarding household energy use, and depending upon how they engaged with the program (e.g., experimented, or committed), participants had different sets of actions to execute as the program proceeded.

In the third stage, participants received feedback about their actions. Participants reported three types of feedback about their changes in electricity use: (1) external constraints that interfered with the participants' method of engagement (e.g., resistance from household members, inefficient appliances, inefficient houses); (2) internal feelings (e.g., positive feelings of stewardship, control, and challenge; negative feelings of mental stress, inconvenience, and discomfort); and (3) savings and spending reports posted in monthly energy reports and bills. For some participants, constraints frustrated their approaches to the program. For some participants, the positive and negative feelings they experienced were at least as important as the financial results they achieved. For many participants, the savings and spending reports they received were their most important sources of feedback, even though these reports provided little guidance about how to proceed. Participants would glance at the reports, and feel encouraged or frustrated, but their decisions about how to move forward in the program took into account a wider range of feedback. Participants began Choose When You Use with different levels and types of feedback about their household electricity use, and depending upon how they engaged with the program (e.g., paid attention to the feedback, or did not), participants had different levels and types of feedback to consider as the program proceeded.

The three-stage cycle of receiving information, taking action, and receiving feedback was regular and intense for some participants and occasional and weak for others. It was a monthly cycle geared to bills and reports for some participants, and a daily cycle for other participants dealing with hot summer afternoons. Experimenters were more limited in their engagement with information, action, and feedback; partisans reported being broadly engaged. Two issues influenced the cycle for many participants trying to engage with the program: (1) understanding, and (2) operations.

First, many participants reported that they struggled to understand the information and feedback the program provided. The bills and home energy reports were too complicated for some participants to absorb within the limited amount of time they were willing to allocate to the program. Many participants paid attention to specific time periods, but not to specific rates; others found the rates too complicated to recall properly. Some participants didn't understand the information available on the technology treatment website, how to integrate the different information they received from various sources (e.g., the NV Energy website, the energy reports, and the energy bills). These difficulties of understanding were a combination of treatment problems (unclear or complicated materials), and problems the participants had with what the treatments required of them (too much time and attention).

Second, participants receiving all three treatments reported operating issues that prevented their using the treatments effectively (e.g., web sites freezing or crashing, thermostats changing settings on their own, or



alerts not delivered). Some participants found it difficult to schedule the installation of the technology treatment, or found the installation frustrating. Some participants had difficulty downloading and installing the education game, or found the game play too fast or too slow. Some participants on the CPP rate did not receive event alerts as they should have. These operating difficulties were also a combination of treatment problems (technology failures), and problems the participants had with what the treatments required of them (too much tolerance and patience).

The NDPT was designed to field utility-standard treatments; the nature and extent of understanding and operating problems experienced were within the range of other utility rate, technology, and education programs. However, it is important to note that that range leaves some participants unable to engage with the program as they intended. The range of satisfaction participants reported with each of the treatments varied widely, and some negative perceptions are a result of these issues of understanding and operations. In our final report, we will analyze these issues in more detail in an effort to identify their impacts.

As the program continued, almost all of the NDPT participants experienced what it was like to live with new routines of using electricity. Many participants said they took actions involving the treatments from time to time, in the course of their daily lives (e.g., posting the rate schedule on the refrigerator, going online to program the thermostat, going online to play the energy education game). As they engaged with the program and received feedback, a few of the experimenters found themselves more and more preoccupied with the program (e.g., using the program to create teaching moments for their children or for themselves). In contrast, a few partisans crashed with disappointment and frustration, and all but abandoned the program. But these cases were the exceptions; most participants, whether experimenters or partisans, gave little thought to their method of engagement, once it was established.

As we stated in our initial observation that most program participants were recruited into the program recognizing an opportunity to save money by taking action. We add that even though these actions weren't specified for the participants, almost all of them reported taking action. However, we also note that few participants reported systematically studying their rate, education, or technology treatments, or building their method of engaging with the program around one or more of the treatments. Few participants reported attending to their energy reports, beyond noting whether or not they were saving, and whether or not they had received the symbol of a smiling face signifying they had saved that month. As participants enlisted and reenlisted in the program, as they took action, as they received reports, few participants chose to spend any time at all reflecting about the program. To the degree that they were focused on the program at all, participants were focused on what to do rather than what to think.

The participants' focus on what to do had two aspects: the first was a search for cost-saving actions to try, and the second was how to deal with the consequences of these actions. Actions to try seemed obvious to most participants; they could identify how they were using electricity, and how to change these uses. However, for some participants, dealing with the consequences of their actions became a difficult challenge. For them, the program had side effects: these focus group attendees described the program in terms of the external constraints they encountered as they tried to shift and save electricity usage, and the internal feelings they experienced as they tried to take these actions. Their initial actions had provoked reactions. Unexpected and negative reactions came from family members and participants who were uncomfortable,



inconvenienced, burdened by mental stress, and unhappy about changes in household routines. These side effects could arise even when the program was operating well, and was well understood.

Like many voluntary utility programs, Choose When You Use provided choices about enlisting and remaining in the program. It provided opportunities to act in the pursuit of savings. It provided treatments to enable actions, information about actions, and feedback about savings. While Choose When You Use did leave participants on their own<sup>6</sup> to deal with side effects, most participants seemed to find these side effects mild, or tolerable. As a result, Choose When You Use led many participants to savings, and to satisfaction with the program. However, the side effects were larger for some participants, to the extent that they left the program.<sup>7</sup>

It may be surprising that both dedicated experimenters and devoted partisans would sign up for Choose When You Use, and then spend little time engaged with the program. It may be more surprising that many participants would pursue a savings program, only to be derailed by their household constraints and their personal feelings. Yet this pattern will be familiar to anyone who has tried to develop a new habit. The initial decision to try something new is necessary, but it isn't sufficient. Electricity uses, like many habits, are more active than cognitive. Those turning over a new leaf are often surprised by what lies underneath. In developing a new habit, the choice to take action is only the first challenge. Later comes the challenge of dealing with the consequences of the new action. Where these consequences are disorienting, frustrating or unpleasant, the habit will be harder to establish.

This story line of the program's first year, from the participants' initial decisions to the consequences they experienced, was displayed across four sets of focus groups.

The first set of focus groups took place shortly after the Choose When You Use volunteers had enrolled. These groups are described next.

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<sup>6</sup> It might be expected that participants would turn to significant others for support as they encountered constraints and difficult feelings. If significant others could be constraints, they could also be of help. There was limited evidence in the focus groups of this kind of support within households. Outside of the household, Choose When You Use did not identify participants to one another, or provide social communications channels among participants. Choose When You Use was not a community; it was a collection of participating households.

<sup>7</sup> The Choose When You Use features that did help were feedback in the forms of the smiling face and the savings number in energy reports. Participants attended to these forms of feedback briefly but regularly, as alerts to their economic status. However, there was more than money involved: these economic alerts were not always consistent with the participants' constraints and feelings. The economic feedback provided only partial guidance about what to do next (e.g., stay on this course, or reconsider this course).



## First Set Of Focus Groups

### *Signing Up For a New Program*

The Choose When You Use recruiting materials emphasized the potential for saving money through program participation. Most attendees cited potential bill savings as the primary reason they volunteered for the program.

In addition to potential savings, some attendees cited other motivations as reasons for enlisting in the program. Some attendees said they were motivated by stewardship, control, and the challenge afforded by participating in the NDPT. A few attendees said stewardship was their primary motive for enlisting in the Choose When You Use program.

Some attendees seemed to be free-riders into the program, noting that their schedules and lifestyles already aligned with the Choose When You Use rates. Other attendees noted that Choose When You Use was guaranteed to be financially risk-free for the first year, so they could sign up, do little and see what happens. Most attendees said they were giving the program a try, and they planned to shift and save electricity use in some respects. At the other end of the spectrum, some attendees were very committed to Choose When You Use from the outset, convinced that the program was right for them.

### *Being Introduced To Time-Varying Rates*

Attendees offered a consistent but conceptual explanation of how their new rates worked in the Choose When You Use program. Almost all of the attendees believed they understood the concept of peak pricing, but few could recall their specific rates. Attendees also understood that shifting energy use out of peak periods would be their goal, but few had a clear notion of what impact to expect on their bills from taking these steps.

Attendees realized that shifting energy use could be valuable, but it would require them to pay attention to the time of day as they were using energy, which would require mental effort. Some attendees also realized that they had limited flexibility in how they could shift electricity use from one period to another. Even at the outset of the program, some attendees perceived peak pricing as negative, possibly threatening, and probably inconvenient. Attendees also understood that conservation, especially in peak periods, could be valuable. However, conservation would also require mental effort, and might lead to discomfort and inconvenience.

As new recruits, most attendees believed these shifting and saving behavioral changes should be feasible to try. Other attendees simply planned to continue their earlier behaviors, either because their schedule was already well-adapted, or because they preferred to try a wait-and-see approach first.

From the outset, many attendees realized that in order to make the program work, they would have to change their routines, and that these changes would require some attention. In addition, most participants seemed to recognize that in order to create savings, the program had to push them to put whatever they already knew, and whatever they learned, to work. But the attendees also noted that the spring weather



was mild, and the program was an opportunity, rather than a requirement. Most attendees were slow to make plans for saving during the coming summer, and slow to take action.

At the time of the first set of focus groups, while a few attendees were able to describe their specific expectations for the Choose When You Use program and their specific standards for reenlistment after the guarantee expired, most were not. It was evident from these groups that the Choose When You Use enlistment decisions, and the Choose When You Use experiences, were neither analytic nor deep for most attendees.

While there were exceptions, most attendees seemed to have signed up for a program they saw as an opportunity for saving money. Other benefits were possible, and appreciated, but were not primary motivations for most attendees. While the decision to enlist in the program was without any initial cost, some attendees were already recognizing that the program's potential costs in terms of mental effort, convenience and comfort were real. The upcoming summer was a concern. However, these potential costs were balanced against the initial energy reports confirming their savings during the first months of the program. No immediate requirements, and an immediate confirmation of savings: most of the attendees were looking forward positively. They had made a choice that seemed to be paying off.

## Second Set Of Focus Groups

### *Coping With Time-Varying Rates through a Hot Summer*

Scorching summer temperatures began early in Nevada during 2013, quickly reaching highs not seen in several decades. Forest fires in California covered Reno with smoke for days and then weeks: residents felt forced to keep their windows closed and their air conditioners on. Heat waves followed one another and lasted longer than usual, until temperatures finally moderated in September.

For many NDPT focus group attendees, the net result of the hot summer was bill shock. Many attendees had not anticipated that the combination of rate discounts in the spring and rate premiums in the summer would lead to drastic variations in the size of their bills from one season to another. Of course, the eventual impact of these variations would be mitigated by the program's bill guarantee feature, but in the meantime, many attendees had to find a way to pay much larger bills as they arrived during the summer. Even if they became entitled to a Choose When You Use refund, the refund wouldn't arrive for at least another six months.

As the temperature rose, attendees tried to implement their various methods of engaging with the program. As they took action to shift and save electricity use, many attendees also experienced the burdens of mental effort, discomfort, and inconvenience.

Most of the attendees were focused on savings, and almost all of the attendees established methods of engaging with the program once summer began. We term these methods of engagement approaches, because whether they were experimenters or partisans, all of the attendees were new to the program, and would gradually learn what it would be for them. The participants' approaches varied from modest initiatives, to immediate and all-in changes in lifestyle.



While each household approached Choose When You Use in its own way, we can distinguish five general approaches to the program:

- Wait and See
- Try a Few Things
- Try Until Constrained
- See It Through
- All-In

First, some attendees took a wait-and-see-approach, changing little. Second, some tried a few things, and then a few more things. Third, some tried to shift and save until they were constrained. Fourth, some tried to work through whatever obstacles they encountered. Finally, fifth, some attendees were all-in from the start of the program, shifting and saving electricity use wherever possible.

Focus group attendees didn't reflect much about their various approaches to the program. Instead, they described how they experienced the summer as a result of these approaches. Attendees expressed five main views of their summer experiences, which we have labeled:

- Constrained
- Miserable
- Tolerable
- Engaged
- Saving

First, many attendees were constrained from shifting and saving energy as much as they might want to. These constraints include uncooperative household members and guests, changes to the composition of the household, health care requirements, inefficient appliances, and inefficient houses among others. Some of these attendees had been very positive about the program, and hoped that the behavior changes they were able to make would still add up to substantial savings, but they became very disappointed when their efforts didn't succeed. Some of the constrained attendees tried a few things, and gave up as soon as constraints came in sight. Others tried and tried, as their constraints frustrated their efforts.

Second, some attendees summed up the experience of their first summer in the Choose When You Use Program as miserable. These attendees had also been positive about the program, and many of them had embarked on major efforts to shift and save electricity use, only to result in major discomfort and inconvenience. While the disappointment of the constrained attendees was real, it was mild compared to the reactions of the attendees who described themselves as miserable. For many of the miserable attendees, the costs of mental effort, discomfort, and inconvenience had already outweighed the program's apparent potential for savings. Many of the miserable attendees had worked through all of the obstacles they had encountered, or were all-in with the program, but were finding the results hard to endure.

Third, some attendees viewed their summer experience with the program as tolerable. For these attendees, the summer had difficult days. The days had difficult periods. The program required attention. However, although their earlier savings may have evaporated in the heat, most attendees who were tolerable still anticipated that by the end of the first year, they would break even or record adequate savings. For many of the attendees who were tolerable, the costs of mental effort, discomfort, and inconvenience were coming



into balance with the program’s apparent potential for savings. These attendees were generally trying a few things, and then a few more things, or were working through all of their obstacles.

Fourth, there were attendees who viewed their summer experience with the program as engaged. These attendees saw themselves as active, learning, and rising to the challenge. They were relatively confident that their approach to shifting and saving electricity use would succeed, and that the program’s benefits would outweigh the costs. For many of the engaged attendees, the costs of mental effort, discomfort, and inconvenience already seemed to be lower than the program’s apparent potential for savings. The engaged attendees included both those who had modest but successful approaches to the program, and those who were all-in and were going to accept the consequences.

Finally, fifth, there were attendees who viewed their summer experience with the program directly as saving. In some cases these attendees saved merely by leaving their lifestyles unchanged, and taking a wait-and-see approach, benefiting from their new rate structures. In other cases these attendees saved by changing their lifestyles successfully, trying a few things at a time or working through obstacles, without encountering the kinds of constraints others had.

Neither the five types of participants’ approaches to the program, nor the five categories of participants’ summer experiences, are strictly parallel in construction. Nor can we easily establish a concordance across approaches and experiences (i.e., some participants who followed an All-In approach had a Miserable experience in their first summer, and some did not).

Across the summer, most attendees encountered high bills, mental effort, discomfort, inconvenience, or a combination of these. We describe these factors as costs in the sense of a cost/benefit balance. While financial costs are certainly different in nature from these experiential costs, attendees weighed both kinds of costs against the benefits they were experiencing in the program. Some attendees said that these costs would be acceptable with nominal savings (e.g., the discomfort is acceptable if I save anything at all). Others said they would assess their savings after the program’s two years (e.g., I don’t yet know what my benefits will be). But most attendees, said program savings needed to be significant in the first year to balance the costs incurred.

## Third Set Of Focus Groups

### *Comparing Economic Results against Efforts to Change*

By early 2014, the focus group attendees were looking back across most of the first year of the program, including the summer.

Some of the attendees’ unengaged ‘wait and see’ approaches persisted, followed by those whose lifestyles matched the program, and by those who merely let the summer pass and continued to do nothing. Many attendees who had followed a ‘try a few things’ approach remained engaged with the program, but disappointed in the amounts they had saved. The ‘try until constrained’ approach became more common as constraints continued to arise, as did the ‘see it through’ approach as attendees continued to overcome obstacles. Once summer had passed, the ‘all-in’ approach was moderated by some of its followers, but these



attendees continued to be proud of their commitment to the program.

Over the summer, the attendees' experimental approaches to shifting and saving electricity use had taught them that conserving energy use beyond mere efficiency imposed costs on their choices of lifestyle. Shifting energy use beyond the ranges of familiar schedules could yield a notable level of inconvenience. Shifting or curbing air conditioning or lighting use could be extremely uncomfortable. Keeping electricity use in mind, and paying attention to more complex rates, required a notable amount of mental effort. Earlier, the attendees may or may not have thought about these costs. By October, they had experienced them.

Having experienced this set of costs (discomfort, inconvenience, mental effort) and benefits (savings, stewardship, control, challenge), attendees faced reenlistment decisions. In January/February 2014, almost all of the attendees were ready to provide a definite perspective on the program. We asked if what the attendees were putting in to the program balanced what they were getting out of it.

Many attendees were still weighing the pluses and minuses they perceived. A few attendees believed the program was simply the right thing to do. Some attendees said the program had provided more in benefits than costs: either because the costs incurred seemed minor to them, or because the savings levels seemed adequate.

However, in the third set of focus groups, many attendees said the program to date had provided more in costs than it did in benefits. These attendees maintained that the savings they had achieved weren't worth the costs they had paid in mental effort, inconvenience, and discomfort. The constraints in their lives, the bill shock, and their approaches to the program proved to be burdens they hadn't understood. Their tolerance for discomfort and inconvenience was less than they had expected. Their savings seemed inadequate (if they had savings at all) by comparison. Most of these attendees believed their efforts deserved more. Some attendees said they could not defend the program's balance between savings and effort to outsiders and family members.

Earlier focus group appraisals might have been based on the attendees' hopes, expectations and plans. Attendees in the third set of focus groups were appraising the Choose When You Use program with nearly a year's experience behind them. The attendees had not only established their own approaches to shifting and reducing electricity use, they had discovered for themselves the costs and benefits of following these approaches. For some, the adaptation had proven to be natural and easy. For others, the adaptation was burdensome, inconvenient, and uncomfortable.

## Fourth Set Of Focus Groups

### *Deciding Whether Or Not to Reenlist For a Second Year*

The fourth set of focus groups was organized not by region and cell, but instead by region and reenlistment decision. In each region, those who reenlisted were together in one group, and those who opted-out were together in another.



### *North Reenlisted*

The North Reenlisted focus group attendees reported having been on a relatively smooth road. Like their peers, they had anticipated greater savings than they achieved, especially in light of how hard they had worked. However, even though several of them were disappointed, the North Reenlisted attendees said they reenlisted because they found reasons to stay. They came to terms with their savings levels, believing that next year they might save more. Two attendees admitted that their lifestyles were already aligned with the program so participation wasn't difficult. Two other attendees, one who had not saved at the end of the first year and another who had (one saver and one non-saver), indicated that the lapsing of the bill guarantee was not a prohibitive concern.

In general, the North Reenlisted attendees were confident and positive, estimating their savings for the year to come. Two North Reenlisted attendees claimed they would be satisfied with whatever they saved in the second program year. Two attendees, one saver and one non-saver, made it clear that savings was not the point. In a strong indication of energy ownership, two North Reenlisted attendees said that whatever the result, it would be their responsibility.

Despite some disappointment regarding savings levels, across cells and treatments, the set of North Reenlisted attendees was looking forward to the second year of the program.

### *South Reenlisted*

As with the results in the broader program, the South Reenlisted focus group included a range of saving and losing results. Some attendees saved a lot of money and seemed to have done little; some attendees saved only a little money while doing a lot. Two Reenlisted attendees had lost money in the program's first year. Some South Reenlisted attendees had no expectations about savings, or expected not to save much. Other attendees expected large savings and found a way to like what they saved.

In signing up for the program's second year, South Reenlisted attendees noted that they were going to try harder. Several South Reenlisted attendees had viewed the program's first year as a trial, but they viewed their decisions to reenlist as firm.

While several South Reenlisted attendees were not going to change their approaches to the program, others were going to do more managing their swimming pools. Several attendees expected similar savings in year two, three attendees hoped to save more, and one figured on holding the line.

Across cells and treatments, despite some disappointment about savings levels, the set of South Reenlisted attendees was looking forward to the second year of the program.

### *North Opted-Out*

The defining experiences of Choose When You Use for most of the North Opted-Out attendees occurred in



the summer, well before autumn and winter savings arrived. As the first year of the program entered the summer, most North Opted-Out attendees had encountered constraints as they sought savings. They said some of these constraints were weather-related, some were related to family members and some were related to schedules. Some attendees found that no matter what they did, it didn't seem like enough to produce a satisfactory level of savings.

Some of the North Opted-Out attendees were able to adapt to the program. Others claimed that early on, they had really tried to participate in the program properly. Most attendees ran out of patience well before the autumn.

For most North Opted-Out attendees who were able to adapt, the bill savings that resulted proved to be an insufficient reward. Many of these discouraged attendees gave up on saving enough long before they received their annual energy report. The summer experience had made the decision for these attendees. Two of the discouraged attendees only gave up on the program later. For the remainder of the North Opted-Out attendees, the annual energy report made up their minds.

Only one North Opted-Out attendee said an extended bill guarantee would have made a difference. Other attendees said the lapsing guarantee made no difference in their decision or that they didn't even realize the guarantee was lapsing.

For the majority of the North Opted-Out attendees, their autumn and winter experiences made little difference in their eventual decisions to opt out of the program. For many, their summer experiences led directly to the decision. For others, their annual savings was inadequate to justify continuing in the program.

The North Opted-Out attendees' decisions to opt out of the program were based on the constraints they encountered and their disappointment in the amounts of money that they saved. The North Opted-Out attendees had volunteered for a program that provided inadequate savings (or other benefits) to balance the discomfort, inconvenience, and mental effort they had experienced. However, many attendees said these results did not affect their views of NV Energy one way or another.

The North Opted-Out attendees were disappointed with how the program had worked out for them. Some of them had been through significant levels of discomfort, inconvenience and mental effort.

### *South Opted-Out*

Although they had developed approaches to the program similar to those of other program participants, the South Opted-Out attendees reported greater discomfort than their peers. Even attendees who endured the summer then found that achieving a requisite level of savings was impossible. These attendees believed they had worked hard at the program, but they also believed the savings that resulted weren't worth the effort.

Like their counterparts, the South Opted-Out attendees understood the program in terms of their personal



experiences: the constraints they encountered, their disappointment in the amounts they saved and the billing numbers they saw on their energy reports.

More typically, attendees said they opted out due to discomfort. Other attendees said they opted out due to inconvenience. Still other attendees said they opted out due to insufficient savings given their level of effort.

South Opted-Out attendees decided to leave the program given their summer experiences, or once the annual energy report arrived. Similar to their peers in the North, many South Opted-Out attendees said these results did not affect their views of NV Energy. With a single striking exception (detailed below in the narrative), their views of NV Energy remained unchanged, or had improved, as a result of the program.

### *The NDPT Focus Groups: Administration*

The purpose of the NDPT focus groups was to provide insight into the participants’ experiences, identifying both the typical story line, and the diversity of individual experiences. Researchers sought understanding of the ongoing program, as well as the issue at hand (recruitment, time varying rates, the summer stress, economic costs and benefits, reenlistment), and attitudes toward energy ownership. The first three rounds of focus groups were conducted by treatment group (e.g. CPP only, see Table 3 in Volume 1) to minimize crosstalk about treatments. The fourth round of focus groups (the Reenlist/Opt-Out decision) included participants from all treatments.

There were four rounds of focus groups during the first year of the NDPT:

**Figure 1: Focus Group Timeline**



- Recruitment (May 21 – June 3, 2013) – 12 groups
- First Summer (October 8-16, 2013) – 12 groups
- Reenlistment Considerations (January 21 – February 12, 2014) – 12 groups
- Reenlistment Rationale (April 23-24, 2014) – 4 groups



Each group was typically comprised of 8-14 volunteer NDPT participants who received payments of \$90-\$100 per session. In some cases, spouses attended the focus groups along with the recruited attendee; in that event, the household received a single honorarium payment. In other cases, a spouse, fiancé or roommate attended in place of the account holder. For focus groups one through three, efforts were made to recruit focus group attendees for successive groups, but scheduling issues limited the number of these repeat attendees. Attendees were informed the groups would be recorded, but would be confidential (i.e., in NDPT research reporting, the attendees would neither be identified nor quoted in an identifiable fashion). Below, we summarize the schedule, topics and protocol for each of the four sets of focus groups.

## Focus Group Set One: Recruitment

### Schedule, Topics, & Protocol

The first set of focus groups was conducted in late May and early June 2013. The emphases were the enlistment decision and attendees’ initial experience of the program. Attendees had been enrolled in Choose When You Use for three to four months at the time of the group. Focus group participants were solicited volunteers, recruited according to cell and availability. The North focus groups were held in Reno at NV Energy headquarters, and in Las Vegas at the University of Nevada, Las Vegas Cannon Center.

### Schedule

Table 1: Focus Group Set 1 Characteristics

<b>First Set of NDPT Focus Groups: Characteristics by Group Number</b>					
<b>Number</b>	<b>Cell</b>	<b>Location</b>	<b>Date</b>	<b>Time</b>	<b>Households Attending (#)</b>
<b>1</b>	TOU	North	5/21/13	5:30 pm	8
<b>2</b>	TOU+E	North	5/21/13	7:30 pm	9
<b>3</b>	TOU-E+T	North	5/22/13	5:30 pm	7
<b>4</b>	TOU	South	5/23/13	5:30 pm	9
<b>5</b>	TOU+E	South	5/23/13	7:30 pm	6
<b>6</b>	TOU+E+T	South	5/28/13	5:30 pm	5
<b>7</b>	CPP	North	6/03/13	5:30 pm	9
<b>8</b>	CPP+E	North	6/03/13	7:30 pm	7
<b>9</b>	CPP+E+T	North	5/22/13	7:30 pm	7
<b>10</b>	CPP	South	5/29/13	7:30 pm	7
<b>11</b>	CPP+E	South	5/29/13	5:30 pm	4
<b>12</b>	CPP+E+T	South	5/28/13	7:30 pm	6



## Topics

The results of the focus groups are summarized below. For each set of focus groups, the summary addresses three topics: the attendees' (1) motivations and understanding, (2) experiences with learning, behavior and bills; and (3) expectations and outlook. Other topics were addressed in each group regarding NDPT operations and individual treatments but are not included in the interim report summaries.

## Protocol

The focus group discussion was transcribed, and included questions such as these:

- What were the main reasons you signed up for the program?
- Is the Choose When You Use program saving you money?
- Are you saving about as much as you expected, or less, or more?
- How do you know? (Prompt to discussion of energy report, bill, the website, other indicators)
- If you don't save money across the first year of the program, would you stay in or opt out?
- If there hadn't been a first-year bill guarantee, would you still have signed up for the program?
- Is it easier to get your account and billing information on the web rather than on the printed bill, or is it more complicated?
- Why did NV Energy create the program?
- Do you have any specific expectations or goals for the program, or are you just seeing how it goes?
- Would you prefer to have complicated rates that exactly match utility costs hour by hour, or simpler rates that didn't match the costs so well? (Prompt to discussion of energy report)
- Can you please indicate what words or phrases in the energy report make you happy, or you find useful, and what words or phrases bother you, or you find confusing?
- How is the program supposed to work to save you money?
- Time-based rates make using electricity more expensive at some times than others, intruding into your plans – are time-based rates fair or unfair?
- Given that you have signed up for this program, on a scale of 1-5 (with 1 being very unsatisfied and 5 being very satisfied), how satisfied are you with NV Energy?
- Who is responsible for your energy bill - for the rates, and how much you have to pay: is it NV Energy, the legislators, the regulators or you?

## *Focus Group Set Two: First Summer*

### Schedule, Topics, & Protocol

The second set of focus groups was conducted in October 2013. The emphasis was the attendees' summer experience of the program. Attendees had been enrolled in Choose When You Use for eight to nine months at the time of the group. Focus group participants were again volunteers recruited by cell and availability. Some attendees of the first set of focus groups were able to return for the second set. The North focus groups were held in Reno at NV Energy headquarters, and the South focus groups were held in Las Vegas at the University of Nevada – Las Vegas Cannon Center.



**Table 2: Focus Group Set 2 Characteristics**

<b>Second Set of NDPT Focus Groups: Characteristics by Group Number</b>					
<b>Number</b>	<b>Cell</b>	<b>Location</b>	<b>Date</b>	<b>Time</b>	<b>Households Attending (#)</b>
<b>1</b>	TOU	North	10/07/13	5:30 pm	11
<b>2</b>	TOU+E	North	10/08/13	5:30 pm	8
<b>3</b>	TOU+E+T	North	10/14/13	5:30 pm	6
<b>4</b>	TOU	South	10/09/13	5:30 pm	9
<b>5</b>	TOU+E	South	10/15/13	5:30 pm	8
<b>6</b>	TOU+E+T	South	10/16/13	5:30 pm	3
<b>7</b>	CPP	North	10/07/13	7:30 pm	13
<b>8</b>	CPP+E	North	10/08/13	7:30 pm	10
<b>9</b>	CPP+E+T	North	10/14/13	7:30 pm	10
<b>10</b>	CPP	South	10/09/13	7:30 pm	11
<b>11</b>	CPP+E	South	10/15/13	7:30 pm	5
<b>12</b>	CPP+E+T	South	10/16/13	7:30 pm	6

## Topics

Below, the results of the focus groups are summarized. For each set of focus groups, the summary addresses three topics: the attendees’ (1) motivations and understanding, (2) experiences with learning, behavior, and bills; and (3) expectations and outlook. Other topics were addressed in each group regarding NDPT operations and individual treatments, but are not included in the interim report summaries.

## Protocol

The focus group was transcribed, and included questions such as these:

- How is Choose When You Use working out for your household?
- Why are you part of this program?
- If, across the whole first year, you save only a penny – are you OK with that?
- Have you changed your behavior during the hot weather?
- Have you become cognizant about energy use through the program?



- Did the alerts matter?
- Have any of you been remodeling your home?
- Is the program worth your time and effort?
- When you turn something on and you are using electricity, what is it that you think of – how do you feel?
- When you pay your electric bill, what is it that you think of – how do you feel?
- Can you please indicate what words or phrases in the energy report make you happy, or you find useful, and what words or phrases bother you, or you find confusing?
- How much time do you spend with the energy reports when they arrive?
- If Choose When You use were a television program, what program would it be?

### Focus Group Set Three: Reenlistment Considerations

#### Schedule, Topics, & Protocol

The third set of focus groups was conducted in late January and early February 2014. The emphases were the reenlistment decision, and attendees’ ongoing experiences of the program. Attendees had been enrolled in Choose When You Use for 10-11 months at the time of the group. Focus group participants were again volunteers recruited by cell and availability. Some attendees of the first or second set of focus groups were able to return for the third set. The North focus groups were again held in Reno at NV Energy headquarters, and the South focus groups in Las Vegas at the University of Nevada – Las Vegas Cannon Center.

#### Schedule

Table 3: Focus Group Set 3 Characteristics

Third Set of NDPT Focus Groups: Characteristics by Group Number					
Number	Cell	Location	Date	Time	Households Attending (#)
1	TOU	North	1/23/14	5:30 pm	10
2	TOU+E	North	1/23/14	7:30 pm	11
3	TOU+E+T	North	2/10/14	5:30 pm	9
4	TOU	South	1/22/14	7:30 pm	10
5	TOU+E	South	1/24/14	7:30 pm	12
6	TOU+E+T	South	2/10/14	5:30 pm	10
7	CPP	North	2/11/14	5:30 pm	11



<b>8</b>	CPP+E	North	2/11/14	7:30 pm	10
<b>9</b>	CPP+E+T	North	2/10/14	7:30 pm	12
<b>10</b>	CPP	South	1/21/14	7:30 pm	11
<b>11</b>	CPP+E	South	1/22/14	5:30 pm	10
<b>12</b>	CPP+E+T	South	2/12/14	7:30 pm	6

## Topics

Below, the results of the third set of focus groups are summarized. The summary again addresses three topics: the attendees’ (1) motivations and understanding, (2) experiences with learning, behavior, and bills; and (3) expectations and outlook. Other topics were addressed in each group regarding NDPT operations and individual treatments, but are not included in the interim report summaries.

## Protocol

The focus group was transcribed, and included questions such as these:

- How is Choose When You Use working out for your household?
- Have you saved money on the program?
- Do benefits other than ‘savings’ come with the program – like ‘stewardship’?
- Do benefits other than ‘savings’ come with the program – like ‘control’?
- Do benefits other than ‘savings’ come with the program – like ‘a fun and interesting challenge’?
- Before the program, were you cognizant about your energy use?
- Have you changed your behavior?
- Was it inconvenient?
- The balance between the effort you are putting into the program and what you are getting out of it – is it a good balance, or not?
- Do you just want the bottom line, or do you want all the background information as well?
- Which would you prefer, a Critical Peak Price rate (with premium prices on a few days), or a Time-of-Use rate (with the premium prices spread over many days)?
- Is there an organization that makes you smile when you’re making a payment to them – thinking this is a good thing I’m doing? [later] None of you mentioned NV Energy.
- Does NV Energy’s customer service need improvement? What else can NV Energy do to improve?

## *Focus Group Set Four: Reenlistment*

### Schedule, Topics, & Protocol

The fourth set of focus groups was conducted in April 2014. The emphases were the reenlistment decision and attendees’ ongoing experiences of the program. Attendees had been enrolled in Choose When You Use



for 12-13 months at the time of the group.

**Table 4: Focus Group Set 4 Characteristics**

<b>Fourth Set of NDPT Focus Groups: Characteristics by Group Number</b>					
<b>Number</b>	<b>Cell</b>	<b>Location</b>	<b>Date</b>	<b>Time</b>	<b>Households Attending (#)</b>
<b>1</b>	Reenlisted	North	4/24/14	5:30 pm	9
<b>2</b>	Opted-Out	North	4/24/14	7:30 pm	9
<b>3</b>	Reenlisted	South	4/23/14	5:30 pm	9
<b>4</b>	Opted-Out	South	4/23/14	7:30 pm	9

The focus group was transcribed, and included questions such as these:

- How is Choose When You Use working out for your household?
- Did you save money on the program?
- What made you sign up for this program in the first place?
- When you signed up, were you thinking, ‘I’m all in for this,’ or were you thinking ‘I’ll give this a try’?
- The initial material you received was intended to explain your new rates to you: was it very clear, or not so clear?
- Why did NV Energy introduce the Choose When You Use program?
- Did the program turn out to be what you expected?
- Have you changed your behavior?
- Why did you sign up for/opt out of the program for the second year?
- In signing up for/opting out of the program for the second year, did you consider that the bill guarantee would no longer apply?
- What do you think about the people who saved money, and nevertheless decided to leave the program?
- Have you had problems with the program’s operations?
- Are you expecting to save money in the second year of the program?
- Did you learn things from this program?
- How much time do you spend each month looking at your energy reports?
- Do you spend any time on the NV Energy website?
- What observations would you offer to NV Energy management or the PUCN about the program?



## Narrative Overview

The narrative below reiterates the summary of each set of focus groups but includes many verbatim quotes supporting the summaries in Volume 3. The focus group discussions are characterized below as a set, identifying themes that arose across regions, across treatment cells, and across the several sets of groups. They are organized by each of the four sets of Focus groups detailing: Motivations and Understanding, Experience with Learning, Behavior, and Bills, and Expectations and Outlook. The attachment concludes by reviewing the comments related to Energy Ownership through each of the four sets of Focus Groups.

It is true that some experiences for NDPT participants were local (e.g., smoke from the Yosemite fire preventing NDPT participants in the North from opening their windows for weeks on end). It is also true that some experiences were unique to certain treatments (e.g., Critical Peak Days on the CPP rate), and some tools were available only to certain participants (e.g., NDPT-installed programmable thermostats). The focus groups discussed these different aspects, and analysis by treatment, cell, and region will be included in the final report.

However, initial analysis suggests that within each set of focus groups, regional and cell-related differences and similarities in the individual groups were less pronounced than personal differences and similarities among the attendees in each group. For example, we did not find that focus group attendees in the North reacted consistently, and notably differently than focus group attendees in the South. But we did find that focus group attendees across regions and cells included both engaged and less engaged NDPT participants, and these engaged and less engaged participants used similar language to describe their bills, behaviors and attitudes.

### Focus Group Set One: Recruitment

#### Motivations and Understanding

Consistent with the Choose When You Use recruiting materials' positioning, most attendees cited potential bill savings as the reason they volunteered for the program. Some attendees self-identified as savers (*I'm a bargain girl*), and said they pursued any opportunity that offered savings. Some attendees said that the program itself would deliver savings (*they promised I would save money, and it would save money*), while others realized the program would require effort on their part (*I looked at the rates ... I thought I could beat it*), and would involve trade-offs (*I know in the afternoon it is going to be a little uncomfortable*). A few attendees focused on savings cited specific goals (*I was trying to offset the 10% increases they have had in the past*) or specific triggers (*we had one particular bill one month that was way up, particularly high, and because of the \$500 to \$600 bill in the summertime*) but most did not.

In addition, some attendees cited other motivations as reasons they volunteered for the program. Attendees said they were motivated by stewardship (*to reduce our footprint a little bit and you hear about brownouts, blackouts, whiteouts and whatever, and I just figured this was a way for me to help*), control (*I do*



want to choose what I want to pay and I saw this as an opportunity to control something that I've never had the ability to control before), and the challenge afforded by participants in the NDPT (*I'm a little bit of an energy geek ... I was just also interested to see what they have planned and It's important to find out what's going on with our energy*).

Still, other attendees were free-riders into the program, noting that their schedules and lifestyles already suited the Choose When You Use rates (*I was pretty much timely on the schedule anyway...it doesn't make any difference to me*). Others similarly noted that Choose When You Use was guaranteed to be financially risk-free for the first year (*You have nothing to lose, so I thought, well, why not*), so they could sign up, do little, and see what happens (*I don't think it is going to help us at all, but we decided we'd see. If it helps, it's great; if it doesn't, that's fine*). Some attendees said they would not have signed up for the program without the guarantee (*It's not worth the effort to try to save energy if there wasn't a guarantee*), while some said they would have anyway (*I would try it out*), and a few were unaware of the guarantee (*I didn't even consider the risks ... but I guess I should have*).

At the other end of the spectrum, some attendees were very committed to Choose When You Use from the outset (*Find out why or where you are using your energy, at what periods of time, and can you shift that to reduce the energy and I just wanted to see how low I could go*). These committed attendees had a range of motivations such as control (*They said I could control my temperature online*), stewardship (*I really believe we are destroying the environment ... we will be saving the planet a little bit by doing this*), curiosity (*I thought I might learn something ... some good ideas I might pick up*), and practicality (*I needed a new thermostat*).

Attendees had several theories about why NV Energy had created the Choose When You Use program. The leading theory attendees offered was that the program (1) aimed to address peak operations issues and costs (*Using energy at peak hours is a big problem for power companies, and they can avoid building more power plants by reducing peak hour use and We experience a lot of brownouts through the summer and the occasional blackout and There are times it costs more money to run stuff*).

Other NV Energy motivations suggested by attendees included (2) research (*trying to find out what the elasticity of demand is and It provides better statistics for Nevada Energy and So they can be more aware*) (3) positive public relations: (*Positive PR, and try to reach people and provide mail that people are going to look at and respond to*); (4) improving customer service (*giving you a better rate and They are tired of getting complaints: I would think they had a lot of sore ears*) and (5) to help the Nevada economy (*To create more jobs and To help the economy out and it's saving them money and their workers*).

Many attendees saw NV Energy's intentions in creating Choose When You Use as positive (*It's prudent. It's responsible and It's actually a really good thing and They are trying to come up with something real that people understand, it's that we have to try to take care of what we have*). However, not all attendees agreed. Some attendees assumed that NV Energy (6) aimed to sell peak power to other utilities (*Now they can actually turn on and charge us more money for the higher cost in power, and if we are not using it, they have a surplus of power they can turn around and sell and it's all about the money, I mean, they are in the energy business*).



Other attendees did not understand why the program was created (*don't know and I don't see any benefit for the company by giving us the opportunity and They're in business to make money, yet they're trying to get everybody to use less of the power. I don't quite understand that and I thought what's the catch, why are they spending all this money, this wasted money on this program*).

Many attendees said that the Choose when You Use program would benefit both participants and NV Energy (*If the customer is educated and they're using less energy during the peak time...the customer wins and Nevada Energy wins and If they can get us not to use it during those premium peak hours, then it saves Nevada Energy money, which in turn saves us money*).

Attendees identified the purpose of the program as changing customer thinking and behavior (*educating us/train us to conserve and shift and Get you aware of what you are doing and They are trying to drive us into not using hardly anything at all in this period*). Attendees recognized that such a change would be fundamental (*Now the energy companies want to create some accountability for the users of the energy... a kilowatt-hour was a kilowatt-hour, it didn't matter what time of day it was*) and might not come easily (*Now we have to change that thinking and it's a very, very hard nut to crack*).

Attendees believed the change was possible because it was voluntary (*It's called Choose When You Use. I wouldn't want to be press-ganged into that without agreeing to it*), and because it imposed costs (*Hitting you in the pocketbook, whether it's good or bad, is really ultimately what's going to change behaviors in energy use and You have to discipline yourself ... by taking control of the manner you're using electricity, and maybe you're going to suffer a little bit*).

Attendees offered a consistent but general explanation of how their new rates worked in the Choose When You Use program. Almost all of the attendees understood the concept of peak pricing (*quite simply 2-7 it's going to cost more than any other time June through September, and July and August would be four to five times more and Eight months a year, it's cheaper. Cheaper than dirt and There are the peak hours that are very expensive. On both sides of the peak hours are the shoulder hours, those are also an elevated price*). Attendees also understood that shifting energy use out of peak periods would be their goal (*Finding things that are energy hogs...trying to find off hours, using them then rather than during peak hours and To pay attention to the most expensive times, and use as little as possible during that time, requires my wife to shift when the dishes are done, when the laundry is done and the way I've explained it to my family is during these times, turning on one light bulb is like turning on five light bulbs*).

Attendees realized that shifting energy use would require them to pay attention to the times they were using energy, which was a new burden (*learning when to do certain kinds of things, training myself not to waste energy at the wrong times of the day and We just got to be really tuned in to these time frames and It's such a hassle to try to figure out what time of day to do what*). Some attendees also noticed that they had limited flexibility (*There's more than one time during the day when you get a better price. There's times during the day when it's the most expensive it can be and if you're within these parameters, you going to get a break, but if you don't ... you're going to pay the price*). Even at the outset of the program, some attendees perceived peak pricing as negative (*there's a penalty if we use it on peak and this is a kind of a threat, if you use it during this period, we're going to double the rate, maybe you'll cut back, because you don't want to pay that*).



Attendees also understood that conservation, especially in peak periods, would be valuable (*Don't do anything between 2 p.m. and 7 p.m. to save this money and just shut the place down for those five hours, and that would save me money and You don't want to have your air conditioner on after 2 o'clock because everybody is going to be having it on, and it's going to be causing brownouts*). Attendees also noted that the benefits of shifting and conserving were shared, and that sharing was the basis of the program (*We're willing to make changes in the way we use our energy, which means we will adapt to whatever NV Energy says is a good solution for them and for us, and in return, we will get lower energy rates*).

Many attendees believed the shifting and saving behavioral changes asked of them should be feasible (*Pretty simple... I'm used to doing things like this all the time and I set my temperature at 78, I'm comfortable, I do my laundry at different times, it's not a big deal*). One feasible strategy attendees offered early on was staying away from home (*During the peak hours you won't be home, and then so when you come home, the cost of electricity will be less when you use it and We're dwindling our expenses if we're gone all day*).

Other attendees planned to continue their earlier behaviors, either because their schedule was already well-adapted (*I pay attention to the time because I work from home and For those of us who do most of our chores and stuff on the weekends...we're guaranteed to see something here*) or because they simply chose to continue (*At my age, I refuse to turn the air conditioning off ... I didn't spend a lot of money for this house ... and it's not worth anything because of the plunge...so I am going to stay warm and stay cool and If I have to run it in those unfortunate hours, then I will do it, because that's when it gets hot*).

Some attendees were concerned that more severe summer or winter weather would require a different set of behaviors (*I think that come the change of seasons this is going to prove to be very deceptive ... the reason I've saved all this money is because the rate is so much lower than the original flat rate, but I think there is going to be a shock when June hits*). These attendees recognized that shifting behaviors was their responsibility (*that peak rate in the summer, that is really hot and I have control over that and Just like winning in a casino, we're winning now, but we might give it all back if we're not on guard*). However, some attendees felt they would come up against usage constraints (*It looks like we're going to be paying more than we did last year in the summer unless we turn the air conditioner off, but I am not turning the air conditioner off and During the winter, I don't have any control over electricity use during the peak rates...that's when my kids are doing homework, we've got the lights on, we're cooking dinner I pay attention to the time because I work from home*).

Some attendees noted that to make the program work, they had to learn (*it's reeducating us on how to use energy and when to use energy and it just educates you, makes you more aware of the energy you're using*), and that the learning would require some attention (*The program basically gave me a motivation to focus on what I generally don't even want to think about until the bill arrives and I did the math ... the percentage of hours with the cheap rate was a lot higher*). Most attendees seemed to recognize that in order to create savings, the program had to push them to put their learning to work (*Motivate people and incentivize people to do it at certain time, because there are certain things we can control*). But attendees also noted that the program taught them to recognize opportunities, rather than imposing requirements (*We have some control ... it doesn't mean sweating to death and being very uncomfortable but choosing wisely ... this is changing my behavior*).



Although attendees offered a consistent explanation of how the new rates worked, the explanation often lacked specifics (*what is a flat rate?*), or had mistaken details. Attendees disagreed with one another when asked about rate periods, prices per kilowatt-hour during those periods, the number of critical peak days, and how their old rate compared to their new rate. These specifics were included in recruiting materials, and repeated in monthly energy reports, but attendees found these materials confusing and complex (*It's confusing and that's why I went and built my own chart and You have to read it a whole bunch of times, and skip back and forth and At first glance you see a smiley face, it captures you...but when you try to reason it out, it doesn't make much sense*).

The effort of many attendees to completely understand their new program also fell short due to inattention (*They set that information in the letter, I didn't go into the details and I kind of just filed it away because I thought, well, it was May when I looked at it. I don't need to look at this until July*). As a result of difficult materials and inattention, some attendees either made up their own elements (*I was under the impression that it was staggered, to balance among customers, so I would have three days and you would have three different days ... They didn't say that, I just interpreted that*) or heuristics (*It doesn't matter, because whatever I normally do, the rate will be so much higher*). Other attendees made their way forward in the program cautiously (*it didn't make me feel real confident, that you're definitely going to save money, it's like we're trying something out that you might save money. So you feel like you're going into the unknown here, rather than here we have a really good way to save you money*).

The Choose When You Use volunteers came to the program primarily motivated by savings, as well as a wide range of other motives. Most attendees thought they understood why NV Energy would offer such a program. However, although most attendees had a general sense that shifting electricity use out of peak periods, or reducing electricity use overall, were important tasks, few attendees began the Choose When You Use program with a formula designed for savings. Few attendees began the Choose When You Use program with a serviceable understanding of what their old rates or new rates were, and few could call to mind the hours, days, and seasons that their new time-varying rates varied. Instead, with varying levels of confidence, attendees seemed to believe they were probably headed in the right direction.

## Initial Experiences with Learning, Behavior and Bills

Above, we noted that many attendees were beginning the Choose When You Use program with the general goal of savings, and a high-level understanding that they needed to take action. Once recruited, how did the attendees decide what to do, and what did they do?

Some attendees saw the program primarily as a spur to act on what they already knew they could do (*I haven't learned anything from the program, because I already knew it, it's just trying to apply it and I got a new thermostat*). Some attendees decided to do nothing, and see what happened (*I am going to be in control here, because between 2 and 7, I am doing nothing different ... I'm just going to leave it and see how big the difference is*). Few attendees said that they spent any time deliberately studying the program (*I don't spend any time thinking about it ... I'm OK, well, yeah, I'll save some money, but I don't sit around and worry about it*). Rather, the decision to participate in the program made many attendees more aware of their daily energy use (*It's not on our mind all the time ... it's just making us aware of when we are consuming the energy*).



and *It's kind of in the back of your minds ... I just think you're more aware*). Once spurred to awareness of their energy use, attendees reported considering and taking a wide variety of individual actions to shift their energy use out of peak periods, and to reduce their energy use overall.

The sets of individual actions taken by attendees may have been influenced by examples cited in the recruitment materials, or even by tips included in the energy reports, but few attendees noted any such influences. Many attendees found the ongoing energy reports confusing (*the chart that was given was completely ridiculously complex and unintuitive and I brought this paper, I received it in the mail, and the reason I brought it is for somebody to tell me what it says*). Many attendees spent little time with the energy reports (*I don't have a lot of time ... I want to be able to look at it and go 'smiley face, congratulations, I'm good, and then drive on*), or on the NV Energy website (*I just haven't been moved to go look at it and Just glance at it, maybe once a month and Just to look at the bill and I have my bill paid online through the checking account, so ... I don't go online*).

There were exceptional attendees at both ends of the scale of engagement with the materials. One attendee emphasized that reviewing all the materials was essential (*I go online and look at my bill and I see my chart ... I was able to adjust things, because I could see what was going on*). Another did not understand that the energy reports were merely reports (*I thought they were sending me bills and bills and bills ... I called them ... I didn't know what they were, I just panicked ... I thought they were bills, and she said they weren't*). A third attendee reported a good experience with her bill (*My bill was \$32 last month, and I paid my bill at Albertson's ... they said they have never seen a bill that small*).

The most common attendee approach to the energy reports was to merely glance first at the 'smiley face' indicator (*I got this flyer with a happy face on it*) and then at the direct citation of savings (*We stopped where the money was. We didn't bother to read after that*), and thus to be aware at that moment of electricity use (*I got that letter, or I got that thing, and it kind of shakes my memory a little bit*). The most common attendee approach to their bills, in the early days of Choose When You Use, was to see if the bills were declining or increasing (*it shows us on our bill and I've seen the bill come down already a little bit*).

Some attendees reported that they had already initiated usage-shifting and conserving actions, even in the early months of March, April, and May. There was general learning (*I am paying attention and I am learning*). There was deliberate practice (*I've been practicing from 2 to 7, those are going to be the big hours in June, July August, and September*).

There were some comprehensive sets of actions taken (*We shifted everything ... running the pool pump in the morning ... the dishes in the morning ... the clothes in the morning and I've been gearing up for June. I've replaced both the thermostats...every light bulb in the house... changing the pool timer ... putting timers on some of the room fans*), and some individual actions (*Just turning off the lights and doing that basic stuff to keep the energy bill down and I turn off lights and make the laundry in the night*). Appliance operation was the area of most initial actions (*We run our dishwasher in the morning. We try not to run things between 5 and 9 ... you don't turn everything off between 5 and 9, necessarily and I totally changed when I run the dishwasher, when I use the washer, when I run the dryer ... I wait*).

There were some intentions formed for the summer (*Make sure that pool pump isn't going to run between 2 and 7, and I'm just going to try to run a more comfortable house at 82-83° instead of 78° and I'm not going to*



*use any electricity between 2 and 7) Some attendees were already focused on particular periods (I know your Critical Peak Period is 5 to 9 p.m. That's when we don't use stuff), while others were focused on shifting rather than conserving (I haven't really changed anything ... I just changed the hours).*

Many attendees had taken no action, because they just hadn't (*Do pretty much the same thing and We have saved \$22, and we've done nothing. I guess I have to admit I haven't interacted with the program. So now I am going to get really smart about it and I didn't do anything*). Some attendees had taken no action because they were waiting for the summer (*Slept cooler than I normally would, knowing that I am on a cheaper rate ... it's kind of like Mardi Gras where you know Fat Tuesday, I'm having Fat Tuesday electricity use right now, just letting it all come and The time to change our habits starts in June, and then we'll see how much money you really save and They said you shouldn't use between 2 and 7, but that's not till June 1<sup>st</sup>).*

Although many attendees reported they had not yet taken actions to save, the lower rates in March, April, and May helped them anyway (*When we started...it was \$126.48, and the flat rate was \$188.66, and that comes to approximately a 33% savings. And I'll take that any day*). Choose When You Use participants were recruited in January and February, and began the program in March; by late May when the first round of focus groups were conducted, attendees had received energy reports about their March and April bills. Almost all of the attendees who were aware of these reports reported savings (*According to what they're telling me and I've already saved a ton of money here*).

Some attendees had been paying less attention to the program (*I don't really know if I've saved anything*), or had their doubts (*I don't think it's done anything for us yet and I'll tell you next month and It is impossible to figure it out...they're all thieves and their bills are so convoluted, you try to figure it out*).

A few attendees cited specific initial savings expectations (*I've saved \$22-23... Absolutely, it's a little bit more than I expected and I thought I might save maybe 10%, but it looks like I've already saved 20-25%*), and while many had no initial savings expectations at all (*I didn't really have any idea what it might be and hadn't paid that much attention*), some had a general sense (*More than I thought I would*). In some attendees, the early savings reports inspired caution (*I'm saving right now, but we haven't got to the part where we have to lower our usage during peak times*) and ambition (*Interestingly enough, I look at that and say: 'damn, I think I can save more'*). For all Choose When You Use participants, these early months included rate reductions, but no rate increases, from the standard rate.

So the materials attendees received during the early months of Choose When You Use led few attendees to craft deliberate, comprehensive plans for their participation in the program. Instead, these materials generally communicated savings achieved merely by signing up for the program. While many attendees took early steps to prepare for the summer's higher rates, many did not.

## Expectations and Outlook

Attendees in the first set of Choose When You Use focus groups were asked to look forward and describe their intentions for participating in the program, and their outlook toward the reenlistment decision at the end of the first year.



Many attendees had no specific expectations for the program, despite being three months into the program, and having received regular energy reports (*Everything is gas; I wasn't expecting to save and I haven't thought about it and I don't have a dollar amount in mind and Didn't have any expectations*).

Some attendees offered general savings expectations (*I'm pretty confident I'm going to have a lower bill and What I'm banking on is that through this program I may save some money and I don't think it will cost any more*), or estimates (*I don't think my wife and I really have any expectations at the beginning of what savings would be...it's a little easier to estimate...it'll probably be \$100 or \$150 or something like that over the year and I did a graph and there is potential to save a decent amount of money*).

A few attendees offered specific savings expectations (*Thinking I could probably at least save \$100 over the year*) or goals (*The amount that I would like to save is approximately 33%, or one-third of what it would be if I weren't taking these particular steps and Compared to my old house in Arizona...my goal is that my electric bill should be no higher than it was last year and I want to be able to afford a 4,000 square foot home*).

Few attendees offered any expectations about other benefits (e.g., choice, control, stewardship, curiosity, comfort, and convenience) that had motivated them to join the program. One attendee was looking forward to satisfying her curiosity and passing it on (*What I'm trying to do...is to educate myself on what I could do, what I could change, and then pass that on to my (God love him) lazy husband*) Instead, some attendees noted that they had limits regarding how much two other benefits, comfort and convenience, could be reduced by the program's tradeoffs (*It's always good to save money. It is just interesting to see what you can do and still be comfortable*). These comfort concerns were focused on air conditioning (*We aren't going to sacrifice the temperature and I work from home...I can't let it go up to 90 degrees during the day and It's about prioritizing...it doesn't make any difference to me when I do laundry...but I want to have the air conditioning on when I want the house to be cool*).

Some attendees expected the summer to be difficult. A few had noticed the summer costs (*Not sure that the savings will be there in the summer and If you turn on a light switch, you're paying 10 times as much during the peak hours*). Some connected air conditioning directly with these costs (*My question will be when July, August, and September hit and we are in the one-teens and you have to turn the AC on between 2 and 7 and I think we're going to see a bigger change in the summer...my husband is really concerned because he likes it comfortable with the air conditioning...that it's not going to work so well this summer*). One attendee explained his lack of action so far in terms of the summer rates (*I thought why bother trying too hard in the winter because it's still a whole lot less than the summer*).

Some attendees were waiting to set their expectations until later in the program.

(*I want to see what the long haul is and The test is going to be in the next couple of months*). One attendee was unsure how hard the household would work to shift and conserve usage (*If I'm not going to work on this, it doesn't make any difference, although it makes a difference to me how much I spend*). Another attendee was looking well ahead to second-year operations without the bill guarantee (*Guarantee for the first year, that kind of bothers me because I do not know what it means in the second year...I just want to know what it is you're going to charge me*).



Early attitudes toward the reenlistment decision varied widely among attendees. In the focus groups, attendees were asked if they would stay in the Choose When You Use program if they did not save money across the first year.

Some attendees couldn't imagine that they would not save money during the first year (*I don't see how it couldn't and We expect to save money*). Other attendees said they didn't have enough information yet to have a point of view about reenlistment (*Wait and see and I would consider it at that time; I'd have to weigh all the factors and I don't know. I have other things to think about. That's the least of my problems*). Summer was a particular concern for these attendees (*that's the defining feature and I'm kind of leery because I haven't been through the summer hot months and have to see how the summer goes*). Many attendees seemed to have never considered the reenlistment question prior to the focus group.

Many attendees were determined to stay in the program, no matter what (*I would stick with it and I would stick with it just because I want to help the plan and I'd probably just ignore it, and keep on going*). Some of these attendees saw the program as an ongoing learning experience (*I'd stay with the program; I think it's like having a second chance. After a year you finally realize, oh man, I really better start paying attention to those hours and We'd continue on -- that's part of the learning experience and It's an attitude adjustment. It's just going to train us to use it at the off-time, and I think there's nothing wrong with that. It's helping us, it's helping them*). Another attendee committed to staying regardless, citing the program's role in managing peaks (*I think this would keep us from browning out and blacking out*).

Some attendees believed they would probably stay in the program, even if they didn't save something. Other attendees believed they would possibly stay in the program, under certain conditions, even if they didn't save something. Some of these attendees also saw the program as an ongoing challenge (*look at the first year as a learning thing and If it's not too much more, I might try harder in the second year and I would consider why it was more, and see if there are some things I could be changing*). Others of these attendees said they would accept a small deficit in the first program year (*I want to see if there is a big difference in it, then we'll keep it and If it was a large difference, I'd probably switch back to the old rates. If it were within reason, 10% maybe or something like that, I'd probably stay on the program and tweak what we're doing a little bit and If it was just 1% or 2% I might stick with it...sticking with it would depend on savings, or not much more expense*).

Some attendees believed they would probably leave the program if they didn't save something (*Most likely drop out and Probably keep going if it saved...I probably wouldn't if I didn't save and I might switch back and I think I will be getting lobbying from my wife saying 'get out of that thing'*). Many attendees believed they would certainly leave the program if they didn't save something (*I would opt out*), although some of these attendees believed so strictly on logical grounds (*If you found out that you are not saving...it doesn't make sense*).

Some attendees raised other factors that would influence their reenlistment decision answering it depends (*If it was more money and we actually gave it a good effort this year and If it was to my benefit, and this was really legit*). Some of these attendees noted that the alternative to Choose When You Use wasn't clear to them (*What rate are they going to charge me when I get out of it? and You don't have control over...the rate...without that information, I don't know how you can actually make a decision*). Similarly, one attendee said she might remain (*As long as they can't present something to the PUC that is going to change everything,*



*and then we get screwed again ... I've been to meetings, and listened to people's objections, and it's like talking to the sky). Another attendee didn't know if his effort would be well-directed, or persistent (If I didn't save money it would be my own dumb fault...you'd have to decide, are you going to follow it the next year, and if you are not, you'd be stupid not to go back to the flat rate).*

At the time of the first set of focus groups, while a few attendees were able to describe their specific expectations for the Choose When You Use program, and their specific standards for reenlistment after the guarantee expired, most were not. A few attendees understood the program well enough to craft plans for savings, but most did not. Some attendees had begun to take actions to shift and conserve electricity use, but many had not. It was evident from these groups that the Choose When You Use enlistment decisions, and the Choose When You Use experiences, were neither analytic nor deep for most attendees.

While there were exceptions, most attendees seemed to have signed up for a program with the opportunity for savings, and the potential of some other benefits. While the decision to enlist in the program was without any initial cost, some attendees noted the potential costs in terms of money, convenience, and comfort were real. The coming summer was a concern. But with the initial energy reports confirming savings to almost all of the attendees, and no apparent immediate requirements, most of the attendees were looking forward positively. They had made a choice that was paying off.

## *Focus Group Set Two: First Summer*

### **Motivations and Understanding**

Attendees at the second set of Choose when You Use focus groups were veterans of a very different set of experiences from those described by the attendees at the first set of focus groups. Summer temperatures began early in Nevada during 2013, and reached highs not seen in several decades. Forest fires in California covered Reno with smoke for days, forcing windows to stay closed, and air conditioners to stay on. Heat waves followed one another, and lasted longer than usual, until temperatures moderated in September.

To add to the weather-related challenges, some attentive attendees had noticed NV Energy rate increases during the program (*the punch line is that they raised the rate, so therefore we are not quite sure what we are gaining by this program*), while others on the CPP rate noticed that the day-ahead alerts system did not function well (*I was disappointed. I got one telephone call for June 28<sup>th</sup>, and heard nothing since then...I don't know why they messed up the notification, but they did*). More than one participant had health issues that took attention away from the program (*I did land in the hospital, and it scared the hell out of me...I'm fine. When I look at the hospital versus what my heating bill was, I kind of lost a bit of concern what my electric bill was. I haven't thought about it so much*)

For many attendees, the net result of the hot summer was bill shock:

*It was stressful....when I started the program, the first few months I realized tremendous savings, and I was just all excited and gung-ho...and then June or July hit...my bill from one month to the next increased seven-fold...\$60 to \$420...I was stunned. I just about had a heart attack...I had never worried about the electric bill before that*



Many attendees had not realized that the combination of rate discounts in the spring and rate premiums in the summer would lead to drastic variations in the size of their bills (*I did not understand how it worked after I got the bills and I did everything that I thought I was supposed to, to keep it adjusted. I stayed off on the peak times, didn't do the things I was normally doing during those times, and my bills were extremely high*). These attendees were startled (*I did have a little shock on the bill, because it did go up compared to the previous two years...so I was surprised, I thought we were going to do a lot better than we did*). Many attendees reported being concerned: the savings they had earlier enjoyed fell as the temperature rose (*I did notice that during the summer my power usage costs more...so my savings from the first few months seemed to dwindle*).

The impact of these variations was mitigated in an overall sense by the program's bill guarantee feature (*Before I signed up for it, it was made clear to me that if you end up spending more after a year, they'll refund the difference and If it's going to work, it's going to work. If it doesn't work, we don't go for next year*). But even with the guarantee, many attendees still had to find a way to pay much larger bills as they arrived during the summer. Any guarantee refund would not make them even for another six months, at least.

Many attendees had issues with bill variation, and high bills in the summer, regardless of how they viewed their summer experience in the program. Attendees expressed five main views of their summer experiences:

- Constraining
- Miserable
- Tolerable
- Engaged
- Saving

First, larger immediate bills were a particular concern for attendees who said they had tried hard to shift and reduce energy usage, but they were constrained from doing more (*there are things that just can't be turned off...virtually everything that I could turn off was off and To some degree our power usage, particularly in August and September, just is inflexible and You can choose when you do certain things, but...a house just requires electricity...it's going to cost you, but it's going to cost you anyway*).

These constraints include uncooperative household members (*we lost money on the whole overall period to date...we didn't manage the time, because my wife is going to wash clothes when she gets ready to, and do the same thing with the dishwasher*), uncooperative guests (*I was traveling for part of the summer, so I had people house sitting, so I would forward them the text alerts...but after seeing my bill, I don't think that was followed*), and changes to the composition of the household (*I was running the AC constantly, because I have a newborn, and I'm home 100 percent of the time. There's no escaping it, whereas typically, I'd go to work and be out of the house*).

Some attendees reported constraints due to others (*No big problems...you were conscious about the 2 o'clock thing ... my biggest problem...I have a son that has three Internet servers*), but were still positive about the program (*It was good. It was hard training my husband and my daughters came over...and they said 'its way too hot in here'. They set the thermostat, changed it, and my bill went sky high for four days in a row*).



Constraints also included health care requirements (*The combination of the heat and my wife's...medical issues...the temperature range has to be kept fairly narrow, and so we ended up having to run the air conditioner during the peak periods, and that really jacked the price*), inefficient appliances (*The first summer bill was the highest bill we have had in our entire life....\$550. I thought I was going to have to go to a cardiologist...I realized that the appliances were not energy efficient. So, we kind of felt we couldn't do anything*), and inefficient houses (*It just seems like no matter how I choose to cut down, I still have energy problems...no matter how I save, their excuse is 'you just have a big house')* among others.

In many cases, the disappointment expressed by these constrained attendees arose as they realized that all the changes they could make were not going to add up to substantial savings (*I made a lot of changes, and I didn't see the results I was expecting. Because I changed the laundry, the dishwasher, everything that used power, and to me it looks like it really wouldn't make a difference if I went back to the flat rate*). As shown in the recruiting materials, Choose When You Use neither mandated a program of actions, nor assured participants that their choice of actions would result in savings. However, many attendees mistakenly expected that if they did whatever they thought they could, they would benefit as they hoped.

Second, while the disappointment of constrained attendees was real, it was mild compared to the reactions of some attendees who said they had done even more, and suffered in the heat. Many attendees viewed their first summer's experience with the program as miserable:

*Miserable...my thermostat was set at 85°....I could have closed the blinds all the way around the house, but I can't live that way. I have a lot of plants, which is my joy in life...forget about cooling it down beforehand, because if the thermostat had to work constantly at 80°, then how are you going to cool it down when it hits 116° at 4 o'clock in the afternoon? I mean forget it, you can't do it*

and

*It was awful. It was way too hot. We live in a trailer...it was just so incredibly hot in there, sometimes we couldn't even breathe...the air conditioning went out...we kept it at 90°....That was all we ran: the TV, of course, the refrigerator, the air conditioning and one light*

and

*Sheer misery. We didn't run the AC during any of the peak times...almost 90° in the house, everyone calling me names, but I wouldn't turn it on. And I still got a neat bill. We couldn't have done anything differently*

These attendees said they took every action to shift or conserve energy use that they could think of, but the results were poor due to air conditioning costs (*Terrible. Absolutely terrible. We tried everything. Well, I have almost 6,000 square feet, and I have one big unit for one side of the house and two units for the other side...we had them set at 84-85...we weren't doing anything between 2 and 7 and I did try, and suffer, but I still had a \$900 power bill...I called wondering why my power bills are so high...everything has been done for efficiency*).

Attendees who were home weekday afternoons suffered daily (*Bad, really bad. I would say the only positive thing that came out was my wife became aware what to use, when, before 2 o'clock and We were pretty much miserable the whole time and It was really bad, and then with two kids home and a husband, it was long days:*



*'when is this stupid program going to end?'). These attendees weren't eager to repeat the experience (It was a little bit brutal because of my schedule; I'm home during the day a lot...I didn't really enjoy the heat, but I tried to put up with it as much as I could. So I'm not sure that it's something I want to do again, just because of the sacrifice of dealing with the heat).*

The attendees who reported they had been miserable included one who recognized that trying to do everything was only an option (*You do get a choice...it's how extreme do you want to choose, I guess*), and some who tried to make the best of a difficult situation:

*It was my choice when I wanted to spend my money, and if I am wise...I'm going to do as much as possible during the earlier part of the day...I think a lot of it is state of mind. I mean, are you going to sit there and just be miserable, or are you going to say 'you know what, I'm going to try something different'. I just think there's too much negativity about it*

and

*I think I can compare it to being pregnant and childbirth, and when it's over, the baby is there, and you forget about the pain. I've forgotten about...2 to 7 and cooling the house, but it's over and done with, and it's not so bad, and I'm going to go on with it again next year*

However, most of the attendees who reported being miserable were not focused on what else to try.

Third, some attendees viewed their summer experience with the program as tolerable (*It was manageable and It was tolerable most of the time and Not that bad*). For these attendees, the summer had difficult days (*It wasn't exactly the most pleasant time...it was uncomfortable*). The days had difficult periods (*It is a little testy if you're going to watch television without air conditioning before 7*). These attendees reported spending time paying attention to the program (*thinking about it a lot and It was hot...we have a pool and I'd always turn it on from 12 to 3, and I was going to turn it off by 2, and I forgot, and it was running all day...sometimes it was so intolerable I'd say, 'it won't hurt me if I turn it on one hour early'*).

In addition to discomfort, these attendees also reported experiencing inconvenience:

*I felt you kind of have to get used to it and work around things. I normally would do the wash in the morning...but I would catch myself saying...'I was going to iron this afternoon, I can't do it now, I'm going to have to wait'...you really have to somewhat arrange your day...It would aggravate me sometimes, because I'd want to do it and get it over with. I didn't want to work around it, but we did*

Some attendees who found the summer experience tolerable (*overall, the summer felt pretty short and the bills were manageable*) were looking beyond the summer:

*We both work from home, so we were just sweating, then we go out -- we come home, our dogs look like they are dying. My husband is a mathematician: he said all is costing us is the swamp cooler, and I said, we are not shutting it off...my hubby says we are going to make out come winter*

and

*If we come up to \$600 or \$800 by March, well, we're going to forget how miserable we were in August*



and

*When I'm coming out of this last month, I have five more months of this new seven cents...so each month is going to get a credit. So I don't think it's fair to judge the program looking at July and August...the point is, the rest of the year, you get seven cents*

In contrast to the attendees who reported being miserable, some of the attendees who found the summer tolerable knew what to try to mitigate their distress (*it became uncomfortable by 5 or 6 o'clock, dinnertime...we would use the pool late in the afternoon at 4 o'clock and I was the one who paid the bills, so I became the monitor.... high temperatures really don't affect me as much...the air conditioner rarely came on, and we would just use standing fans.*)

Fourth, there were attendees who viewed their summer experience with the program as engaged, active and confident that they were figuring it out (*I think about it like with gasoline, when it came up to \$5 a gallon...I trained myself...so when I got in this program, I said, 'well, how can I figure out how best to do this?' So I figured, get a thermostat that works. So I invested \$200 to start the program...the Nest*). These attendees described their summer experience in terms of learning:

*It was new for me. I just always turn it on and leave it the same all the way, but now...I turn it down, I understand the program more at the end of the year, like the end of August I'm realizing, 'wow, I paid this much'*

and

*My power bills were running about \$130-140 per month...the August 1<sup>st</sup> bill...was \$347...so I had an energy audit...and it turned out to be my air conditioner...I never programmed it to go to 85° when we weren't in the house...my power bill went down to \$260, and I said, 'OK, that's cool'...then I understood those two months are going to be painful*

Learning, for these attendees, was a consideration alongside comfort and savings (*I was curious as to how I was going to feel, for this dictating my life between 2 and 7. I won't use the term miserable. I saved a fair bit*).

Many of these more engaged attendees were both confident and positive about the program:

*I am not in NV Energy's hip pocket, but what they are doing with this program is they cut you a break in the winter, and then they really stick it to you in the summer, and when the year is over, you're probably going to break even or come out a bit ahead*

and

*I was actually very pleased with the program...the key to the program is obviously to use all the power you want between any hour besides 2 until 7; 2 until 7 is when you sacrifice*

These attendees had developed routines that worked for them (*I get off work at 5, so it was just one hour that I kind of had to worry about. I have an app on my phone....so it was easy to manage. My husband doesn't touch anything, so I do it all. So it was not bad and it went pretty good. I programmed it for different hours: between 2 and 7 it was really high, set to 85°*)

But there were also other attendees who reported that their engagement had not achieved what they wanted (*It started out well, but it ended pretty badly. I work from home, so it got pretty hot, and I had to run*



*my computer in order to do my work, and also, when it got really hot, I would run the ceiling fan. So I ended up almost where I came in).*

There were also attendees who reported they had figured out the program, but they didn't like what they had figured out:

*Conservation is one thing, but this sounds like dictatorship here...you have almost no choice. If you can't pay for this, you're screwed...the rates are three times higher than they normally would be. So to me, that's not giving me an option...this is not a choice...burn up or pay up*

Finally, fifth, there were attendees who viewed their summer experience with the program directly as saving:

*I was never really uncomfortable, and I did leave, and I'd cool it down...a few hours before...because that 0.07 cents, it was like, OK, let's take advantage of that...if I'm going to do my running around, do it later in the day. The savings were worth it*

These attendees said they were positive because they were already saving substantially (*I saved a ton...In the months from March through September...I saved \$1,300 over those months, so I'm very happy*), or they were confident they would be saving across the first year:

*Not too bad, actually. It's a pretty big adjustment with the thermostat, living a little bit more uncomfortably....this last bill looks like to-date on the program I'm only 10% over...I'm sure I'm going to make that up).*

and

*I should be roughly close to \$1,000 ahead this year. So it was easier than I thought, to be honest with you....shifting the power usage is all we did...So my power usage didn't change, the amount I use in a month, it just changed when I used it*

Other attendees lacked confidence that savings would arrive (*Will it be cost-effective for us? I guess that's the basic question I have, because it is more expensive now....about 6% higher and We didn't see much change...we were gone for the month of July and somehow we used a lot of electricity...we called...I didn't really get an answer for it...I am kind of questioning the value of this system*).

Some of the attendees who discussed their summer experience primarily in terms of savings had not saved much money at all, but were saving according to plan (*I wasn't really planning to do anything heroic in case of a critical day...we did use more power to date than we did a year ago...and I'm still saving year-to-date 60 bucks to the good – nothing great...I was just as comfortable or more this summer*).

The five different main views these focus group attendees expressed about their first summer in the program were all different perspectives on involvement. Very few attendees reported being uninvolved. The first set of focus groups portrayed attendees who, by and large, had not yet undertaken actions to shift and conserve energy usage. Yet the severe summer had moved almost all of the attendees in the second set of focus groups to take action.

Attendees across the five perspectives took action: even the constrained attendees took action, although they believed they had taken less action than they wanted to. The attendees who reported being miserable



were so as a result of actions they had taken, and most of the attendees who found the summer tolerable reported taking actions to make it so. The attendees who were engaged in the program reported having figured out what actions to take, and when. Most of the attendees who viewed their summer as savings also reported taking action.

There was no apparent correlation evident in the focus groups across three factors: (1) how the attendees viewed their summer, (2) the motivations they reported for participating, and (3) the actions they took. For example, the attendees who viewed the summer similarly (i.e., those who reported themselves as similarly constrained, or miserable, or tolerable, or engaged, or saving) reported a range of motivations and a range of actions. Further data analysis and participant research may disclose more significant relationships than are evident at this point.

At this stage we would note that each participating household brought its own perspective, its own set of circumstances and its own motivations to the program. Even as participants took similar actions to shift and conserve energy use, they differed in their reports about why they took those actions, and how they regarded the results of those actions. These differences would suggest that savings level alone might not be a strong predictor of participant reenlistment and energy ownership.

In the second set of focus groups we asked attendees again why they were part of the program. We looked to see if attendees again cited savings, choice, stewardship, and curiosity as motivations. We heard that while these motivations were continuing, they were expressed differently as the program had become more intense and action-oriented. We also looked to see if other motivations had emerged as the program became more intense over the summer. The new motivation that emerged was comfort, directly in tradeoff with the other motivations.

We still heard from some attendees who were relatively unmotivated, who had pursued few actions either because they were free riders, or because they hoped that the program would deliver results by itself (*I really didn't understand it completely, but I thought it was a good idea because there are a lot of things I do that I think I need a little brush-up on and My husband leaves about 5 o'clock. So after he leaves, I do the laundry because I'm going to get my laundry done before 9....it kind of fit in my life, because I'm already up early*). Some of these relatively unmotivated attendees attributed their relative lack of action to a lack of understanding of the program (*This is the 21<sup>st</sup> century, and I've been a little reluctant to join, and I'm a little illiterate on some things...if it's going to improve our lives then we need to get with the program, but I'm sort of slow getting into it*). Some attendees with the technology treatment seem to have left the thermostat programming to the installers, only later to find themselves frustrated at the thermostat (*that overrides you*), and confused by the programming periods.

Among those motivated attendees who had taken action, we heard evidence of savings as an ongoing motivation for program participation (*Our primary goal was to save money, because our bills are really high and My main concern was saving money and I'd like to save money...however we can work together and I can save bucks, that's what I like*). Attendees reported that his savings was connected to NV Energy's savings (*This lowers your cost, if you do this, because if you use less, we don't have to start the new plant...it's like we're all working together, as opposed to...this will cost you more and you'd better figure it out and I don't like brownouts and I don't like blackouts... I'm comfortable with cutting back...thinking about 'do I want to pay for another dam', a zillion dollars...I don't want to pay for all that stuff*).



Among those motivated attendees who had taken action, we heard evidence of stewardship as an ongoing motivation for program participation (I think just looking at what we are doing sometimes helps educate us as to ways we can save, and not just for ourselves, but for the whole community and the world in general). Some attendees cited stewardship as a motivation distinct from savings:

*I think there is a reason to do it beside just the money. If you're going to recycle your plastic, and your tin cans, and things like that, why not in things with the energy part of it*

and

*If people start to become more conscious of this...maybe we don't have to build or buy additional generation....we've got to look at both sides of that picture. We've got to look at not just the money, but did we save energy or did we not use additional energy*

and

*They're giving us the opportunity to choose if we want to do this, and we did it mainly to try to be a little more green and more energy conscious. The way I based the hierarchy was that then next would come comfort, but ultimately it was the budget. We always have to struggle with sacrificing this and that*

Among those motivated attendees who had taken action, we heard evidence of **control** as an ongoing motivation for participating in the program (*To prove to myself whether this really is as effective as we have been led to believe, that we could really save energy...it's important...do a little bit, find out how much you can really change*). Some attendees had noted that their awareness had increased (*We were energy conscious, but not like we are now*) and that awareness comes before control:

*My wife...stays home all day. So by the time I get home, she was definitely ready for the AC to kick back on. All in all, we survived it pretty good...between that 2 and 7 timeframe, if I left a light on, oh, my gosh, she was all over it...very aware. So was I, because she made me aware*

Attendees also wanted to make wise choices to control their electricity use (*it's not that big a deal to turn the air conditioner off...we need to think about how we're going to do it together... I want to learn how to cut back and be conservative*).

Among those motivated attendees who had taken action, we heard evidence of challenge as an ongoing motivation:

*My wife and I talk about, this is fun, let's make a game out of this. Let's see how much we can jockey stuff around. We are not as diligent as we could be about turning off stuff that ought to be turned off*

We heard less about challenge as a motivation in the second set of focus groups than we had heard in the first set. Attendees may have satisfied some or all of their curiosity. A summer of hot weather, peak periods, energy use reports and electric bills had supplied attendees with a considerable amount of information as they actively implemented their approaches to the program.

In the second set of focus groups, we also heard evidence of comfort as a motivation. In the heat of the summer, some attendees became directly aware of the tradeoff between savings and comfort (*I didn't go for comfort, I went for the savings. And I didn't save any and I am fairly short-sighted, I just want to be*



*comfortable all year-round in my house and My motivation is, I want to be comfortable. And maximizing savings is not my goal*). Some attendees who noted comfort as a motivation found a balance among their objectives (*It wasn't bad because we both work...so it wasn't totally miserable the whole time, just a couple of hours*). Other attendees, as noted above, found comfort in conflict with their other motivations.

In the Choose When You Use program, achieving savings, choice, or stewardship required significant effort for most participants. Satisfying curiosity, or maintaining comfort, also required significant effort for most participants. Next, we review how the focus group attendees described these effortful summer experiences, and how they evaluated the tradeoffs involved.

## Experiences with Learning, Behavior and Bills

The attendees reported taking a wide variety of actions to shift and conserve electricity usage during the summer. Some attendees highlighted one or two actions, while others described longer lists. As noted in the recruiting material (see Appendix), the Choose When You Use program had provided examples, but had not specified a complete action campaign for the participants. Below, we note the individual actions cited, and then we note the longer lists some attendees recalled. In the focus groups, we did not prompt for individual actions.

The first major area of attendee action was managing indoor air temperature to reduce electricity use. Some attendees reported programming or adjusting their thermostat to avoid all or nearly all air conditioning use during peak periods (*set our thermostat around the peak hours and We set our thermostat at 89° and I adjusted the thermostat to the timeframe and We treated every day as though it were a critical peak day, from 2 to 7 we did not run the air and I would just do tweaks to the schedule...basically, I would set it at 85° between 2 and 7, and then at 7 it would kick down to 79°...we were careful not to turn anything on during those peak times*).

Some of these attendees found the adjustment tolerable:

*We made some changes that would have dropped our bill...and we will continue to do that. We just turned our thermostat off completely during the day, and it was manageable...that's something we could live with)*

and

*I think the biggie is the AC, and the key is it doesn't matter how much you use, it just matters when you use it, so take it way down -- and we were never uncomfortable*

and

*I turned my air conditioning at 11 o'clock down to 76 degrees. At 12 o'clock I turned it down to 75°. At 1 o'clock to 2 o'clock I turned it down to 74°. So I was using 7 cents during those periods, and then from 2 to 7, it didn't go up to 80° until actually a little after 5 o'clock every day. It actually kept the whole house cool enough...I shut all the fans off...this summer I actually saved 11% of energy*



Some of the attendees found the adjustment to be uncomfortable, but they persisted:

*I don't run my air conditioner most of the summer....I used it all summer long in previous summers....I was miserable. It just wouldn't cool down in my house, even well after dark....I sucked it up*

and

*We took pretty drastic measures, between 2 and 7. The thermostats are set for 84° downstairs, 86° upstairs, and we were very strict, and we stuck to it, and we suffered...by the end of August, I was like, 'we are never doing this again.' It was terrible, but I mean that was our choice. We chose to be strict about it, but we did save quite a bit of money*

and

*I don't have an air conditioner; I have a swamp cooler...I would wait until it really got uncomfortable, then turn it on*

and

*We have a programmable thermostat. We changed the times when it kicks on and kicks off....a lot of times, we just put up with a warmer house during the summer until it kicked on at 7 or 7:30 in the evening*

In addition to setting the thermostat higher during peak times to reduce electricity use, some attendees discovered the strategy of precooling, to shift electricity use, as they set their thermostats lower before peak times:

*I saved money every month and was cold lots of times...it really doesn't matter how much I use during the off-peak. So, it was all about just minimizing the peaks*

and

*Here's the thing: the concrete slab floors, the granite counter tops, all the stone in your fireplace, all that stuff....as the air is warming up throughout the day, it's absorbing heat...When I get up in the morning...I got this little ice machine...fill it up with ice, throw some cans of diet coke on there, and for the rest of the day, I don't have to go to the fridge*

and

*The kids get off at 3 o'clock, and when the house gets to be so hot, they can't do homework, but then I learned how to turn it way down and then it's tolerable for them*

and

*We turned off the air conditioner at 2 o'clock, and turned it back on at 7 o'clock when it got hotter. We began to run it before we turned it off at a heavier rate. And as it began to get real hot, we would run it an hour and a half before 2 o'clock*



In some cases, attendees cited precooling as their only action (*Very little...we're air conditioner addicts. I followed their instructions about pre-cooling the house...that's the last thing we did and We try to cool off in the mornings by opening the windows, then shut it all up, and once it starts getting hot by mid-afternoon, turn on the AC.*

Some attendees with the technology treatment reported the remote access feature of the thermostat helped maintain programming, but others experienced difficulties:

*I think the worst part of the whole thing is...adjusting the thermostat...we had a terrible time doing ours automatic, so we do it manually, which means if you're going to turn that down or turn it off at 2, you need to be there at 2. So you kind of work around that*

and

*I was uncomfortable...I'm smarter than the smart feature...I had a plan, and it worked, and I saved \$350 through August, and to me that's the proof that it works...I didn't want the smart feature to make me uncomfortable, so I got control over the thermostat and it did exactly what I wanted it to...I want to have complete control of the thermostat; I don't want it doing anything that I don't tell it to do*

Treatment performance issues for the NDPT rates, technology, and education will be addressed in the final report.

In addition to managing air conditioning, attendees reported other actions for managing interior temperature during peak times, including reducing cooking (*I cook at night, then I use the microwave, cookouts and barbecue*), and reducing lighting (*the big spotlights in the kitchen, there's six or eight of them, it gets really hot. I make my coffee and turn the lights down*). Attendees also reported the use of fans (*We tried to use a fan and I've got ceiling fans...I often wonder about keeping them going 24 x 7*), swamp coolers, and window coverings (*Open up the windows at night and the morning, and close the blinds when the sun comes in. And I have done that forever*). Many attendees noted attention to windows:

*I keep the shutters closed...I went to a craft store, and got construction paper, because my kitchen has a west exposure...with the sun coming in before it's setting, there's a lot of heat...I probably should take it down now, but actually, it doesn't look bad...it makes a big, big difference*

and

*I have this older client of mine...she is 85 years old...she says, 'if your curtain is closed, that keeps your house cool.' Well, I listened to her, so I kept my blinds closed and I think it kind of helped the house stay a little cooler*

and

*In our kitchen, we've got these big windows...we noticed a lot of heat was coming in, in the morning when the sun comes up...my wife went out and bought some 6-foot blinds. We put those on, checked the temperature, and there was, like, a 10 degree difference*



After resetting air conditioning, the second most-cited action attendees reported was shifting the time of laundry (*I changed how I did laundry. Instead of doing it in the middle of the week like I was, I started doing it on the weekend during the summer*) and dishwashing (*The last thing I do before I get into bed at night is I turn on my dishwasher, if I'm running it that night*), or both (*We changed the laundry and dishwasher schedule and I changed my dishwasher cycle, the laundry*). Vacuuming was also cited once among these cleaning activities (*Do the vacuuming or cleaning at the low peak hours and not waste a lot of power*).

In some cases, attendees reported establishing a laundry schedule for the first time (*I would do laundry in the morning, like at 7, and try to get it done at least by 10...I would do laundry at any time until I started the program, and they told me the highest times of the day*). In other cases, attendees shifted an existing schedule (*I just do laundry once a week now, at a certain time and We switched our time running the dishwasher and the laundry to more in the evening hours*). Attendees also more strictly followed an existing schedule (*I don't mind doing the laundry and stuff in the evening, anyway, because it is much cooler...I've tended to do it for many years, but I really had to force my daughter to do the same thing because she never understood. So I gave her the option, either she complied or she paid*).

Many attendees cited laundry as the primary indicator of changed habits (*I basically changed my habits. I always do the laundry either really early or really late I never use a dryer. All my stuff is line-dried*). Attendees said they believed laundry's energy use was significant (*You could see the spike there? ... that was the day I did laundry...you say, how much could you possibly use? You could use a whole lot if you do a lot of laundry and Timing of laundry and dishwasher and that sort of thing...we saved money every month, and we are pretty stingy users, and it has still helped us*). Some attendees moved laundry and dishwashing times to the evenings, rather than the morning, by preference (*Washing: I wash at night, I don't want to do anything in the morning, like after 2 o'clock everything gets shut off, even the lights: I turn it off*).

Attendees reported changing the use of lighting as they changed other uses (*Light bulbs...we made sure we had the energy-efficient ones. It probably helped a lot, and then I do the washing at night and Sometimes I see these spikes, and I think, 'what did I do?' I pay attention to it. I try not to turn on any lights...I don't listen to the radio, or things like that, but...if I have the TV on, that's a big draw*).

Television was cited as a changed use by another attendee (*In July and August between 2 and 7, there was absolutely zero TV in my house. It's amazing that kids read, and play games, and go outside, when you say the TV doesn't go on...so that was a great unintended consequence*), as was water heating (*I put a timer on my water heater; it's the only thing that's electric in the house. I turned it off, and surprisingly, I didn't get cold*). Several attendees reported shifting the settings on their outdoor pool and spa pumps (*my spa...I changed the cleaning cycle from going off during the high-cost period, to going off during the low-cost period*).

Some attendees reported engaging in free household energy audits supplied by NV Energy, and others reported significant investments in new appliances (*August, I had a new air conditioner put in... in January, I got a new washer and dryer, energy efficient...in March, I got a new dishwasher, energy-efficient...new seals around my doors, and changed a couple of light bulbs...I've been very, very pleased*). These decisions were a mix of prior plans, and initiatives attendees said were undertaken due to the program.

Several attendees reported either increasing their time away from home, or beginning to stay away from home, during peak periods:



*We babysit two kids, and on the critical days, instead of babysitting them at our house, we just grabbed them and took them over to my son's, which is three blocks away, and used their air conditioning. We are already babysitting them for free*

Others already worked away from home during the week, and connected that behavior to the program (*Living in Las Vegas for all these years, you kind of -- I won't say get used to it, but you try and manage it...I am in the working class...for the hottest part of the day, we are out of the home*). Working away from home for most of the peak hours could be seen as an action in itself, perhaps good enough to avoid further action, as one attendee said (*No, because I would get home around 5:30, so that half an hour, I was, like, 'that's fine, I don't mind paying half an hour'*).

These attendees were examples of those who took little action. Some of these attendees attributed their inaction to the fact that their schedules already suited the Choose When You Use program (*I didn't really change all that much. Doing the laundry and dishwashing...I did that on the weekend anyway, or later in the evening, so I didn't really change my schedule at all*). Others claimed to have acted, but didn't have specifics to offer (*I just was extra careful*). Others admitted signing up for the program, and then forgetting to take action (*Actually I did not, I am embarrassed to say ... I am on autopay ... I get my paper bill, I toss it into a corner. I look at it three weeks later and it was kind of a shock to me: oh yeah, the summer bill went up*).

Adjusting major appliance use and shifting occupancy times were the most common actions cited by attendees, but they were not the only ones. Many attendees embarked on approaches of their own design, including these and other elements. For the purposes of this report, we describe these approaches as:

- wait and see
- try a few things
- try until constrained
- see it through
- all-in

First, the 'wait and see' approach included attendees who reported taking no action merely because they had decided to take no action (*I ran my thermostat program like it has been forever...I didn't change anything and We haven't done anything different, really, than what we did before. We signed up for the program just to see how it worked in comparison to what we did before*). It also included attendees who saw themselves as only precooling a small amount (*A little bit, maybe get up a little earlier to get it cold earlier on those days and A little bit, only because we have little kids at home...on the critical days, I made sure the house got cooler earlier to make sure it wouldn't turn on at all during the critical peaks*). These attendees seemed to be hoping that either no action or a little action would be good enough to deliver savings.

Earlier, in the late spring, few attendees had constructed a deliberate approach to the program. Across the summer, the large majority of attendees did construct a deliberate approach to the program. These approaches involved significant changes in attendee lifestyles, and they usually had many moving parts. Most attendees described taking the program seriously.

Second, the 'try a few things' approach included attendees who had a deliberate approach including several actions, but who either did not offer an explicit conclusion about the results, or had a neutral point of view. Many of these attendees seemed to be either still considering the results, or describing their approach



independent of the results. The things attendees tried varied widely, depending on their circumstances:

*On a typical summer, you can open up the windows in the later afternoon or early evening, and there's a beautiful breeze that blows through, and you don't need to run the AC 24/7, but this year was so atypical because of the fires, because of the heat. We planned our activities between those hours...I live in a retirement community, so we go and use their electricity, use their computers, and watch their TV...we did have to run the fan for our cat...she got too hot....she was kind of, like, starting to pant*

and

*I didn't do laundry...my instructions were to leave the thermostat at 80°, not that that happens...I did as much as I could, didn't run the dishwasher, I ran it at night*

*The one that was challenging was the TVs. We have several TVs in the house...and then the lights. As much as possible, I like to leave a light on, especially up front*

and

*Because of the program...we kind of made it a competitive thing, see how far we could bring the bill down...we stopped cooking on the electric stove during the day...unplugged things we weren't using like the TV in the bedroom...we followed the program religiously. We weren't doing any heavy-duty stuff like the dryer or the washer*

and

*At 2 o'clock thermostats went up to 80°...pool pump is shut off at 2 o'clock...no shower or bath between 2 and 7, no washing machine, dryer, no dishwasher between 2 and 7*

Attendees made investments and changed their household habits (*I bought a cooler, the ones that you use with water...my daughter uses the computer in the morning, before school and I do the laundry really late and I changed my habits for doing my dishwasher, washing, dryer....I used to turn the TV on first thing in the morning and last thing at night turn it off, and now I turn it on when I watch it, turn it off when I'm not watching it*).

Third, the 'try until constrained' approach included attendees who had a deliberate approach including several actions, and who reported they were dissatisfied with the results. Their negative reactions were based on uncooperative household members, discomfort, inconvenience, financial disappointment or a combination of these factors.

Attendees encountered uncooperative roommates (*This is a 24 hour town. I got one of my roommates who doesn't just work an 8 to 5; he's usually home 8 in the morning sleeping until 4 pm...so it's like, what can I do*). Attendees also encountered uncooperative family members (*my wife says I am an extremist; she doesn't like to not have power*), and constraints from guests:

*At the beginning, yes. I would cool the house down before the critical hours...and then...my son comes in and kicks it down to 77°, and so it blew all my careful training...so I said to hell with it*



and

*We unplugged everything...then I landed in the hospital for a week...we had a huge fan in the living room when my daughter came from Wisconsin to help me, and these fans were going almost day and night, and our bill was \$300 for that month...I almost ended up having a heart attack looking at the electric bill....they are upping the rates and then saying they're helping us -- they are not helping us. They are just padding their pockets, I'm sorry*

and

*My husband put me on this program unbeknownst to me...it was starting to get hot...now I'm looking, we have some time constraints here...we had visitors, (five, two adults and three children) for eight days within the month of July...my bill went from \$129 to \$414.../that put me into a shock mode....now I am watching everything...now I can't do anything until I look at the clock. 'Ooh, is it between 1 and 6': now I'm driving myself nuts, if you want to know the facts*

The discomfort due to high summer temperatures and reduced air conditioning bothered many attendees (*The problem is between 4:30-5:00 and 7, that was the worst period. That's when the humidity and heat just take over...that dew point comes right in and I let the air conditioner run. It would run at 85°; I had to set it up to 88° in order for it not to come on between 3 and 7, and I was so miserable...*). Attendees would try to cope with their discomfort (*I did a slight adjustment...I suffered a little bit maybe from 7 to 9, then I knew I could lay down and sleep*) but at times, these attempts came up short (*We sort of got used to the 82° thermostat setting from 2 to 7; on a super-hot day, it would jump up to 82° by 3:30 – 4 o'clock*).

Attendees reported discovering their own limits:

*There are certain things you've got to have...there's going to be a certain minimum temperature you have to maintain... that is one of the things we didn't like about the program this summer, with the peak usage and I reached the point where I thought, 'I don't care how it looks, I can't suffer like this next summer, even if it's going to cost me more'*

and

*I really cut down, and I lived all of my life before we had air conditioners. We had swamp coolers, and you knew what to do to stay as cool as possible. I've done everything I know how to do and I've decided enough is enough. I am 70 years old. I should be able to enjoy life and enjoy my home*

Attendees reporting discomfort had directly faced the tradeoff between comfort and savings.

Some attendees also reported directly facing the tradeoff between convenience and savings:

*It took quite a while to get used to starting the laundry really early in the morning...we had our grandson that we were taking care of most of the days, and the TV, just again temperature issues with him, and then if you want to cook anything in the over, it's long past the time when he starts screaming hunger*

The actions these attendees reported were familiar (*The same kind of things that everybody did*), but these



attendees' reactions were different:

*We did the laundry on weekends, but for me it was inconvenient because I get home pretty much always at 5:20, then I would go to the computer or turn on the TV*

and

*I found myself stressed constantly, trying to make sure -- OK, between 10 am and 1 pm I can run the AC, but 1 p.m. to 6 p.m., I really shouldn't run the AC. But that's the time I really need the AC ... the whole thing was extremely stressful)*

These attendees found that the inconvenience they experienced from leaving their previous routines behind was unacceptable.

Finally, attendees whose approach to the program turned out to be 'try until constrained' included those whose constraints were based on the financial results of their participation. A few attendees cited extra costs they connected with participation (*When I was home with my son, I found we spent more money because we tried to get out of the house, because it was hot, there was nothing to do...we would go bowling*

and

*I got a quarter of the house solar-screened, because boy, that was a lot more expensive than I thought it would be to do the whole house...then I bought two floor fans...but then my July bill was \$551 and I almost fell through the roof.*

Many attendees reported bill shock in spite of everything they had done:

*I got it documented...we turned our thermostat up to, I think, 84° or 85° when we were gone, turned everything off except for the bare minimum...but yet there was very little difference in the usage during that time....we did everything we could preceding that to try to control our costs and control our usage, especially in the afternoons*

In more than one instance, these attendees would emphasize that they were concerned not just about their own bills, but also about the bills of the less fortunate. As one attendee put it:

*My bills...were outrageous compared to the previous year in June and July...how sad I am...people are going to be forced to get bills of \$300, \$400, \$500, \$600, and \$700 and will have no out. They're home with 4 kids...a husband who is out of work, whatever, and they can't live in 89°...they should not even be eligible for the program. This is insane...what does that have to do with the real people who live in homes, and work...we're in that thing where we have 'choices' -- 90% of the people don't have choices...how can you have saved money this summer on this program unless you left the house? It can't be done*

*How do you sell it, do you sell it to someone saying 'oh, look at this 90% of the people -- 5,000 people saved \$400 for the year?' and they go 'I'll sign up'. And then they get the bill in the summer...mine was outrageous, and I was working on it. It depends if you're honest or not when you sell this program*



Some of these negative reactions from attendees were intense, and some were not, but they are all understandable given that the Choose When You Use TOU and CPP rates were not designed with customer adaptation in mind. These rates were designed based on utility costs. Furthermore, the three treatments (rates, technology, and education) were not integrated in design, but rather were additive. For example, participants were not told how to use the technology treatment to take best advantage of the rates, or how to apply the education they were receiving to their thermostat operations. Each treatment was provided as an additional separate element; it was up to the individual participants to put the elements together. As a result, attendees reported discovering their own limitations in planning, tolerance, and endurance. Missing out on savings because of these limitations was very disappointing for some attendees.

However, some attendees reported that they had enough planning, tolerance, and endurance to benefit from the program. The fourth approach to Choose when You Use we have termed ‘see it through.’ The ‘see it through’ approach included attendees who had a deliberate approach including several actions, and who reported the results were acceptable. The main difference between these attendees and those who were disappointed seemed to be in their reactions, not in their actions (*It was the air conditioner: all I had to do was just kind of learn to adapt, and I’m not really sacrificing a lot...it was getting up to 82°, which is not hot, it’s not to me and It was fine. We tried different things...the comfort level for everyone is different, of course*).

The ‘see it through’ attendees encountered challenges in the summer, but they worked through the challenges:

*I set the timer, and I do the laundry after peak time, and I liked when they called about the critical thing, don’t do the naughty today...I did cool it off an hour before the 2-6 time and that really worked, it was just enough to take the edge off*

and

*we tried to make a conscious effort to keep the air conditioning at levels that we could just barely be comfortable, and use any other electric appliances at a time when we could pay lower rates*

These attendees reported that the challenges they faced were aligned to their lifestyle preferences:

*We never have run the air conditioner much, and we ran it less this summer and made a real point of not running it on weekdays...we never ran the washing machine and dishwasher during peak times...but as far as normal living in the house, we turned on the computer or the TV when we felt like it*

and

*We didn’t turn off our TV. We didn’t, like, stop using the computer, We just didn’t use the air conditioner, we didn’t use the washer and dryer, and we didn’t use the oven, which we don’t generally use in the summer anyway, and my bill was a little bit higher, but not a lot...I mean it just wasn’t that big a deal for us*

and

*I bought a nice little electronic crockpot thing that I was using in lieu of the oven, trying to make little changes there...’OK, there’s an event today, so whatever you’re doing, don’t do it between 2 and 6’*



These attendees faced issues with other household members (*I will tell my husband, ‘don’t use the computer during the peak hours’*), but resolved them:

*I had to compensate for my roommates a little bit. I mean, I couldn’t just make it a sauna in there to fit the timeframe perfectly...started a little bit early, so I can make everybody feel comfortable*

and

*My daughter...just loved the fact that she can’t do anything between 2 and 7. No housework...we never put the AC below 76°...because my one grandson has health issues...but they said I still saved, so I’m all for that*

and

*His grandparents had control of our AC...it was nice to come home to a fresh house, but we would turn it off and just open the windows. He likes to barbecue outside too.*

The ‘see it through’ attendees seemed to experience some of the actions they took as alternatives, or even preferences, to their prior routines. They reported less stress and inconvenience than other attendees.

Fifth, the ‘all-in’ approach to the Choose When You Use program differed from the other approaches, in that the attendees reported complete dedication to reducing and shifting electricity use (*When this program first came out, I did everything it said to do. I went in there and did everything....I was already pretty energy efficient anyway, because I do care about the environment and Basically from 10 in the morning until 9 at night, there was no laundry, no cooking, no dishwasher, definitely no air conditioning and between 2 and 6 on critical peak, I chase the kids around making sure they didn’t have anything plugged in*).

Some of the ‘all in’ attendees were attentive to the program all of the time, but had set boundaries on their actions (*We timed everything differently. Even laundry, those types of things. We ran our pool earlier and We used the air conditioning to the level that would give us some degree of comfort, clearly trying to moderate the use of washer/dryer, so as to do it during the lower cost hours and Just made sure nothing extra ran...our thermostat was set at max the whole time, no AC, no laundry or dishwasher, didn’t even run the TV for the kids. It was just ceiling fans and regular fans*). While these attendees had limits on their actions, they were diligent (*We made sure that when the rates went up we were not using any electricity, or at least not as much and thorough*):

*We had a new pool this year...scheduled the filter to be on earlier in the morning, turned it off at 1:30. The air conditioning we set at 76° until about 2 o’clock, and then we’d bump it up to 87°...the house never got more than 80° or 81°, even on that 117° day.*

Many of these ‘all-in’ attendees were focused on savings:

*I think we’ve learned enough good habits, we’ve made enough upgrades and updates, and changed out every freaking light bulb in the house, and made enough changes that we would save a lot more money even if we went back to the flat rate*

and



*We set it up one time and went through the whole period with it. We shut everything down at 2 o'clock....I'm cheap, so I know if I'm going to be paying 45 cents, that's enough to get me motivated*

For some of the 'all-in' attendees, the dedication paid off (*We scheduled laundry not to be 2 to 7, and quite often we went out to dinner, or went out to a casino, or something during the afternoon hours...we saved over \$350*), and for some it did not:

*We made these big changes, unplugging everything and not using the other appliances during the day, and according to the pie graph, we did everything right, but our bill was \$40 more each month, so was the pricing wrong? ... they said we would see the biggest savings in the summer if we followed the program correctly, and we followed it correctly, and that wasn't the case at all...it was frustrating...it backfired*

Beyond those 'all-in' attendees focused on savings, some attendees seemed to have no limits (*Everything...I lived from 9 o'clock at night until 10 o'clock in the morning and You do become obsessed with the program*). These 'all-in' attendees were living the program:

*I found this to be a kind of full-time project, actually. I rearranged everything, you know, I can't charge the phone until after 9 o'clock at night, laundry on the weekend. I can't wait until 9:00 to eat dinner, but 6:01, I can...no radio during the day. I don't usually use my dishwasher, almost no air conditioning*

and

*My husband and I went shopping together one day...we were in the frozen food department...he pulls out a lasagna and hands it to me: I said, 'oh, hell, no'...I pulled out another one and he said 'what's the difference?' I said...this one is microwaveable 30 minutes. This one, I've got to crank up the oven for how many hours? So he says out loud (it was really funny because there were people in the aisle listening to us), 'wow, you're really into this'*

The 'all-in' approach included attendees who had a deliberate approach including as many actions as they could. These attendees reported making a major commitment to the program. Their level of attention to Choose When You Use seemed to be high and sustained, in contrast to other attendees whose engagement was reported as occasional, or even random.

The five various approaches to taking action were distinctive in three kinds of action that were reported rarely in the post-summer focus groups. First, almost none of the attendees reported doing any kind of bill or rate-related calculation to model the impact of their actions. Rather, almost all of the attendees reported that they relied on the program energy reports to keep score. Second, almost none of the attendees reported monitoring their usage numbers daily. Yet almost all of them reported monitoring the actions they were taking daily. Third, almost none of the attendees reported studying how best to employ the individual treatments they received, let alone using those treatments in specific pursuit of objectives. While the treatments offered interesting information, the attendees' reported they were focused on taking direct action.

The attendees' focus on direct action was emphasized in their accounts about how much time they spent with the energy reports, how cognizant they had become about energy use, and how the CPP participants



among them attended to the alerts they received. In each instance, the attendees' accounts portray approaches light on analysis, and long on action.

Examples of the program's monthly energy reports are reproduced as an appendix to this interim report. According to the attendees, the monthly energy reports emphasized a savings to-date metric, and a 'smiley-face' indicator of savings. The monthly energy reports also included charts and graphs regarding household energy use, energy use tips, and rate information. The monthly energy use reports were designed to reflect the kinds of information earlier studies had indicated customers would appreciate in addition to what was included on their bills. As a metric, time spent with the energy reports indicated attendees' level of engagement with the energy use analyses the reports contained.

There were a few attendees who reported they anticipated the arrival of their monthly energy reports with interest (*I go running to him saying 'how much, and what is it saying?' and I don't spend much time, but I open it up right away; it's exciting. I look forward to this; I don't look forward to my bill*). There were a few attendees who reported they spent some time considering each monthly energy report (*10 to 30 minutes and I compare it from last year, and so it takes a little bit longer*).

However, most attendees spent very little time with their monthly energy reports (*Zero and Not at all, it's two months old, I don't care*), treating them less like analyses, and more like alerts (*Not a whole lot. I'm focusing on the happy face or no happy face*). Attendees said they weren't concerned (*Not too much. The thing has been lower, and we've been saving anyway...it's good. I am not too worried about it*) or they could examine the reports in passing (*I just look at it while I'm eating*).

The typical attention span for the monthly energy reports ranged from 0-1 minute (*About 5 to 10 seconds. I look right for the savings and A minute maybe and I spend a minute or so and A minute or two*), to 2-5 minutes (*Couple of minutes and 3-5 minutes and 5 minutes*), to 5-10 minutes (*Probably 5 to 10 minutes, but my wife has largely spent much more time looking at it, so 5 or 6 minutes and probably about 10 minutes and about 10 and 10 minutes*).

In their limited time with the monthly energy reports, attendees glanced at different items. Some just looked at the savings (*Just a minute, looking at the savings and Maybe like 5 minutes...I look at the savings, and how I did compared to everyone else*), or looked for problems (*If there are no discrepancies, very little. But then, I like all that information*). Some looked to see that the report was still familiar (*I spent probably 5 to 10 minutes looking at the first one. After that I don't really give it much thought. I just look at what it says*). Some had learned to recognize familiar results at a glance (*I probably spend 30 seconds on each of these: I look at the comparison and the difference, I look quickly at the pie chart, I look at the energy utilization bar graph, and I probably spend 30 seconds looking at my gas & electric bill to compare this month's usage with last year's same month usage to see if it is going up*).

There were attendees who were attentive to the energy reports (*That graph was enough to incentivize us. The cost graph, without information about our usage, just believing what NV Energy said about what the usage typically is*). However, in general, the time spent with the energy reports was a quick and cursory overview (*I get the highlights and I don't spend a lot of time analyzing them. I just kind of go over them, and say OK*). Attendees developed routines for glancing at the monthly energy reports (*About two minutes. I'll go through and look at last month's compared to this month's, that's about it and I spend about 5 minutes*



*looking at the history, and the time of usage*). No attendees said that they wished they had more time to analyze the monthly energy reports, or that as the program progressed they spent more time with them. While only a few attendees said they didn't look at the monthly energy reports at all, and many attendees said they appreciated the information in the reports, their attention was limited.

Many attendees reported the program had made them more cognizant of their energy use (*Now I have learned a few things out of this and I think the program has made me much more aware of when is the best time to use it*). A few attendees also sought out the NV Energy website for more information (*If you go on the website, it will tell you...three or four times a week...because I'm able to see if I'm under the average. So it's a game, I guess*). However, neither the initial program recruiting materials, nor the monthly energy reports, nor the NV Energy website were the typical triggers for attendees to become more cognizant about their energy use. Instead, attendees reported becoming more cognizant was a result of attention to their bills (*I watched my bill*), and attention to their actions.

Attendees reported looking at their bills with the program in mind:

*I think I realized when I saw a bigger bill. I would try out stuff. I'm like, 'this isn't going down. This is more than I paid last year. Let me look at it again'...I actually used a lot more than I thought. Now, I think if next year I go into the program I would understand it way better. I think that helped me save energy every day...I'm always going to save because the program got my mind programmed*

and

*In the beginning, I didn't understand the program, so I just kind of used it...but in the middle of August I realized how the program worked when I received the bill...now I'm so conscious of it, it's almost an everyday thing for me now. Not even a critical hour, but energy wise: it makes me think now*

Attendees also experimented with actions to learn how the program worked:

*I was on vacation but I left the air-conditioning to run for an hour or two...It was a perfect experiment to see exactly what that air conditioning was doing...it's not much money if you do it just for a couple of hours one day, but the point is...if I were running the air-conditioning all day long, that would have been enormous*

Experimenting with actions was an effort (*This whole program...putting it to work is totally different than knowing about it...it takes work, and you know, I've worked all my life, and I really don't like working*), and not an effort that some attendees appreciated (*For older people, it's like...I've got things to do besides figure out all this dumb stuff...I came up with just trying to make a living, and have a good life and We didn't want to think about it. We just wanted to turn everything off. We just knew it was high*).

So attendees seemed to begin acting once they reached a point where the information they had seemed sufficient to act upon (*We were avoiding it anyway, whatever the price was, because we knew the base price was this, so if we avoid those 16 days, we're saving money*). Attendees were ignorant or unsure of basic information such as rate levels (*I don't recall it. It's right on the fridge and I know July and August is ridiculous as far as the cost of electricity, and it was high and I can't really tell you about the rate part. I can tell you what I paid for July and August*). Attendees were unsure of time periods, and dates (*I know they*



raised it to 44 cents a kilowatt-hour -- and how long is a kilowatt-hour, by the way? and Didn't this end on September 30, 2013? So we're still doing the peak and off-peak?). But attendees knew enough to do what they had decided to do. Attendees assembled enough information to act on a heuristic, took actions, and checked the monthly energy reports in passing to see if their actions were working:

*I learned something...screw all the other stuff, it is the air conditioners that make the difference. I don't care what else you got on, lights, TV ... I played around with it a couple times to see the results, and it was all the air conditioners.*

While attendees generally had enough information to act upon, many still had other questions (*What's the purpose of the peak? ... If it was to supply energy to other folks who need it, than I am more willing to put up with the inconvenience and How much electricity does each appliance use on average?*). In some instances, when attendees tried to better understand the program, they became confused (*I'm not sure I know how to read the statements...it seems to me I'm paying more than I was and Finding the materials that indicated when Time Of Use shifted...that was very difficult*). Thus, while many attendees seemed to be using the information that they were supplied as signals, rather than spurs to analysis, some attendees wanted better information.

With some exceptions noted elsewhere in this report, program participants on a CPP rate received alerts for critical peak days. Attendees had plans in place for critical peak days (*We shut off the air conditioning, literally turned it off and I left home...during every one and I put off some things. I didn't do some energy-using things and I was extra-careful to make sure I didn't have a dryer running during critical peak and I took the kids swimming during those times, because it was just too hot*). Attendees receiving these alerts used them as signals (*It makes me more aware that today is the critical time and Yes...every time I got one, I'm saying, 'God, again?' But for the overall experience...it gave me a chance to focus on lowering my bill, and just seeing what the comfort zone would be in the house*). A few attendees found the alerts irritating (*I got the calls, and they got really annoying by the end of the summer*), but most found them useful (*If my rates are going to be higher, I want to know*).

Attendees on the CPP rates reported one particular problem with a lack of information. Some attendees reported not understanding why NV Energy scheduled peak days when the outside temperature wasn't extremely high:

*When you knew that there was an event, the weather proved there should have been an event....except...I thought maybe three, or just a makeup. I felt really bad, because I started distrusting the utility...maybe there were three that were not justified. I couldn't see any other place in the country that was drawing energy from us, so let's just whip them up, and charge them another \$500 next month, and people had to donate the money*

More than one attendee invented an explanation for these unusual peak days:

*I was wondering if NV Energy had an artificial day for selling power to California and then putting the strictures on us, so I was a little bitter for those days...I know that California was buying power*

and



*This was sold as a way to conserve energy during peak periods, which were expected to be really, really hot...we had two of them in late September. That told me we were misled to some extent...that tells me it's more profit than it is peak-power related*

Another attendee was offered an explanation consistent with the program's tariff filing:

*I questioned whether or not the peaks were there just to make sure NV Energy got the money it deserved, or thought it could get, based on the number of allowable events....I asked... 'tomorrow is not going to be hot...can you tell me why there is going to be an event?' The answer was, 'because we have to burn up these number of days'*

Attendees may have generally misestimated the number of critical peak days there were across the summer (in fact there were 16 peak days; among those attendees who could estimate at all, the estimates were 8, 10, 12-14, 15, 16 and 18 peak days). It may have been that few attendees could cite how long the critical peak times were, or what the rate was within them. But many attendees noticed at the time when a critical peak day occurred under unusual conditions (*Why did they call one on September 16<sup>th</sup> when it wasn't even 100° out there?*). Attendee concern about the purpose of cooler critical peak days illustrates that attendees did base their actions on an understanding of the program. Calling that understanding into question caused some attendees to question the actions they had in mind, and the consequences of those actions.

With a general understanding of the program, and with specific intentions to try out a set of actions to reduce or shift energy use, attendees engaged in their first summer under the Choose When You Use program. The approaches that many attendees reported to the Choose When You Use program involved very little time or effort in understanding the program, and deciding what to do about it. Instead, on a trial and error basis, most attendees seemed to rapidly assemble plans of action once they got around to it, and then they checked their performance against the savings numbers reported to them monthly. The attendees were trying out actions, and if they worked (i.e., if the actions were followed by energy reports indicating dollar savings), the actions were confirmed as valuable.

Attendees encountered two major problems with their typical approaches: first, higher summer rates limited bill savings relative to the flat rate even if energy use shifting and saving was substantial. Attendees with successful approaches to the program would be expected to save in the non-summer months. Only the most extreme approaches to the program would also save in the summer months. The experimental heuristic attendees were generally following would discover this situation only after it occurred.

Few attendees reported that they understood these dynamics of their bill levels. Instead, many attendees reported gaining confidence in their thinking about the program during the early months, when they were (rather automatically) saving, and then suffering a crisis of confidence in their approaches during the summer (*I saved a minimum of \$15 a month until this last bill, and then I was about \$45 up, and I haven't figured out why yet*). Most bills rose compared to prior years, some to extremely high levels. Extremely high bills created cash flow issues for program participants trying to maintain household budgets. Even after the summer, although these dynamics had become clearer to many attendees, the memory of the summer bill stresses remained:



*I started seeing a savings at the beginning, and then this last month...it is like being on a diet, you try and try and try, and you jump on the scale, and your weight goes up. It is disheartening*

and

*No, it has been terrible for me. I have had shocks. Shocks! But I want to say again, I am a conservative. He calls me cheap, but I say I am a conservative, because I never leave the lights on.*

The second problem attendees encountered was the degree of discomfort resulting from resetting their air conditioning to best deliver savings. Many attendees reported that their summer included both rising bills and significant discomfort, despite their best efforts (*I saw three months of the off-peak, and I was saving 20 to 25% a month...but the July and August bill ate that and a lot more with their peak rates, primarily because of the air conditioning. And for me, at this point, I am not impressed at all*).

## Expectations and Outlook

Customer program evaluation is a challenging task, especially in a group setting. As attendees evaluated the program in the second set of focus groups, some of them reported their program costs (e.g., investments of time and money, reductions in benefits like comfort and convenience, risk, stress, and confusion) as substantial. We asked both about attendees' current views (i.e., is the program worth the time and effort?), and about attendees' prospective views (i.e., if across the entire first year of the program, you save only a penny, is that good enough?).

Attendees' current views of the program's value ranged widely. Some thought it was too early to form an opinion (*Too soon to tell* and *Question mark* and *I don't have enough information and we haven't given it enough time yet*), or wanted to wait for specific information before forming a view (*We've only been through the summer part of it, really* and *It's hard for me to say right now...I'm kind of more waiting for winter and I would have to see how much I save*).

Some attendees tried to take the long view:

*I like the program because it is trying to make people save energy...I'm disappointed in the savings...but I am trying to look at it as a 12 month program like it tells you to*

and

*If I use the same number of kilowatt-hours, and I shift my usage to times of day that are more economical for NV Energy, I expect NV Energy to share that savings with me. I don't want it all, but I am not going through all this work just to help NV Energy's bottom line*

and

*I don't mind taking a hit on one or two months in the summer, as long as the end goal within 12 months is 'hey, you had a 15 or 20% savings in your energy.' Then I'm OK with it*



Other attendees viewed their program participation as intrinsically valuable:

*I don't look at it from just the monetary point of view. I look at it from the environmental point of view, and I do want to shave energy use. I would like to shave carbon use and reduce overall energy usage of the community. So even if it costs me, I am willing to do it because it's of value to me*

and

*I just sort of set all these rules for myself and kept them. But it was a big project actually to think all that through, and to follow those rules that I made for myself, because I was determined to beat this*

These value equation for these attendees was not strictly based on bill savings (*I don't know...that there actually is an ecological profit in this. That would be my deciding factor, actually*), or they found the program to be self-affirming:

*I kind of like the idea of I pay a lot when it costs Nevada Energy a lot to produce the electricity, and I pay practically nothing when they can deliver the energy for practically nothing. I think that's cool, and it gives me the incentive to watch it during the bad hours of the day*

The actions the program asked these attendees to consider were actions they felt good about (*This gives me control....I can control my energy uses, and therefore have some influence over my bill and It's always been worth my time to do that stuff. It's just what I do*).

There were attendees who believed the program was balancing costs and benefits (*I think I am breaking even and I want to say it kind of evens out*). Some of these attendees found the program to be effortful but beneficial (*It does take more effort, but there are more choices...when you have choices, you can do more with it and I wanted to save money, so it's worth my time. I thought it was easy to change. I didn't seem to have any problem, but it wasn't a breeze*). Some attendees found the program a balance, but a near thing (*I am about breaking things even. This doesn't seem like really worth my time. I don't have that much time to fool with the schedule that much*). Other attendees who saw a relative balance of costs and benefits were from flexible households (*It hasn't bothered me. I can work it out and It's not a big deal for us to change our energy use*), or who expected to improve:

*I think I ended up paying about \$100 more over the course of the program, which isn't bad. I suspect I could get better with time and with experience. So yeah, I think it's a good learning process -- I don't know that this year was a success, exactly. I think I can get there*

Some attendees were positive about the results to date, citing savings levels (*For me, yeah, because I see savings of 20% and I've saved over last year and Yeah, because I'm pretty sure I'm going to save this winter*). Another positive attendee cited flat bill levels in spite of problems:

*Our bill came higher, but we used it, and I think it was reasonable -- the price we got because his kids were here, his grandparents were here, and we ended up getting a bill of what we used to get just between the two of us, so I really didn't have a problem with it*

The attendees who said the program had been worth it had generally accumulated savings in the early months (*So far it has been, yeah. We were running about 20 percent savings and I think about 15 through the*



*summer...a little bit of the savings has gone away, however you look at it). One attendee mentioned the bill guarantee (I think it has been worth it. I haven't saved any money yet because of the summer days...it's like a win-win situation...if you end up spending more...you can go back and use that old rate) as a reason for remaining positive. Another believed that dedication and savings to date indicated the program was succeeding (I always give everything 100% with what I do, but I guess again I'm going by the savings...which to me is the purpose of the program).*

However, these generally positive attendees were accompanied by those who were skeptical, or confused. Attendees were skeptical because they were working hard without much to show for it (*To-date we have only saved \$6, and we have been very diligent, and I think we have really tried to be mindful of when we use things...there are still times of the day when you have to use energy and Overall, the difference was just 2.8% on what I've saved, and I thought I was being pretty conscientious*). Attendees were skeptical because they had to focus on savings (*I don't have the money to think green at this moment. So if it doesn't show up in my bill, it might not be worth it*). Attendees were also skeptical because they were losing money (*it's costing me more to be on this program than it did before I was on it*).

Attendees were confused because they didn't know what else to do (*I'm not sure how we could lower it any more. I really believe that we made a significant effort to cut it down as much as we could*), or they didn't understand why what they were doing wasn't delivering savings (*I don't know why it hasn't been less, because we very seldom use our air conditioning...as the cooler months come along, maybe it will be different, I don't know...it really is a lot of trouble to try to gear everything to these various rates*).

Even among skeptics and those who said they had been miserable through the summer, the second set of focus groups included few participants who said they had already decided to leave the program at year's end. So we asked attendees to look ahead and imagine a neutral result: at the end of the first year, they had saved only one cent, would they reenlist in the program for the second year?

In asking a hypothetical question about a neutral outcome, we were asking the attendees to set aside their current projections of savings, in order to consider the roles of other benefits, and of costs. As noted earlier, although few attendees had projected specific levels of savings at the start of the program, almost all of the attendees had said savings would be the primary indicator of the program's worth. The discussion helped indicate what level of savings would have to arrive in the months to come to tip the attendees' views in favor of reenlistment. We heard a similar range of views, but with more detail.

Some attendees didn't know what they would do if they saved only one cent in the first year (*I don't know and Right now, we're right on the edge. I don't know, it depends on how much money we save*). Some attendees said the answer would depend upon other people in the household (*I get married next month, so it doesn't matter what I think...if she's happy, then more than likely we're probably going to stick with it and I don't know about the penny, because we experienced a little concern on the hours between 3 and 7. We had some discussions about it, occasionally*).

Other attendees kept their responses in the present (*I can't say I am satisfied, because right now I haven't gotten that notification at the end of the year*), or were weighing conflicting factors (*There are two ways I'd look at it. One of them is, in the grand scope of things, I mean, we're saving energy and that's good for the world. So, in that sense, it really wasn't that demanding to me, but for a penny...it doesn't seem penny-wise,*



really, to go through that type of thing).

Many attendees took a longer view of the program than one year (*I would go with it, because it's the second year, and I'm sure you guys figured out a reason for doing it for two years, to see how consistent it is or whatever*). In the event they saved only a penny in the first year, these attendees planned to try harder in the second year:

*I'd stay with the plan if I were even. I do think I can do better in the next year*

and

*If it was just a penny, I'd say yes, and the reason I would is because when we got those first bills from the summertime, we were in shock...and it made us take a more serious look at what we were doing, and how we were doing it...so I know that this year, I'm going to do a lot better when it gets hot...we can do a lot better next year*

and

*You've got to think of this in terms of the long-term, instead of just, like, three or four months. You can't just throw in the sponge right away. You've got to discipline yourself*

and

*I don't think it would be, you know, the penny saved -- I think it creates discipline...first year...I didn't maybe monitor it closely enough as I should have as far as savings go...so I would try again for the second year just to monitor it and see*

These attendees with a longer view said they would try different actions (*I'd say sign me up, but I need to be a little more strict about using electricity and Yeah, just make adjustments. Well, the first year, I would say, is a trial or adjustment period, and this month-to-month thing we get now should be used as a gauge to make adjustments... you have to give it a chance*). These attendees also believed conditions might change, and their financial goals could be moved further out:

*I would probably be inclined to stay with the program, given that this was an atypical year. I think my energy usage would be far different next year...if I saved one penny on a really bad year, that means I probably would have saved significantly on a normal year*

and

*I probably would, actually, just taking into account that this is an unusually hot summer*

and

*I think I'd stay on the program, the way we are living right now, both still working*

*I am going to stay with it...right now I am \$118 more than I paid on the flat rate, but I know that the two months I screwed up the air conditioner is probably most of that...as I get to know the program a little bit better, I think we'd get smarter, we'd try different things, we'd experiment with different*



*things...if I save 5%, I'm happy*

Other attendees could accept saving only a penny in the first year because a penny still counted as savings, because the program was well-motivated, or because their priorities were elsewhere. Some attendees appreciated any kind of savings (*I would still be with the program. If anything, it makes you aware of the energy you're using. I mean, a saving is a saving, if it's a penny or \$500. As long as you know the bill doesn't go up, then I consider it a success and A penny saved is a penny earned*).

Attendees focused on the program's motivations noted the rate would be fair (*I am OK with that....in fact I'd pay more because I want to be incentivized by actually paying the real cost of what we do...I need to see that it really did peak shave and I would probably stay with this...I don't like the idea of a flat rate...so I figured the person who used more, or uses at a peak time, should pay more*). Other of these attendees would stay because the program was aimed at education (*I would definitely because it's the right thing to do and I'd do it. I don't know. I kind of like it. I mean the whole reason behind this is to change people' habits, to use energy more efficiently. It might be a little less convenient, but it is going to be greener and I mean, even if I didn't save a penny...as a people, we need to learn how to manage our energy use*).

Other attendee priorities included the challenge (*I am OK, I am fine. Well, I didn't do it for the money. I did it for the challenge*), avoiding grid stresses (*Yes, because I'm all about not having a blackout*), and family concerns (*Absolutely...it's an influential point for my daughter...if you go back to where you say, I am just paying a flat rate, it does not matter, you don't pay attention to a lot of what you are doing*). Some attendees just like the program (*I don't care how much I save, I would stay with it and I would stay because it makes no difference*).

For many attendees, their staying in the program with nominal savings depended on other factors (*It's got to be voluntary...I've got a dog, and I wouldn't want the house to be up to 90° with my dog in there, I'd be worried about that all day long and To save a penny wouldn't matter one way or the other....I'd probably want to find out if the system they put in the house with the thermostat would still be usable*). For some attendees, the topic of reenlistment raised many issues:

*I've got some questions. First of all, will I always be in control of the thermostat? ... that's what I want...the rates for these events are only for the people who are in the program – am I correct? ... I received a circular that made me aware of other plans. I know I committed for two years, but I can opt out, right? ... Do all NV Energy customers receive the notification?*

One attendee also noted that a penny would work if it came with comfort (*Probably, if I am still comfortable*).

Many attendees were confident or reasonably confident that they would stay with the program if they only saved a penny in the first year (*Definitely and Probably and Yes, I am happy, I like what I see*). Some of these confident attendees were free riders (*Penny would be fine with me. I have not changed my lifestyle very much at all and, in response I haven't either. I'm thinking I am not working hard enough*). One attendee offered some perspective:

*By the time March rolls around and we have to decide if we want to do this again, the memories of how miserable we were may have faded a bit, and when we see how much money we actually saved, I think*



*we'll probably do it again, but right now, we suffered big time*

Other confident attendees who intended to reenlist were already planning to try to improve their energy reports next year (*I could do a lot better. I have red spikes on here, I'm like, 'what's up with that?' and Yes...because I think there is nothing but upside available*), or believed they were locked into new habits (*You get used to the habit and Now I am used to it. It is like I would feel weird if I didn't put my seatbelt on. Well, even though summer ended a week ago, I am still ... 'don't turn the lights on even if it gets dark so early'. No, I am in that mode now*).

Though many attendees stated that they might well reenlist for a second year of the program while saving only a penny in the first year, most attendees answered that they might not (*Probably not*) or would not (*Forget it, no way for one cent*). Many attendees just said 'no' (*If I saved a penny, I wouldn't be interested and No, I would go back to the flat rate and No way in hell and Of course not*). One attendee said he would be:

*Gone like a fat rabbit.*

For some attendees, their skepticism depended on other people (*The only worry I have is my husband. One more year, he is going to retire, and then all hell is going to break loose, because his habits are horrible and I'm not so sure. My husband is disabled, and I can't leave the AC up really high, or the heat really low*). A few attendees anticipated leaving the program because they couldn't imagine what other actions to try:

*I probably wouldn't...I don't feel there's anything more that I could do*

and

*I use the barbecue...I sealed all the leaks...we did everything. So I am not so sure I will*

and

*I'd love to stay with it, but I don't think it makes any sense for us. There were no major practices that we could have changed to make the program work...we went into sticker shock. We really want to be energy-conscious, and you know, cooperate with the program, but...*

Some attendees also seemed to regard a modest savings as trivializing their effort (*I don't think so...it's a penny, why bother?* and *I like the idea that there's something you can do to save the environment, but not for a penny and just a minimal change in the bill: it was almost like, 'well, what's the point really, saving a couple of cents here and there'*). One attendee just didn't like the idea of a penny (*I wouldn't be happy with a penny, but if we get a few dollars in savings, I would stay*).

However, for most of the negative attendees, their doubt or rejection about staying with the program for only a penny in savings was based on either the level of effort they had put into the program, or the level of savings they would require, or both. The attendees who said a penny wouldn't balance the effort they had put into the program expressed concerns about inconvenience, discomfort, and mental effort.

Many attendees reported that they were willing to endure some inconvenience, but not for only a penny in savings:



*Closer to \$200 for me to stay, just because it's a convenience thing, like, when I come home and it's hot, I want to cool it down, and I don't want to think about: 'oh, it's between 2 and 6, I have to wait'. Because I remember specifically, like, coming home at 5, and be like, 'All right, I'm just going to sweat it out for an hour for a penny?' That is not worth it, you know*

and

*It's a lot of work to say, 'OK, it's 2 and 6, get off the computer. I don't care if there is a football game, don't watch TV'. So it's a lifestyle change, and sometimes, it's inconvenient. Like, 'I'm having a bad day, I want to watch TV for 4 hours'*

and

*It's not successful, because I am changing my style. I am cooking at different times; I am going according to the chart...it is not worth it to me for 50 cents a month*

These attendees noted that shifting energy use was effortful (*We need to work around a schedule, doing the laundry later at night and all that...it wouldn't be worth it*) and should pay off (*If I am breaking even, it is not worth my time to try and work on the schedule and No, because obviously something would be wrong, given all that effort and No, not worth the trouble*).

Some attendees reported that they were willing to endure some discomfort, but not for only a penny in savings:

*My time is worth money, my time is valuable, and my comfort has a value on it as well ... if I saw a few dollars, I'd probably say 'put me back on the flat rate' because at the flat rate, I didn't have to think about it*

and

*I feel like at the end of the year, if I break even, I'm doing really well...I'll say no, thank you, because it didn't save me anything, and we suffered to get through the program*

These negative attendees specifically cited coping with the heat as an issue (*No, I won't stay with it. No, because that 2 to 7, that house gets hot. OK, that sun is beating down on my living room and No, because it's a major sacrifice, being home and working in that heat*), even when other actions were not (*I wouldn't sign up again...I put a lot of effort in this, and I had a lot of afternoons where I would have liked to have been cooler...I don't mind when I do laundry, that's no big deal*).

Some attendees reported that they were willing to invest some mental effort into the program, but not for only a penny in savings:

*No -- a penny? No. This is a marvelous program, because being conservative, it fits right in with my usage...if I don't save money and I'm still going through my thinking process...then I would never stay on it*

and



*I would be more likely to not stay with it...because it is a thoughtful thing to go through...if you stay with it in spite of all the hoops you've jumped through to get there -- probably not, based on the labor involved*

These attendees noted that the program required ongoing attention (*if it's a breakeven situation, I don't know that it makes a lot of difference to me one way or the other. I would probably just opt for the flat rate, so I don't have to care about it*).

Some negative attendees found saving a penny in the program's first year to be inadequate because they had other savings levels in mind. Some of these levels were in percentage terms:

*I would [need] roughly 15-20% range of savings, but at the end of the day, it's still a good program to make you think of your consumption and energy use*

and

*Probably not...I would be hoping to get a 15 to 20% savings...this is really what I was expecting. When we looked at the program in the beginning, that's what we thought we could do*

Some of these levels were in dollar terms:

*I ought to be a little bit ahead ... \$100 a year is what I think I ought to be able to save*

and

*We actually had that discussion, me, my wife, and my kids. It is impactful. It wasn't miserable...we figured that if we did not save at least \$40 per month...if we saved less than \$500, we were going to cancel...anything less wouldn't be worth the hassle*

and

*It's hard to determine how much I want to save...if it showed me that I could save \$20 to \$30 each month, then that would probably be OK, but if I saved \$40 one month and then used \$100 the next month over...I didn't have a consistent savings ... It bothers me a lot*

Other attendees referenced savings in their rejections, but offered less specific goals (*I would probably look for an alternative...unless there were substantial savings and Not for a penny. It might depend on what your total bill is and No: for me, I have to see that it's working...reflecting a savings...it would have to be a consistent savings every month to see that my efforts are actually paying off*). There were also attendees focused on savings, but experiencing prohibitive losses (*We're running 6 to 7 percent over the flat rate, so I think it's highly unlikely that we would stay with it*).

When asked how much in savings it would take to justify reenlisting in the program, most of the negative attendees in the second set of focus groups had either hesitant answers, or answers that anchored around the answers of others in the group. They seemed neither to have identified a figure in advance, nor to find it simple to come up with one when asked. The requisite savings suggested ranged from \$500-600 to \$100-200, and no single answer received immediate endorsement by any group. However, it was evident that a



penny in first-year savings was viewed as inadequate by most attendees, who regarded their inconvenience, discomfort, and effort as deserving of more savings.

In summary, most of the attendees were focused on savings, and almost all of the attendees established action plans for the program once summer began. The plans varied from modest initiatives to all-in changes in lifestyle. The plans were based more on experimentation with direct actions than on analysis. While experimenting, many attendees were surprised by high bills and discomfort. Most attendees also found their approaches involved inconvenience, and a significant amount of ongoing mental effort. For some attendees, these costs would be acceptable with nominal savings or savings only after the program's two years. For most attendees, program savings needed to be significant to balance the costs incurred.

## *Focus Group Set Three: Reenlistment Considerations*

### **Motivations and Understanding**

The third set of focus groups took place in January and February of 2014, shortly before the Choose When You Use participants were to be provided with their annual energy report, and offered the opportunity to reenlist or opt out. Participants had been recruited a full year before. The focus group attendees were recalling their summer at some distance, and anticipating their upcoming decision.

Attendees overall perspectives on the program were varied once again, from the unengaged, to the extremely positive, to the extremely negative. The unengaged attendees included those who changed little, and felt little, even after a year with the program (*Personally, I never really use it to its full potential, because I know it's just doing its job, and its very affordable to me. So I didn't really, really feel it...like an impact and I like it. I mean, we really didn't adjust much, because I have a child with disabilities at home*). A few attendees also reported their engagement lessened after the summer (*There is no program as far as I'm concerned, now and At the moment it's great, no complaints about it, you know, but I am also now working a power bill that's been 20 percent of what my summer time power bill is, maybe 30 percent. So it's not on my mind a whole lot*).

There were some attendees who were very positive about the program:

*I think it was made for me. Because I think my power is over 50 percent down year over year, and it's incredible...when the thermostat was set on a program before, if I forget to shut it off when I leave town, and guess what, it's running, right? No now I can just use the app, turn it on, turn it off any time, but I still have the program set when I'm in town.*

and

*I love the program...I'm definitely continuing it. I mean, it saves me a lot of money*

and

*We loved it, although next summer is going to be a little different...now that I'm retired...we've done window replacements, some roofing work, variable-frequency pool pump...we're ready to sign up*



*permanently, not just one more year*

The remote control features of the thermostat appealed to these very positive attendees:

*I have been very happy with it, very happy with it. To date we are eight percent lower than we were last year...the thing I really love about it is we travel a lot, and...I can go online, I can change the temperature of the thermostat...I've got all that data right at my fingertip. So I could change anything, anytime*

and

*It is working out great. Because every month it seems like I get the smiley face...and I like...the thermostat...I can control it from work and everything*

The very positive attendees ranged from those who did nothing (*It's great for us. I really like it. We are not home during the day, so on the peak periods...during the summer, there is no issue. We have been saving money every month*), to those who turned off their air conditioning entirely (*I am loving the summer. Yes. Before I was turning on the AC...that was the money... why do you want the AC?*). Because of the summer or in spite of the summer, these attendees were very happy (*it's been perfect and Last few months or the whole year, it's done great for me*).

A larger set of attendees was reasonably positive about the program:

*I saved a little money, which has been real nice...that's you know, why I'm doing it. And we have a new thermostat on the wall. And it's real hard to get somebody else to cooperate, and I'm talking about my husband...I am the saver, and he is the spender*

and

*It's a mixed bag for me. I saved in the winter months, but I got hit in the summer months. But I don't think that's a fault of the program; I think that's part of my AC unit and the construction of our house. And I have, you know, the kids also, and sometimes they just demand more of the cooling*

and

*With a little bit of discipline, we were able to manage our electrical use during the summer so that our bills were only slightly higher than they would have been on the flat rate, and we're making back a significant difference at the lower rates that are in effect during the nine months of the winter*

These reasonably positive attendees reported issues with equipment, but they appreciated their savings (*It's been OK, I have had a couple of problems, but I called the maintenance people and they came out...I have been saving and It's pretty good...we have a swamp cooler...we're having a hard time saving on that. But we save an average of about \$30 per month...I didn't have a price [savings estimate] when I did it; I figured if we got savings, that's good*). They had been hesitant at first, but were won over by results (*We work from home, so we weren't sure the program was going to work for us. It ends up that it has and We wanted to try it, but we thought it wasn't going to work, because we are there all the time...it's actually worked in our favor*). These attendees were positive, but their reactions were limited (*I actually like the program and Just fine*) or



qualified (*It's going good...in the wintertime, I am saving*).

Some attendees had adapted to the program, and found they could tolerate it (*I'm getting used to it. I decided that I actually like the thermostat and if the rates weren't so high to begin with, we wouldn't have to be here talking about money, but that's never going to change, so we will stay in the program*). The attendees who were used to the program noted the program worked under some conditions, but not others:

*It was fine. It was definitely a learning experience...I work from home...I probably would have seen savings every single month if I didn't work out of the house, but it's hard to work and tolerate 85°+ temperatures in the house...I'm right around breakeven right now...I don't know if I want to go through another summer*

and

*Overall, I paid 9% more than I would have...I think the one month when I didn't have my air conditioner programmed properly, that probably accounted for all that...I would probably save a ton of money if I didn't have teenaged kids who know how to leave a sliding glass door open when the air conditioner is set at 58°... I am happy with it. We changed a lot of our habits....I've enjoyed it. It's been fun*

Some of the attendees had adapted to the program and were settled into it:

*The summer is hot, but we have managed to make it work. We really have. We keep it down, and don't use the big appliances except in the cheaper times. So I'm grateful for it, I really am. I appreciate it very much...it gets hot in the summer, but you just slow down a little bit*

While others had adapted once, but weren't sure whether or not they would again:

*It's working in spite of us...we were behind the last bill...we're ahead over \$200...we set up comfort levels for summer and winter...I can't turn it way down in the summer for five hours, and then sweat for five hours*

Many attendees summed up their perspective on the program in the third set of focus groups through their readings of their bills, or their energy reports. Some who read their bills were focused on the varying monthly amount in their bills (*My July bill, when I opened the envelope, I was knocked down, back, out: \$445. I never paid that much in the 22 years I have been here in Vegas...right now, it's pretty low. I got a bill for \$68, so I'm very happy about that*). The 'smiley face' on the energy report also drew attention:

*I keep getting those monthly statements with an open face, a happy face, save a lot and everything. It keeps me going.*

and

*We really have no choice of another company. We're doing this. Now I understand the concept...I am not getting happy faces, so I am really annoyed...no one seems to like me*

and

*I guess it's OK, I don't know, I get these [reports] every month. See, they have these little smiling faces on*



*them, and I have some that don't have smiling faces on them...the program to date...looks like I spent 10 percent more than the flat rate...I am over 62 and unemployed...I am home during the day, too, and it was unusually hot here in July and August, so...I probably used a lot more air-conditioning than I would have had I been working somewhere*

Those who read the numbers on their energy reports focused on the savings to date (*So far I am saving \$965; I think that speaks to the fact that we were spending a lot before...We've got a savings and I am actually pretty happy with it. Over the course of the year we are about \$30 ahead...\$30 a year is \$30 a year, and that will add up*), as well as their monthly savings (*I think I am doing pretty good. Right here, it shows 'savings last month, \$22'*). The numbers weren't always positive (*It's an abject failure, at least as far as our house is concerned...it's saving us some money over the course of the winter, but nowhere near enough to make up for what got chewed up over the three months of the summer*).

Some attendees believed they had figured out the program, either according to the program's rules, or their own interpretations. Attendees noted the guarantee as framing their perspective (*I did feel like I had nothing to lose, because there was sort of this guarantee after the first year. So I was curious to just try it and see what happened and The guarantee made a difference, although I also think, from what I learned, I think I can do even better next year*). Other attendees had identified their own keys to the program (*Choose When You Use has kind of shown you that what you saved is by adjusting when you do stuff, not whether you do it and What I come out of the program is that summer is the key, and it's tough to conserve during a warm summer*). One attendee represented those who had 'figured out' the program on his own terms:

*It was very hot, and we really appreciated the program, because in June, before we went into the hot months...we had that massive 117° record-breaking day...I also had a big party in my house that day...we were literally trying to cool the back yard for 100 people...so it really helped that day, not to be worrying about the fact that we were running the power*

This attendee concluded that because the really hot day occurred before peak rates went into effect, his extremely high electricity usage on that day wasn't a problem.

While some attendees believed they had figured out the program, many more had not, and they expressed their confusion and irritation. Once again, the designation of critical peak days during relatively cool weather came in for criticism:

*I called to see why they are calling an event day when it's relatively cool...they had 10 allotted for July, and so many for June -- they have to use those up...I said 'why so they make more money?' Well yes, so they can charge you more money....that's not even right*

and

*They were really arbitrary about it [calling event days]...the time blocks when they were enforced didn't seem to have any discernable relationship to the weather conditions which would be desirable to reduce the load*

and



*We like being alerted, but sometimes it's a real pain. It's like, wait a minute? How come? This is a cool day?*

One attendee offered an explanation for these critical peak days (*I was told something totally different....that there were times when they were doing things in the system, and it was cutting out availability, so they made it a peak time*), and another said that it really didn't matter to him (*It doesn't matter to us if they do what we think are silly choices in picking those peak days. We don't care*). But most attendees on the CPP rates were displeased that they were in doubt about the motivation for these critical peak days.

There were also attendee complaints about estimated bills (*Probably it was cloudy, and it couldn't be read, so it will be made up for somehow before we get our bill'....that's not a good answer. I don't feel good about that, but that's the only answer I could get*). Attendees associated their estimated bills with their new meters (*We haven't had estimated bills in years until we got the smart meter, and I thought, I never want to see these again and how can that be estimated? We're on a smart meter. I thought it was smart. What's going on here?*). These complaints illustrated that any NV Energy-related problems program participants experienced might be attributed to the program.

Another attendee was confused about the bill guarantee terms:

*In here it says we're not guaranteed -- on your Choose When You Use critical CPP rate, your electricity costs more during peak hours on event days. And he [my husband] said, 'what the hell does that mean? Is that like in the hotels that charge more?'*

*I have ceiling fans, there are six of them...we have followed all your advice, and we have used almost 2 percent more that we would have, had we stayed with the flat rate....So I am wondering, maybe it's those fans*

Similar confusion was expressed by those attendees who had expected savings to result from their actions, but were still losing money on the program:

*This program is perplexing me, because living alone in a not-so-old house, I thought it would be a piece of cake, because I am in control. And my bills were so high in the summertime they are not being offset...I'm still paying 5% more than I would be...I don't understand what it could be that I could do differently*

In addition to attendees who were confused and irritated, there were many attendees who were sure the program wasn't working out for them (*It is not...I project at the end of the total year, I will have saved maybe \$40*). These attendees believed they understood the program, so they were disappointed by their minimal savings from it:

*We've saved \$16...our theory going in was: we'll do all the things we can, but we are not going to alter our lifestyle...sweat all summer just to see if we can save some dollars...I am a little disappointed, but I know it was an unusual summer, and I have a hunch our savings might have been \$100 to \$200, had it been a normal or typical summer*

and



*I initially signed up, and then I went, "I don't really want to do this." And then I tried to unenroll, and they said, 'no you are in it.' And so I went, 'OK.'...the summer was the big shocker....in the 70-something is what I have saved...energy-efficient light bulbs in the house...two lights running and low heat, I was surprised that it hasn't been better*

and

*I am disappointed. I thought I am doing everything right, but I am not getting the reward in the end....I mean, overall I am saving \$6...I have done everything...laundry dishes, running the dryer, the high power things*

Some of the disappointed attendees had no expectations going in to the program, but had developed expectations along the way: *(I didn't know what to expect. I like being energy conscious and trying to save energy, but I don't like being uncomfortable...we value our air conditioning and trying to stay as comfortable as we can ... we were a little disappointed).*

Beyond the disappointed attendees, there were those who had been uncomfortable. Some of the attendees who recalled being very uncomfortable had decided to leave the program:

*I'm not going to continue the program, because I can't deal with this heat, and that four-hour range period. I'm home ... I don't care what kind of air conditioner you have, at 118° degrees outside, you're hot -- let alone they want you to set it at 82°, forget about it. This is an oven*

But some were still in doubt:

*I haven't saved like some of those other people -- a little less than \$400...way down during the winter. But summer was hard...I still was paying a whole lot, but we didn't cut as much as we could have, but we tried. Trying to...turn those lights off. But we don't have too very many things when it comes to energy...I don't know if I would do it again, because of the summer*

There were family disagreements and changed behavior in order to cope with the heat:

*Summer is a battle between my wife and I...she want it cool, I send her out. I'll just give her money: go to the casino, go out to eat. Go away. And she does. Summer months is -- I'll call it a marriage ender. Because she's hot all the time...so I have to give in a little bit. It's tough. I have the money, I don't care, I'll pay it, but I don't like shelling out the big bucks in the summertime...still, she like the cold. And I still like being married, so you got to make some compromises*

and

*Most of July and August...we were pretty uncomfortable by the time 6-7 o'clock came around...spend time in gym shorts and no shirts, and I work out of the house...so it really was uncomfortable*

Most participants had signed up for the Choose When You Use program with savings in mind, but many also considered other benefits. In the third set of focus groups attendees were asked about savings and other benefits as the reenlistment decision approached.



As noted in an appendix to this report, the Choose When You Use program has records of which participants actually saved, and which did not, during each month of the program and across the program. Some focus group attendees monitored their savings through monthly energy reports, and some paid little attention to the reports. There was a wide variation in the savings -- and attitudes toward the savings -- reported by these attendees.

Some attendees didn't know whether or not they were saving (*I am not sure, to be honest, yet*), or were focused elsewhere (*I don't know if we are saving money or not, but...whether we are saving or not, the wife has said she don't want it. So that's it*). The program's materials confused some of the attendees who didn't know whether or not they were saving:

*I get the same thing, that happy face, but I do not understand how much I am saving....I read it ten times, I cannot understand. I go to the computer, it says you saved two hours. What that means to me, I don't know*

and

*I noticed July and August were the killer months, \$300 and \$400 electric bills...and then all of a sudden it dropped again, like a rock, down to \$100 or even below*

and

*I thought it was up to a few hundred dollars savings, but this statement said we got negative \$2, so I'm hoping that was an error*

Other attendees were disengaged (*I haven't used it and I've definitely modified my usage during the summer especially. I mean, now it doesn't matter, because everything you're using, you save money on it*), or uncertain about how to calculate savings on their own (*I believe it's working, but I can't be sure, because I don't have a good baseline established*), or hadn't spent much time with the available information (*I don't even know...of course, it's a great program, but...you know, we do save, but you don't know how much...I've never held an old bill. I don't know what I paid. I paid it -- and that's it, you know?*). Some Reno-area attendees were still concerned that smoke from nearby forest fires had precluded good results:

*We had a huge fire with all the smoke, and people were pretty much stuck indoors for 10 days, and that made a huge impact...we are recovering now, but that fire...we normally do not use a lot of AC, but for 10 days it was on continuously*

Some attendees cited very high savings (*I think the last one we looked at was 30-34% saving since we started it and But it's been saving us money. A lot of money...hundreds of dollars. Amazing*). For these attendees, the program worked well (*For me, I wasn't trying to save the environment or anything. It was strictly to see if I saved money, and I'm on track to save over \$1,000 over the year. So yeah, I'm doing it again, it's worth it and I think it's working great. Our house has saved over \$600, so far, program to date...I know the summer bills were high, but we're making up for it during these months*). One attendee cited his high savings in percentage terms (*I think I am down about 20% from what it was, consistently....just switching the times I do the few things I do*).



Some attendees cited modest savings (*I have saved about \$87. So I am 7% on the program and I've saved \$28, which I still feel is valuable. Two of these modest savers were impressed (We're saving...so far this year probably not by much, a couple of hundred dollars, but we were surprised and we might continue, actually and The last letter I got said that we saved about \$200 total the whole time, which is not a lot, but it helped. In our gang, every little bit helps). With the same amount of savings, one of the modest savers was not impressed (We're saving ...so far this year not by much, a couple of hundred dollars, but we were surprised and we might continue, actually). One modest saver noted his savings came from little effort:*

*At this point in time, I have been saving a dollar a week. And the only thing I really altered in my life is during the summer months was the time of the week that I did my laundry, shifted from the week to the weekend...In the winter months, the only change I made is the time in the evening that I use my hot tub*

While another modest saver was disappointed in the result of little effort:

*I have saved...minimally, \$20 overall. For me, the summer was probably easy to manage because I wasn't here, so everything was turned off....I don't think the savings are that good*

Several modest savers were happy enough with their results (*We are saving \$100 right now, when I see the chart, which is good*), although they might have hoped for more (*I'm a math guy, but I haven't looked that much at how Choose When You Use has worked out...We'll probably end up 60 bucks ahead for the year, maybe a little better than that...I initially kind of thought we might do better than that, but that's fine*). One modest saver was fine with what he saw from his bill and the energy report (*To be honest with you, I never look at the bills a lot of the time...looking at the bill...it's like 140, 130. I think that's good, and then periodically we get that happy face letter*).

Many attendees confirmed that they were saving, but even after presumably anticipating spending time in a focus group, did not have numbers on hand to cite (*I have saved money; I got the happy faces, so that's a good thing and I think only once we got a sad face, but, like, all of them were happy faces, so I guess we are saving and We are saving a little bit, but we were always very conservative on how we used energy*). In some cases, these savers said their savings were crimped by other factors:

*We like it. We don't use a lot of electricity anyway. But we are saving. We are tightwads, so every little bit is worth it I was doing very good last year when I started it, but then in July and August I got whopped hard. Because we really had hot weather, and my swamp cooler just didn't do it. So I had to turn on my air conditioning*

and

*I do not save too much money: I am frugal, not just conservative...the peak time is when I am home, 6 to 9 at night, and that's when I want to be warm. So I bump it up to 70°. So I haven't saved a lot of money*

and

*One of the things we're worried about is when we get the increases from Nevada Energy every year, when they start increasing the prices...twice a year...it kind of bumps into what we're trying to save, and I'm not happy about that*



In some cases, these savers believed they hadn't saved much, and the specific amount didn't seem too important (*A little bit and and It's been working all right. I haven't saved very much money, but I haven't had really and problems and A little, according to my little happy face*). Similarly, in other cases, attendees said the point was to save something (*I'm just the kind of guy who likes to save money wherever I can, so it was worth it for me...I've saved a lot of money and The savings, it's not significant, but to me, any savings is good and I am saving money. So I am doing something right*).

Other attendees who saved tracked their savings across the program (*In every single month, I think, we saved over what it would have been and We saved every single month, actually and We don't have, like, huge savings, but it's enough throughout the year that so far we like it*). Another attendee recognized the cash flow relationship between winter savings and summer spending (*I am doing it again. It helped me. But I've already started saving my money, because I'm not going to suffer this year in August. If I put the money away now, when it comes, it will be there*).

Several attendees explicitly supplemented their modest savings against presumed environmental benefits in their thinking (*I didn't expect to save \$500 bucks or anything like that ... We're saving money and doing something for the environment, by taking less carbon into the air, and we'll do it again and We haven't saved a ton of money. I thought we'd save more money...but I care about the environment as far as, you know, not wasting and I have always been a conservationist, so I thought the program was right to begin with, and...we are ahead every month, and we'll continue to use it*). Another attendee cited behavioral changes alongside savings (*We're saving money, but we're being cognizant of the times...I have that sheet that tells you, but we're really cognizant of those times*).

There were attendees who reported that they were saving, but that their savings were disappointing. Most of these disappointed savers expected more given their levels of effort (*I just expected to see greater savings ... I expected to see more because of the changes I've made and I expected it to be more for...as conscious as I feel I have had to be, especially during the summer*). They recalled trying hard, and not receiving much in return (*Not that great. I expected a bigger difference ... for a while it was like, you save 25% ... now it's kind of just evened out. I'm not really saving anything, and I really do watch and It was sold that it could save you money; depending on your behavior, it could save you money...I expected to save more than what I am actually doing*).

These attendees who were disappointed and saw themselves as hardworking assumed their efforts were worth more than they seemed to be (*I thought the savings would be more. I don't use that much electricity anyway, being single and stuff. But it seems I am cutting down, and I am not getting that much back, really*).

There were also disappointed attendees who recalled the summer:

*I don't know that I would do it again, just because of how expensive it was during the summer...unless maybe I get on the averaged out plan...I did not expect it to be as high as it was for those two months...so far I don't think that I'm saving even \$200*

Some attendees reported that they were breaking even on the program (*It's kind of on me. It just hovers around being even or a little bit of savings and There is a bit of a difference, but not that much that I can see*), or nearly breaking even (*Because of the summer months being so high, we're almost at even*). Near-breakeven attendees reported that they were concerned about the impact of the seasons:



*We're probably about even ... we had windows put in ... So my assumption is that when the summer gets here the air conditioner will probably not run as much*

and

*I am finding it's harder to save in the winter, actually, than in the summer, because once you have already turned off everything in the summer, the only thing that's left is the lights, so my house is really dark every night. One lamp, maybe two*

and

*I don't know if it's going to be enough in the next month or two to actually really get us to even...so I haven't really decided whether or not I want to try this again*

Near-breakeven attendees were less distressed than the disappointed savers, and were even positive in some cases (*We haven't really saved any money with it. We are about breaking even, which I think is a good thing*).

Some attendees said that they were not saving (*In December we had substantial savings, but the program to date, we are using more*). Many of these non-saving attendees wondered how that was even possible (*It's been hard for us...we're trying to be careful. She watches this stuff. When we're not saving, something's wrong and We are being diligent in following this, and we can't figure out why we are using more*).

Others among the non-saving attendees wondered if there were errors in the program billing:

*My bill, it cost me more...I thought, 'well that's just wrong.' And then with this last bill as messed up as it was, you know, I wrote a page and a half of what's wrong with this program. But I did get the Nevada Energy audit...a lot of duct work problems...I had repairs done to that, and another 9 inches of insulation thrown in. So I am taking the program to heart, but it just kind of doesn't work in some sense*

A couple of the non-saving attendees weren't distressed (*It hasn't saved money, and that isn't a huge problem with me. I see it as a stepping stone*), or saw themselves as potentially responsible (*Year to date...I am up almost 29% over versus standard rate, so that's a pretty big hit...maybe it's not the fault of the program, as much as us using it during on peak times*). Other non-saving attendees were discouraged (*with each month with this program, to-date we have actually spent more than it would be on the flat rate....some of the things we didn't change, and the things we did didn't seem to make a difference*) or unhappy (*I am not too happy with the savings, because I haven't saved any money*).

Attendees' savings levels achieved through Choose when You Use were diverse, as diverse as the homes they lived in, the members of their households, the lives they led, and the actions they took. The attendees' reactions to their savings levels were also diverse, as diverse as their expectations, attention levels, and appraisals of their own efforts. Another major source of diversity in attendees' program experiences was the presence or absence of motivations other than savings, e.g., stewardship, control, and challenge. In the third set of focus groups, we asked attendees specifically about whether or not stewardship, control, and challenge came with the program.

Many attendees saw stewardship as a benefit motivating participants in the program, but most seemed to



agree it was a secondary factor (*It would be in the top 10, but the first one would be it's easy on my wallet*) or not a factor at all (*Not really and Not necessarily and No, not important*). A few attendees were more focused on themselves (*If I take care of myself, the rest will take care of itself, I think so*) or their families (*I'm very focused on my family...the community, I like it to be clean, to be a nice community, but the fact that I'm helping something...doesn't mean much to me*) than the planet. One attendee said there was no way of knowing (*If it was helping the planet, I would see it as a benefit. But personally, I would have no way to gauge that*).

One of the attendees negative about stewardship saw the program as primarily benefiting NV Energy (*I look at it more as, like, honestly, saving NV Energy money too from them having to purchase outside electricity*). Another dismissed stewardship as a harmless good feeling, while savings guided behavior (*Some people just want to feel good about it, and I guess that helps, but I still think bottom line, if they ain't paying, the AC is cranked...I see it*). Another attendee said that savings was most important, and stewardship motivated few people (*The paramount issue for NV Energy would be to focus on savings...maybe one out of 10...feels that stewardship is ultimately the bigger agenda, the greater goal*).

A few attendees were less confident that the program delivered stewardship:

*Stewardship is important to me, but now I'm wondering: I'm trading expensive kilowatt-hours with cheap kilowatt-hours, so am I doing any good in the valley, other than saving the amount of energy running off the grid in the peak time? It's important to me, but I don't know if I'm doing it -- if I'm helping*

and

*Power that comes from NV Energy I don't consider a pollutant, quite frankly...they don't pollute airways as much as a lot of other things that are out there*

But there were also many attendees who said they were motivated by stewardship to a degree (*Just a little bit and Probably mildly and I think it would be important*), or unconsciously (*I think I unconsciously, you know, had that in the back of my mind*), or even primarily (*We really tried to do this in all things*). Attendees said:

*It's very important to me...I am conscious every day about doing things not only for myself, or to save money...I have a neighbor who is the exact opposite...I had an argument with her yesterday...for some people it's important. For other people, it's not*

and

*We all could do better to reduce our footprint, I guess. So the program helped me evaluate where I might be wasting. For example, I had a second refrigerator in my garage, and this program made me get rid of that...during the summer that was just an energy hog. So that was just a compete waste. It's a small thing, but obviously, if a lot of people do it, the planet is going to be better off*

and

*I think for me personally it's worth it, because in the big scheme of things, the earth...we all need to chip in a little bit to save the resources...all of a sudden the new habits become the culture...we're better for it*



*as a country*

Some of these attendees associated stewardship of electricity with water conservation (*I cut back on my usage and I saved some money. When the price of water goes up, I'll cut back on my watering, so much because I want to save Lake Mead*), or recognized how stewardship balanced with other factors:

*The savings of money would have been appealing...but I think the idea that I would be a better steward of resources would be very appealing to me...stewardship is where I would be most interested in making a difference here*

and

*My wife is kind of a hippie. She wants to save the planet...the AC, that's where the line is drawn in the sand. She will do anything she can to...help the planet, but if she's hot, we're all uncomfortable*

and

*Yes and no...I think conserving in any subject is a good thing...I have talked about this to myself, 'could I go back to living with candles? And fans? I think we have progressed enough to deserve what we're living with. I don't want to go back to the very primitive times*

Attendees also associated stewardship directly with environmentalism and conservation (*Environmentally...minded and conservation too*). For most attendees, stewardship was a secondary motivation, not sharply defined.

Many attendees saw control as a benefit motivating participants to enlist in the program, but they were divided on whether or not the program delivered control, or took control. As with stewardship, some attendees saw control as secondary and related to savings:

*In our community, in our state, the freedom to control what you do is greater, and the way you get people into thinking...is money...NV Energy would be on the right path if they focused on the money...because you know, this is Nevada, it's not Berkeley*

and

*The Choose When You Use, where they are giving us a savings, lets us make a decision on what you want to save...it's giving me more money in my pocket, which gives me more control*

and

*I am choosing not to cook and use the stove. I am choosing not to do laundry during those times. So I am choosing when not to do certain things to save money*

and

*It just felt like the right thing to do. And I was hoping it would have turned out better for me*

and



*You have this expectation that you're going to see a savings. And you don't necessarily do that, but you still feel good that you were able to turn down your refrigerator, and the underside is clean now. I mean, there is something: one of them is tangible, and the other one is you just feel good*

A few attendees made no effort to control energy use (*No, I didn't change my behavior at all and I hadn't changed too much of anything...I like that my bill is going in the other direction, so I am hoping it stays that way*). Another attendee believed there wasn't much that could be done (*I definitely like control, but I am out of control, because...I am in a mobile home also, and you know, you are out of control in that...it's like living in a tin can*). Another attendee believed the level of control hadn't changed (*Probably you are in control of how much energy you use regardless of the rate. So I guess for me that wasn't really a consideration*). But most attendees had not only exerted an effort to control their electricity use by signing up for the program, they also had pursued a course of action to shift and reduce their electricity use. Many of these attendees believed these efforts reflected control:

*I had thought about the control issues as well...they hand over the control to us. Especially during the first five hours of the summer months, OK, you know, dinner is later, and you know, laundry has become the morning thing instead of the afternoon thing*

and

*It works both ways. Control is the very basis of this. Either you control the time that you use, for the sake of getting cheaper service, or you let it control you, and say I don't care...Do you want to save money? Do you want to make a little bit more effort to make it work for you, or are you going to sit back and let it work against you?*

Many attendees recognized that the program involved an increased degree of control over electricity use, and that the new level of control came from them, from the outside, or both. Some attendees commented on an increase they perceived in personal control:

*I had the personal control, but delivered to the degree that I could see when energy was being used, the granularity of what was presented in the report, and other places, gave me help with that. But...I don't think to the degree that it could be*

and

*I think it does give me a lot more control. I mean, before I was part of the program, you could control your energy costs by saving whatever energy you can, but it wouldn't be as much of a saving*

and

*Yeah, I'm all over it, much to my wife's chagrin. I have reprogrammed everything. I go out and watch the meter, and see how slow it's moving at 2 o'clock*

and

*I think it's a benefit. You can choose...like laundry, you didn't stop the laundry, you just did it at a different time. You didn't stop cooking...there are certain things that you can give up, but you're*



*choosing to give it up, in a sense...it gives you control. I like it*

Some attendees commented on control at a price (*I look at it this way: it's Choose When You Use, and you are going to use it -- be prepared to pay for it*). One noted more control was available, but the price was prohibitive:

*Just make adjustments and do what you want to do at other times...you don't have the control, because I would rather do it whenever I want and however I want. So Nevada Energy has the control over me in regard to saying, 'if I want to do it at this time, I have to pay the price*

Other attendees noted that they had to cede control to whatever approach would save money (*It's important to us, because we live on a fixed income...\$300 bill comes, you got to cut things out to make the payment*) or they could take control and decide to spend more money (*Well, I am in control -- I am not going to continue...even though it saved me money, I would rather be comfortable*).

But many attendees stated that the program took control from them, over their lives.

*I think it was a misnomer: 'Choose When You Use'. We're not choosing. Nevada Power says, you can have this rate if you use the hours that we're telling you to use. I don't have the flexibility to fudge and hour this way or that way, I have to get in step. I am choosing for the program. I am not choosing when I use it. And I had given up the rights from 2 to 7*

and

*I don't cook like I used to. And when you stop and look at that part of it, already I've given a lot back, environment or not ... I feel like my freedom is gone. So I have no control. I have to live with that*

One attendee found something positive in ceding control to the program (*It controls me, but I live with it because it helps me*), but others were stressed by ceding control in the summer (*You're tied down to those times. And you don't want to do anything during a critical peak day: you didn't choose when those happened and I felt it controlled me...summer months. Not now...now there's really nothing to worry about...I thought I was going to be in control, but I found I wasn't and It absolutely controls you, and makes you uncomfortable in the summertime*). Some attendees saw the time-varying rate as dictating behavior (*If I want to follow the program, if I want to conserve, I have to do it the way they say. So I don't have any control over that and The wife...she don't like to get told when she can wash, and when she can and I've not going to give up that control that I have when I want the AC on...There's no way I was going to do it*).

So while many attendees found control was a factor in the program from time to time (*Sometimes they were a good time for you, sometimes there are bad times*), the role of perceived control in the program wasn't positive for many (*I hated it on the weekends, because I'm home then*).

Many attendees saw challenge as a benefit motivating participants as they engaged in the program, but challenge, like control, was both a positive and a negative factor. On the one hand, implementing approaches to shifting and reducing electricity use challenged participants to see how well they could do (*I think everybody likes a challenge just to see if you can do it...the end result is, if you use it right, it's very beneficial*). On the other hand, implementing these approaches was demanding for many attendees (*The*



*only challenge is that 6 o'clock, and 7 o'clock, when the house has gotten really, really warm...the challenge is, well, we've got one more hour left).*

There were attendees who said that challenge wasn't a factor in the program, because the program seemed to be easy and habit forming:

*It was not a challenge. What it did do, though, it became addictive and habit-forming)*

and

*OK, now, even though we are not on the peak any more, I am still doing the laundry on off-peak, I am making sure the lights are out when I am leaving the home, all those things I just got a bit of a habit of during that period, here I am....just a habit I got into. It works out*

and

*I am almost never home between 2:00 and 7:00. This is a cake walk. Turn off everything when you leave the house. A few days when I missed, cost dearly*

As with stewardship, there were attendees who stated that challenge was a positive factor in the program. These attendees enjoyed the challenge for its own sake (*I didn't look at it from the fact of 'I might save', or 'I might not save'. I look at it as the fact 'this might be interesting to see what might happen'*). These attendees saw the program as a game (*I do look and compare how I did this year versus the prior year...I am interested by the statistics, and the ability to...competitively lower the usage. So it's a fun game and To me, life is the game...I get excited, I get 'how did we do this month?' And I saw, like, 1% of your energy use was during peak power, and I am, like, 'yes!' ...*).

Attendees saw the challenge as achieving personal goals (*It's a kind of a challenge to see if you can get by with 10% less electricity, and it turns out we can and We did find it a challenge, and it was a good thing...it was kind of like, 'can I get that number lower? Can I reduce it next month?' ...it was fun tracking it, in a sense. So yeah, I enjoyed it and It has been a challenge. Because I'm looking for ways to be self-sufficient*). Other attendees saw the challenge as learning (*one of the most positive things that has come out of this program is just the learning*), or learning in order to save (*I just wanted to learn different ways I could save*):

*I learned some things that were too late to work on this summer, that I know will reduce it in the coming summer. So I am interested to see what that is. It is like a game in your head, but the bigger challenge is getting the bill reduced by a couple of hundred dollars a month*

and

*I wanted to learn, like, I wanted to know more about how I am using energy...I wish I could plug on certain things to see how much energy they are using, because, yes, if you are getting into something to save money, then you want to save as much as you can...it becomes addicting...what changes can we be making to save more money*

For some of these attendees, the challenge was positive, but not major (*It's interesting to find out what during the day is the best time during the day for you, and/or your spouse and you. But it's not a huge thing in*



my life).

As with control, there were those attendees who saw challenge as a negative factor in the program. These attendees noted that the program required effort (*When I did my thing...it was definitely a challenge for me*) and could be tiresome (*I mean, I could be sitting over at Red Rock: instead, I have to run home to turn the air conditioner off*). The effortful challenge began early (*Yeah, it's a challenge to get geared up for it*) and in some cases, stopped early (*No, we broke it off. We just whatever -- because I'm not going to not cook, and go spend money on drive thrus*). Some program participants were more challenged than others (*For me, no -- for my daughter, yes...because I nag her. Because she thinks she turns everything off, and she is complying, and I chase around after her*).

In the third set of focus groups, some attendees emphasized stewardship, control, and challenge in their thinking, but most attendees faced up to their reenlistment decisions with savings on their minds. Saving levels were diverse, and attendees had a variety of reactions to different savings levels, depending upon their expectations and their consideration of comfort, convenience and effort.

We next turn again to the approaches to shifting and reducing electricity use that the attendees had put in place. The third set of focus groups was in January and February 2014, long after the summer that was stressful for many attendees, but just before reenlistment decisions. How did attendees describe their approaches to the program? Earlier, we had heard that attendees combined major appliance usage and occupancy times into a variety of program approaches: wait & see, try a few things, try until constrained, see it through, and all-in. Attendees were focused on direct action, rather than analysis. Had their views and approaches changed since the second set of focus groups, three months earlier?

## Experiences with Learning, Behavior and Bills

Focus group attendees in early 2014 reported that they were continuing their summer approaches to shifting and reducing electricity use, but with a shifted and reduced emphasis, because rates had changed and air conditioning was not in demand. Earlier, attendees had reported modifying four types of major appliance use, and also modifying home occupancy.

In the January/February focus groups, the leading action attendees reported taking to shift and reduce electricity use was still managing indoor air temperature (e.g., controlling air conditioning), as they recalled the summer. As attendees related, managing summer peaks and accomplishing summer precooling called for extreme indoor temperatures:

*I am jumping through hoops to try to make the right times to use it, you know. We tend not to use AC at all at the peak of the summer if we can help it, but if it gets really hot, and, you know, it's 90° upstairs, I will turn it on...you can conserve all day, and then you have to bite the bullet...and it happens right at the peak of all peaks...you are taking a few inches forward throughout the day, and then you are taking two big steps back inside of a few minutes or a few hours*

and

*Before we went to bed...we would turn it down to...58° or something...the AC would be running basically from 10:00 PM, until (depending on how hot it was) 3:00 or 4:00 in the morning...we just put it so slow*



*that they would keep running right until the rates went up...only one or two days my wife at 7:00 or 8:00 at night said, let's just turn it over to the AC...the rates just vary so much it doesn't matter how much you use, it just matters when you use*

Two attendees took moderate approaches to managing air conditioning, and were disappointed:

*We were kind of aware...we didn't really, like, turn off our air conditioner during peak times. We have it set pretty high, but we let it run...we have made some changes, and we're just breaking even with it...for us it hasn't...helped us).*

and

*I am really in with the program...for a retired couple, because of the cost in the summer for the air conditioning to go on, it's like \$0.40 a kilowatt-hour, that's quite hefty...so we took a real hit*

One attendee couldn't figure out what to do (*We didn't let it cool down until, like, 6 at night...and it hasn't worked at all...we are not home. I bring the dog to work with me. Like, our house can be as cold or as hot during the day, and it just hasn't helped us a lot*). Another attendee had to compromise (*We tried to even not run the air at all during that five hour, 2 to 7, and we lasted about three weeks with that. Finally, we started setting the air at 88°...at least we kept it at that, and we were OK there*). One attendee replaced old systems (*After I joined the program, I made some changes. I changed out two air conditioning/ heating systems that were well over 20 years old*) and another decided to cool only part of the house (*We've got a big house, too, upstairs and downstairs...we have quite a difference in the temperature. It's set quite a bit higher upstairs in the summertime*).

The winter focus groups also revealed one attendee, a pet owner, who had problems when her new thermostat stopped operating on a cold Reno night:

*it's really, really cold, and the face went blank, and I ... started getting panicked, worried about my animals, because I was going to leave and go to work...in the middle of the night ... so I called the number on the thing...some guy called me back, and he was from Vegas, and he said I can't really help you...it was minus eleven at my house ... Then he said something about a reset button...and so then I hit the reset, and thank God, the face came on...it has happened again: twice*

In the January/February focus groups, other actions attendees reported taking to manage interior temperature included attention to windows (*I had a programmable thermostat before this all started. I did put in new windows this fall*), and the use of fans (*We did change drastically...even though I was home, my mom was home a lot too...ceiling fans on, we lowered the AC*). One deeply-engaged attendee used fans to manage cold and warm air flow (*I've learned...you can change the direction on your ceiling fan. And so you go one direction for summer, and you go the other way for winter. Not a lot of people know this*).

The other major actions attendees reported taking to shift and reduce electricity use were shifting laundry and dishwasher use times.

Laundry timing was related to other household activities for some attendees, sometimes as an old habit (*A lot of the stuff I already did, like not doing dishes or laundry until after 9 o'clock. I used to work swing shift for*



*many, many years, so I would do things like that when I got home from work late) and sometimes as a new habit (I even put a note on the washers downstairs, laundry in by 8, out not later than 10....our eating program changed, and we ate...a lot more salads ... but I found we spent more even though...it looked like our bill was kind of low...we were watching it).*

Moving laundry and dishwashing timing worked sometimes (*We have the laundry down pretty good, either wash clothes on the weekends, or...you get them in and out early. And I did hang clothes on the line*) but not always (*I wanted to do everything I can to be energy efficient and to pay lower bills...because it frees up cash for other things...after 9 o'clock I tend to run my washer after I go to bed. Well, that backfired and flooded my laundry room*). Shifting laundry timing was often one step within broader approaches:

*I really, really worked hard on it. I won't do my laundry until the weekend, and I won't run my dishwasher until after 9 o'clock at night. So I work completely at it, and I know my kids think I'm crazy...because they don't conserve, and I get on them all the time)*

and

*I do the after-9 o'clock laundry when I come home from work...I don't use the dishwasher, because there is only me... for the hot water, I just boil my own...I just like to save energy any way I can*

Attendees of the January/February focus groups also reported taking other steps to manage electricity use, including spa and pool pump control:

*We take it down to three hours a day during the winter. And during the summer, I probably move it up about 4 or 5, but I don't run it eight hours a day. And I run it in the off hours. I start it about 7 o'clock in the morning, and I keep the chlorine a little bit higher*

and

*What I did is move Jacuzzi filtration time in the morning and at night, instead of just any time*

In the winter, attendees also reported managing heating (*Before I started this program, in the wintertime, I wouldn't shut my heater off. Now I don't turn it on until, like 7, and I shut it off as soon as I get up. That's the only time I run the heater*). Budget-minded attendees managed a range of uses (*'If we shut off any more stuff in here, we might as well live in a cave.'* *I said 'the only thing on is the TV and this lamp...the refrigerator, the hot water tank, and the furnace kick on when we need it'...then last bill I got was \$30...it's a three bedroom, two bath, but it's a mobile home*). One attendee of the January/February focus groups also recalled reducing occupancy times to shift and reduce electricity use:

*You precool at the cheaper rate; typically I'd get home by 6, we'd have about an hour before we could use the cheap rate. A lot of times, even in the heat, we were just at 85° in the house...so I'd have to suffer for an hour, but I'd just jump in the pool...so we had great success with it...I thought, 'well, if I have to go back to Chicago or anything, I'll just make sure I go when the rates are high'*

Attendees combined these four types of modifying major appliance use with modifying home occupancy into their approaches to the program. In October, attendees' descriptions of their summer again divided into five major approaches: wait & see, try a few things, try until constrained, see it through, and all-in. By



early 2014, the focus group attendees were looking back across most of the first year of the program, including the summer.

In the January/February focus groups, there were still a few attendees reported shifting and reducing electricity use through a 'wait & see' approach, not particularly engaged with the program across its first year (*We haven't concentrated a lot...my wife, if she gets ready to wash clothes or dry, or dishes, and wash the car, and do the lawn, that's what it's going to be and It's a little tough for us to keep track of...we do automatic monthly payment*). A few attendees had been engaged during the summer, but stopped (*Do I go around monitoring stuff? Not really, it's not worth it. In the summer, it would be worth it. Come next summer, I am going to be doing the same thing, probably be wiser than I was this last year, and we saved a lot of money*). These attendees were comfortable they could start again (*This coming year, I'm going to be smarter. I'd know when I would use it, you know, like cool the house down before the peak time*).

In the January/February focus groups, some attendees still reported shifting and reducing electricity use through a 'try a few things' approach.

*It didn't change a whole lot that we did...it did change what we did during the summer, and I would say mainly for my wife. You know, we had the pool go before the times or after the times, the air conditioner we'd have it cool down a little bit....it wasn't too bad or anything....relatively, we know we're happy with it, and I think we will continue with it*

These attendees would take a few actions, but would move step by step (*I thought... maybe, OK, installing those thermostats will drop the bill. I didn't know you have to be really proactive with it ... my wife adjusted a little bit. She has done laundry after 7:00... you have to work at it. It's not automatic*). These attendees would take action, but occasionally:

*We'd make sure we did not cook, and we didn't do laundry...until the off-peak hours, but it wasn't a huge deal to us...the bad thing was when we would leave the house and forget to bump the AC down. We just bought a programmable thermostat, but we haven't installed it yet*

An approach including only a few changes was tolerable, in the winter, for one attendee (*I am not making any adjustments during the day or night for power consumption....I find myself flipping lights a lot more frequently, and that's not something I did last year...I am enjoying it at the moment. Last summer, I did not enjoy it*).

Some attendees reported shifting and reducing electricity use through a 'try until constrained' approach during the summer, encountering obstacles (*We did -- the only thing we didn't change was the swamp cooler, because we tried to turn it off for those hours, and we were suffocating....and so then I said, to heck with it*). The winter also included obstacles attendees reported In the January/February focus groups:

*Having four roommates and not being there...I had my thermostats set really low because I have four males in there and they didn't need it to be extremely hot, you know, they didn't need it to be really comfortable, they didn't care...I am freezing these guys out and...I am still losing money every month. I am like, 'what is going on here?' I can't quite figure it out...I think a couple have space heaters*

Constrained attendees continued to report difficulty getting help for their constraints (*We made some real*



*changes....our power bills aren't going down. And she said 'you need to check. I can't be monitoring that for you. You need to get online.' I mean, she was really not very pleasant....I need some help here, I can't seem to get any answers). Some gave up (We made a lot of changes this summer, and in the end game, lost money...it's not worth it for us), and some accepted that they just weren't going to do much (Things I could do, but I am not willing to do them to change my lifestyle, or comfort...we have done little things, but it hasn't amounted to enough to really worry about).*

In the January/February focus groups, some attendees reported shifting and reducing electricity use through a 'see it through' approach. Like the constrained attendees, those who 'tried it through' had a deliberate approach; unlike them, those who 'tried it through' found the results acceptable (*We have been fairly happy...and saving money...every month, except for one month, and we have gotten into the regimen of doing things at a certain time at night...it's a program geared to basically change people's habits to make it work*). Some of these attendees were predisposed to change their electricity use (*I was looking to lower my bills, and then the program came about. It was just the timing*), and some found themselves enjoying the program (*I look at it as kind of a little game, competitive, kind of, like, 'OK, let's see how much I saved this year. Did I beat what I did last year?'*).

Most of the 'see it through' attendees found they were used to the program:

*Even though it's winter...our heat is gas heat, but you know we're not keeping it as warm as we once did, just like in summer not keeping our house as cool as we once did, I think it is just something you get acclimated to quite quickly, we found*

and

*Probably the only thing is that I do keep the thermostat a little higher at this juncture than I had planned on, because of the baby. But, you know, otherwise, I am pretty in tune with it, I think*

and

*It's been pretty easy. It's something I think we can live with...we're more aware when we use our big appliances...we will wait to do laundry...it's not a big deal...it was nice to see those little tips that they would send us...I always kind of knew to do it, but actually seeing it written down, my husband will do it*

They did not encounter constraints, so they could make progress, even though the program was demanding (*It hit my wallet, and that's going to change my behavior. I am a single mom...but I think it helped also that -- I'm glad I'm doing it, because it also teaches my kids...it helps their behavior*).

Finally, in the January/February focus groups, some attendees reported taking an 'all-in' approach. These attendees were completely dedicated to shifting and reducing electricity use. They were proud of their attention to the program:

*I think the idea of making it possible for people to save money by being energy conscious, it's worth it...because I am very conscientious about ...when I do my laundry, and...my dishwasher...I always do it at 11 o'clock at night*

and



*We changed a lot of our behaviors based upon the peak and off-peak shoulder times, and trying to be as conscientious about it as possible, using the power ideally when it's cheaper*

and

*I don't do anything between 5:00 and 9:00 that I don't have to...turn out the lights ...don't run dishwashers, washing machines, or anything like that, and...I was really cognizant of the peak time even when it wasn't the peak day*

Not every 'all-in' attendee was happy with the results (*I changed my habits...washing clothes at midnight, 2 o'clock in the morning just to get the off-peak...and that didn't help...our power bill was still up there...turned off the AC every time we went out...and it's on auto, it's not running throughout*). But they all agreed that their effort was complete (*I think I've done everything that I can do. I don't know what else to do*).

In the earlier focus groups, we had heard from attendees who were oriented to direct action, and who spent little time on modeling rate-based calculations, monitoring numbers, or studying treatments to figure out the best way to implement them. Attendees said then that they began acting as soon as they had information sufficient to act upon. Again in the early 2014 focus groups we asked how much time attendees spent on the program, and whether or not the program made them more cognizant about energy use. These attendees had more distance from the summer, lower rates, and a reenlistment decision looming, but they had not become more reflective.

In the early 2014 focus groups, attendees said they spent little time on the program (*An insignificant amount*). Attendees estimated total time in the first year of the program as 1-4 hours (*An hour...reviewing the documents and making a plan...there has been some active discussion amongst my family how we're going to do it. So it's not a whole lot and Maybe that much*). There was initial learning (*In total, maybe two hours. The beginning was more time consuming, learning, but now it's all routine and An hour checking...looking at the graph on the Internet...how did we do yesterday? Trying to figure out which appliances use the most electricity*). There was attending to the technology and education treatments (*I could say maybe an hour, but I did play the little game, so that probably took up a little more time, so maybe two and Probably a minute a day resetting my thermostats*). The time invested wasn't steady, as one attendee noted:

*I'd say three or four hours over the whole period. And most of it was leading right into summer, and then during those four months, because I would literally spend time trying to go all over the house every day, a few minutes here and there each time, just trying: like, 'OK, can I do this? Can I unplug this?' Just trying to figure out the best thing*

But another attendee described a similar experience, allocating the use of time differently:

*It was always on my mind during the summer. How much time do I have? Do I have enough time to do that load of laundry...it seemed like I was constantly thinking about it during those five hours...right now, I don't hardly think about it. I do turn off the lights and do those kinds of things, but I'm not really thinking about it. Before, I was*

In other words, even though Choose When You Use seemed to attendees to be absorbing their attention for only 5-10 minutes per month, or at most twice that (*Maybe three or four hours total*), for some attendees



that amount of time had been enough to establish new habits. These attendees had not only acted as soon as they received information that seemed sufficient to act upon, they transformed their new action into unconscious habit as soon as they ‘got it’ (*because of the learning curve, we got it, and now it’s calm*).

We asked attendees again at the third set of focus groups if the program had made them more cognizant about electricity use. There were some attendees who didn’t want to learn much (*No, not that much...I preferred the flexibility to go ahead and run the washer if I needed to, or wanted to, and not having to wait*), or who professed to already know what they needed (*I didn’t learn much, but I just put into use what I already knew, and what they program showed me*). But most attendees acknowledged receiving new information in the program that they tried to learn. One attendee who had signed up for the program right away described the process:

*I never paid attention to power, water before...I was one of the first to get in on this thing.... It started with what they said. I went to LED lightbulbs throughout the house. I put in two new heat pumps...all of the appliances in the kitchen were replaced...a new water tank, and I put new fans in, six of them....So I replaced everything. I’m saving about \$2,400 a year, if it carries out, and I think it will*

More typical attendees did less, but did something (*I closed vents in unused bathrooms, and did just a few things, so that I was cognizant about the program*). These attendees began by becoming aware of goals (*it has taught me not to use in the peak time. I can see myself continuing*) and motivations (*It makes you more cognizant of why you’re doing it. It’s not just to save, you know, a ton of money. So let’s say I save only a tiny bit...I think it matters. I think it matters with people’s habits*).

Thinking even a little bit about electricity use was effortful for some attendees (*There is a lot of thought process going when you are using electricity. Probably not so much, but... and To be so conscious of it during the summer, it was kind of hard*). They began with specific examples of actions to consider, like leaving home for a while rather than using air conditioning (*When I started getting the reports, I found out that, ‘OK, during those three hours I may have spent \$10.’ And I weighed that against the cost of seeing a movie. Well, I probably would have had more fun at the movie, but it was kind of a wash*). They jumped to conclusions about these examples, some useful (*Cook when it’s cool, in the microwave and cook outside, but still, you know, to save, like...a little less than six percent...it’s a little iffy*) and some misleading (*Watching the thermostat? Not really, because we work from 9 to 5, so it doesn’t make a huge difference on the timing*).

Some attendees turned to their bills and energy reports for help:

*The bill showed very detailed, line by line -- like 20 or 30 lines of off-peak, peak, critical -- and it was so difficult to understand that I thought to myself, ‘how can anyone in the general public work this out?’ ...So then...I started to get these summaries like I got today, and I started to see that in the summer, I didn’t save too much because I kind of like it cold....Now that I’m getting these reports, I find that on a monthly, non-summer basis, I’m saving about 30%, not a lot of money*

One rare attendee who was seriously analytic about the program tried to enlist help:

*When it started out, I made this whole spreadsheet...I kind of looked at it as a challenge to try and save as much as I could. Didn’t really go so well for my girlfriend, who was unemployed at the same time, and staying home at the critical peak times when I wasn’t there....but now she is working again, so I think I*



*can do even more, make more of a change, make it even warmer in the summer during those days*

But the typical process attendees reported was first to pay a little attention to how they were using electricity, and then to identify actions to try (*I'm more concerned about it. I paid more attention to it...the lights, and the computers...it's just me and my husband, and I've kind of gotten him...to adjust to it...I don't find it has changed our lifestyle. It just makes me more aware, considerably more*). Awareness of usage, and the identification of new approaches to usage, was how most attendees reported engaging with the program at the outset.

A gap for attendees resulted because the program asked attendees to shift and reduce electricity usage, but measured results in savings, which were day and time-dependent according to the rates. Attendees could act to shift and reduce usage, but they had no simple way to understand how the individual actions they took added up to the savings numbers on their energy reports. Instead, the attendees had to be content with monthly summary statements, which many attendees found useful:

*It was also nice to have all the little paperwork show up, and talk about how much you had saved...my wife's goal was to have 1% or less in the critical periods. If it goes over, she's upset...other than the upstairs getting hot for the kids, it didn't really bother us that much*

Rather than construct detailed models adding up individual actions, some attendees reported acting on heuristics (*I learned, because it teaches you how to save energy, and when not to use most of the electricity throughout the day*) with the aim of developing new habits (*The price is the price...it is nice to know why...great to know that at least there's a reason behind it, but ultimately it doesn't matter. I mean, we're going to change our habits*). As noted above, attendees' recall of specific rates and time periods was uneven, but for many it was sufficient as the basis for awareness and action (*I am a little more conscientious of my energy use, even on the cheap zone...where we are operating right now*).

However, some attendees were troubled by their inability to connect their actions on the one hand, with their bills on the other. One attendee who is a chinchilla rancher said:

*My electric bill would be \$190 a month...when I was married, and my daughter had 8,000 of her closest friends there, it was \$190. Now it's just me, and it's still \$190, and I work shift plus overtime, so I'm never home. So I'm like, 'how come my bill is so high? There's nobody here and I know the chinchillas aren't bringing over 8,000 of their closest friends'*

Other attendees had basic questions:

*I have got a question that came to me...is it more cost effective to run the ceiling fans to circulate the air, or the fan only on my central heating unit...it was just something that passed through my head, and...I didn't really get too concerned about it, because my power consumption is about as minimal as it gets*

and

*What is the consequence of you guys having that peak time?*

Another attendee unsuccessfully tried to correlate what was going on in his household with his bills, and information from the NV Energy website:



*The house was going from 70° to 90° in 20 minutes in the middle of July when it's 112°...the refrigerator stays on for the entire three to four hours of very critical period...it's an energy-efficient refrigerator...that's eating up some of the savings...When I go to NV Energy and I look at the pie chart, and it says refrigeration, it's really a small percentage, so I believe that the refrigerator is indeed energy saving...there's a lot of problems with the website...I have a small home...I'm one person, and I don't turn lights on in rooms where I'm not in...and I was getting \$180, \$190, \$200 bills, and yet my air was turned off during those critical peaks, and I didn't know why it was getting that high. I'm thinking maybe it's because the refrigerator is running, I don't know*

With incomplete information, and information that was difficult to integrate, attendees would create their own explanations for what they observed in their household, and what they saw reported in the information they received:

*What I am looking at when I am on the website is the graphs, and trying to figure out, why does it look like that? My most recent thing is...my electricity spike at about 1 a.m. every night. It spikes every night...when nothing is happening...my conclusion today is that it's the router and modem and charger might be doing something at 1 a.m. to re-up things, or, you know, calibrate or do something*

As a result, after nearly a year in the program, some attendees said they weren't sure what to do (*I suspect it's my thermostat that's really been an issue for me...I need to reprogram it. I suspect that would be a big help*), or they forgot what to do (*I do remember...having taken some actions that helped...I would say in the last three to four months I probably have not. So I don't know if I just lost control of it, and that's why*), or they couldn't understand the results they were seeing (*The savings are not anywhere near what I expected them to be. And some of that may be because I am primarily an off-peak user anyway. I don't know*). Other attendees just hadn't given it that much thought:

*My wife does most of the analyzing and determining when power goes on and not. I don't think we saved that much money. There are more priority discussions than power*

and

*I don't think I saved all that much. I saved some, I think. But I do...believe that the summer rate was quite punitive...and it would not change my behavior anyway, because I am not going to turn my air conditioner any higher than it is, that's it*

Thus, according to many attendees, while the Choose When You Use program had made them more cognizant of energy use, it clearly had not filled in all of the gaps in their understanding. However, in both the October 2013 and the early 2014 focus groups, we encountered attendees who had chosen to invest only a limited amount of time engaged with the program, and who had chosen to invest very little of that time in absorbing new information relative to the program. Because utilities deploying newer Smart Grid technologies could potentially provide more information to customers than ever before, we then asked attendees if they wanted additional information to be available.

A few attendees said they had enough information on hand (*It's enough information. I can't stand the information all over the place. You get so many things in the mail, I would never function on all this information and The critical peak days, it really don't matter to me what days they are. You know, they call*



*and tell me). Other attendees only wanted billing information (Am I saving...compared to last year, that's all I want to know and I'm an accountant. I notice the numbers. As long as my monthly bill is more or less constant, I have no problem I don't need to look and The report is kind of superfluous. The thing that matters is the bill).*

Other attendees wanted additional information to be available, just because they were curious (*I'm curious about all this stuff and Basic curiosity*). These attendees were interested in information (*I expected to see cost savings...but I was also interested in the education piece...you know, I don't know everything about energy. If I did, you know, I might not need to be in the program*) but not enough to remember all of it (*Why they charged more, and why they need some of those peak times...but that was so long ago I can't remember. Yeah, I do want to know. I read the e-mails*).

Many attendees wanted additional information to be available, about the actions they were taking, or considering taking (*We want to understand what we're doing, and if you're not informed, you can't understand, and therefore you can't comply, but if you understand you can be more cautious*). These attendees noted that better information would motivate them to act (*By telling us that, it maybe gives us a little more incentive to really try to cut down on that day and It gives us a better feeling, OK, there is a reason why I need to do this and The idea that you might in a small but not insignificant way address a larger issue that might benefit your fellow citizens might make me more likely to hit that light switch, and not be forgetful and leave it on*). These attendees knew how they wanted to put the additional information to work:

*If we know what's going on and the fact that we're wasting valuable energy, at least we can make a choice to waste or not. It's an optional thing, I guess, but at least we have a choice. We have so few choices in today's world*

and

*I think it gives you the feeling, because you want to help out. You want to say, OK, so this is a peak day, I can skip doing two or three things and do them the following day, when it's not*

and

*Just say, 'OK, here is what happened this month. Here is what happened in the same month last year, and here, if you would have taken some steps that we could have suggested...is your potential savings'*

Some attendees wanted additional information not just to justify their own actions to themselves, but also to understand the rationale for NV Energy's actions (*we want justification for why the price increase is so much, so we don't feel that NV Energy is the big bad evil corporation tripling our rates for no reason at all*). These attendees sought explanations (*Substantiation of why: instead of being out in the dark being dictated to, at least we have a feeling for being part of something and Isn't it nice to know that something is justified, instead of just, 'OK, it's going up'?*). One attendee mentioned respect:

*In my mind it has a lot to do with respect ... a manifestation of social consciousness, a sense among us that what we do individually matters to the greater whole, and if we have a good reason to do something because it's going to benefit the greater whole, then we might be willing to invest more of our time and energy and more of our thoughts in making our decisions to what we use and what we do*



Another attendee mentioned transparency and partnership:

*Transparency and partnership: the additional information gives you some sense that NV Energy is transparent about what's going on, and that this is a kind of partnership where we're both saving some money....if we're saving NV Energy some money, that we're getting, a piece of it, and it's not just 5% of what we save. I mean, it's a decent chunk*

These attendees had a sense that there was more information available to NV Energy than they were receiving (*You could do more. Those meters are read every fifteen minutes. And that information goes into a computer somewhere, so it should be visible*), and that information could relate to the peak supply concerns of their program:

*That knowledge is not given to the general public, and nobody knows that ... Is there a news story out there, or is the power company putting something out in a newsletter that says, by the way, if we have to fire up this plant, it's going to cost \$3.268 million*

Finally, many attendees wanted additional information available when the information that had been supplied already was confusing, or mistaken. As noted elsewhere in this report, in the first year of the Choose When You Use program participants had received a number of mistaken communications and corrections.

There were individual attendee problems:

*It also matters sometime in the hot months, when I would get it, I would look at it, and one time particularly it was a spike. And I'd say, 'how can that be, because we're doing everything right...we turn the air conditioner off when it's 100°, and I am smoldering'...it turned out that it was a mistake, and it was revised*

There were more widespread mistakes:

*I didn't get a correction, and it just kind of like, breaks the trust again with NV Energy...this is like...we're focusing on it, because we're trying to save money*

*They're giving us these tools, these charts, and this, and that, and then we get it -- and then the whole thing, it's ridiculous. It doesn't make sense or it's wrong...this would be like the third or fourth mistake that they made. I feel like, how can I trust anything you people are telling me...you can only say you're sorry so many times*

*I'm OK getting the correction, because I want to make sure they are fixing it. But I do agree, if it happens over and over, that does make you doubt. OK, wait, what else are they screwing up that we're not even catching? So it kind of makes you wonder*

There were omissions, like not explaining the rationale for cooler critical peak days:

*We had 10 critical days this year. And the 10<sup>th</sup> critical day was basically, in my mind, a big laugh. It struck me that the only reason they are using the 10<sup>th</sup> critical day is because they have 10 of them. They can have 10. You know, it was a mild day...there may have been something somewhere else,*



*but...because I have 10 days, I am going to use those 10 days, rake in all the dough that comes with the critical days...maybe it's just a money grab*

An attendee who did not have the program's technology treatment also reported mistaken information on the NV Energy website:

*It also says online, 'congratulations, we have control of your thermostat,' and they don't...I have a thermostat in the hallway, and I turn it on and off, and NV Energy doesn't do anything with it. So I don't know why they say that [CPP+E -- no T]... I mean, there's a home that I had ten years ago, and it's still there...and it won't drop off, and NV Energy doesn't know how to get it off. They said 'you're just going to have to live with it, because we can't get it out of the system'...*

Some attendees were also confused by the formatting of correct information they received on their bills (*I think rather than lines of code, they maybe should have graphs, pie charts, something more visual that people can understand*), and on their energy reports:

*I looked at what the different rates would be during certain hours. At first, it was a little confusing. I didn't understand if this critical day would be every day during this period. I didn't really understand it all, but I called the number and they clarified it for me*

and

*I spend a lot of time trying to figure this out...the problem is, I think, that...all it is saying is you used this much energy, had you paid the flat rate it would have been this, had you paid our rate it would have been this...what that doesn't take into consideration...I cut my energy, my electric use, since August every month in half. That's a huge savings...but it's not showing me that...my bill for the kilowatt-hours that I used a year ago would have been twice as much, literally twice as much. And so the chart isn't telling us anything that makes us feel good. It's not telling us anything useful at all, because we are killing ourselves...cut my energy usage in half...that's the part that feels good with all that walking around in the dark*

Thus many attendees in the third set of focus groups said that they would prefer additional information. The attendees did not ask for finer and more technically-detailed data. Almost none of the attendees who wanted additional information to be available said they were seeking it for personal calculations or analysis. Instead, the additional information they sought was to satisfy their curiosity, to better understand the actions they might take, and to better understand the actions that NV Energy was taking. The additional information they sought was also to replace confusing and mistaken information.

At some distance from summer discomfort, bill shock, peak rates, and air conditioning, attendees in the third set of focus groups reported that they were generally continuing with the remaining elements of their programs for shifting and reducing electricity usage. Almost all of the attendees reported having these programs, which generally operated by undertaking a set of actions and then looking to the bills and energy reports for results. Some attendees said they were pleased with the results of their programs, and some said they were not pleased.



## Expectations and Outlook

The economically traditional view of the participants’ reenlistment decisions might be that any savings at all could make the program worthwhile, especially since almost all of the program participants cited savings as the primary benefit they were seeking. A cost/benefit view might note that other benefit factors also impacted the decision at the margin: stewardship, choice, control, and challenge. Focus group attendees would also add in cost factors to the equation: discomfort, mental effort, and inconvenience. A confidence factor also arose: some attendees believed (without any concrete plans or evidence in place) that next year might be better, because their lives, or their behavior, or the weather might change. Finally, there is an inertial endowment factor to consider: participants already in the program might be expected to stay in the program merely because they were in it, and it was their program, and changing involved risk.

All other things equal, savers would be expected to remain in the program, and losers to leave. But for the focus group attendees, all other things were not equal, and many other things were important. According to the focus groups, the participants’ reenlistment decisions might be framed by their savings results, but might not be determined by them. Other costs, benefits, and attitudes might tilt the balance.

Earlier, we discussed the factors of stewardship, control, and challenge that some attendees reported as influencing their perspectives on the program. Just above, we discussed the limited but very real mental effort that attendees reported investing in designing and executing their programs. These cognitive costs were joined for many attendees by discomfort, a cost arising primarily in the summer yet still recalled by attendees months later. Finally, another cost many attendees reported was inconvenience. Inconvenience was a program cost not confined to the summer, and we asked about it during the third set of focus groups. After discussing inconvenience, we will describe how attendees evaluated the program in light of their impending reenlistment decisions.

Many attendees reported inconvenience in the Choose When You Use program, but some did not. Some of those attendees who were able to shift their electricity usage without inconvenience only had to make small shifts:

*it's just not really that inconvenient for me; the hours kind of work with my schedule. So if I only save a little bit, I save some money...today I put some towels in...I had to dry my towels from 4:30 to 5:30, and I do that sometimes, sometimes I run the dishwasher during peak time, and it is really not that inconvenient for me, and...I still save*

Others who weren’t inconvenienced just didn’t mind the changes:

*it hasn't really been an inconvenience...I am trying to be pretty diligent*

and

*We're public and retirees too...we semi-work part-time from home. So it was way easier for us than for anyone with a family....it doesn't matter. I run the washing machine at 9:00 at night. I don't put it in the dryer until next morning. I think part of it is lifestyle*

Some attendees found an improvement in convenience through the remote access feature of the technology



treatment:

*Being able to have web access...I can just...turn the heater off, I can do it right from my phone. So that's been really beneficial, but aside from that...no extra work necessary... it's been a little bit more convenient with remote management*

However, most attendees reported that conserving and shifting their electricity use involved inconvenience. Attendees said their inconvenience from conserving related to the additional activities required to cope with the discomfort of reduced air conditioning.

As one attendee noted, one cost could be converted into another, avoiding discomfort at home by incurring the inconvenience of being deliberately away from home (*It does get pretty uncomfortable during the summer months...the difference is if you're out and about during the day, you don't feel it as much. But if you're at home, you do. For instance, we in the summertime try to work around it a lot of times*). At home, conserving the peak hours also involved new activities:

*those peak hours are at the height of the heat...a lot of people are at home, they don't work anymore. And to have to spritz yourself: you are a senior citizen, you worked your whole life to get where you are*

Attendees said their inconvenience from shifting included the problem of avoiding activities during peak times (*I feel like I've lost a lot of convenience, because at peak times, I have to be quiet. I can't do that. I can't just wash whenever I want. I can't use the oven like I used to*) as well as moving activities into non-peak times (*One situation was a little inconvenient, because normally, you know, being retired I'm off during the week, I can laundry during the week and party on the weekend*).

A basic form of inconvenience attendees reported was changing from a schedule they had enjoyed:

*Everybody comes home from work, or the kids are all doing their homework... everybody is making dinner, or maybe they are sitting down and checking their e-mails...or listening to the news...to say, you know, that the on-peak hours are from 5:00 to 9:00 is not realistic in our lifestyles*

and

*I want to come home and enjoy my TV*

One attendee noted that inconvenience was a constraint, but not a barrier:

*The kids had no choice: I mean, this is what we're doing...It was just inconvenient. It worked out well*

One attendee described the interaction of costs and benefits (*it felt like we put a lot of work into it...it was a monumental effort, and we sweltered in the summer...we turned off things...a lot of effort, and we saved maybe 5 to 10 percent*). Inconvenience was a cost with many forms:

*The bottom line for me is cost...the cost is going to come out the same...I would rather go with the flat rate, because I can't always do my dishes at a certain time of day, or take my baths and whatever at a certain time of day, and I can't direct someone else, 'oh, you can't do this right now'...so I like the freedom of choice to do what I want to do when I get ready to do it*



Attendees were aware they were trading convenience for savings (*It's very inconvenient, but financially you have to work around it unless you just have a lot of money, which I don't think any of us really have. But yeah, I won't do it again*). For some attendees, the savings didn't seem like savings in the summer, because their bills were actually higher than they had been (*it's too much. People are going to pay too much in the summertime...I had a power bill that was at the peak of \$400, and this month it's \$31, so...big moves either way*). Because the stakes were very high in the summer, the inconvenience could be continual, and the mental effort that went with it (*I am getting stomach indigestion every time I flip the switch on during peak hours. Because I always think it goes back to the rate that's so high, and right away in my head, that thing starts going around*).

Every weekday, summer circumstances led one attendee without a programmable thermostat to endure inconvenience (*At 2 o'clock that thermostat has to be changed, I set my phone with an alarm. My wife won't do it. She likes it cool...2 o'clock comes...I got to go across town to turn the thermostat up*). Summer rates led another attendee to extreme conservation, and inconvenience (*If it gets any worse, we would be in a cave...you end up, you are shutting off everything, everything. And it's like, what else would you shut off? ... A pain in the tush*). The tradeoffs involved in the summer led more than one attendee to criticize the rate design (*I think the summer rates were more punitive, and the winter rates are fairer*).

Attendees were discovering that conserving energy use beyond mere efficiency imposed costs on their choices of lifestyle. Shifting energy use beyond the ranges of familiar schedules also imposed costs on their choices of lifestyle. The program approaches attendees had adopted were experimental (*We were invited to join, so we joined. Most of us changed our behavior because of that, not knowing why*), and the experiment could yield a notable level of inconvenience as a result.

Having experienced a range of costs (discomfort, inconvenience, mental effort) and benefits (savings, stewardship, control, challenge), attendees faced reenlistment decisions. In the prior set of focus groups, in October 2013, attendees had offered a wide range of views. Some viewed it as too early to take a view based on savings, or simply found the program intrinsically valuable. There were those attendees who were breaking even, those who viewed their savings positively, and those who viewed their savings negatively. Some attendees were confused because they didn't know what else to do, and some attendees were aiming to improve their behavior across the next year.

In January/February 2014, almost all of the attendees were ready to provide a definite perspective on the program. We asked if what the attendees were putting in to the program balanced what they were getting out of it.

A few attendees still believed the program was simply the right thing to do:

*So now I'm thinking, 'OK, is it worth it going on into the second year? Is \$100 savings worth it to me to swelter during the summer? The emotional side of me says, 'no, I want to be comfortable, I want to be cool, and I don't care if Lake Mead is dropping'...and then the other side of me says 'you know, I've got to be responsible even if I'm not saving money. I'm saving energy. I'm saving, and I'm being mindful of the environment, the earth...so I did make a decision to continue, even if there's not a great savings*

and



*The bottom line is that after one year, the kickoff was kind of rocky. The educational thing online was stupid. Some of the reports were difficult to read. But at the end of the year, I feel better about what I have done. I feel better: not just saving money, but I'm more conscious of turning lights off in rooms where I'm not in, and I'm just doing things more ecologically, and subconsciously, and that kind of makes me feel good. I like that....for the common good*

and

*Even if I breakeven, to me it's worth it, because it's worth it to just go outside and cook more often, and we're doing more healthy cooking and along those lines, and making better choices*

Some attendees were still weighing the pluses and minuses they perceived:

*It's a good program, but it's also hard sometimes to do it, to follow it every single day religiously*

and

*The whole idea of changing your lifestyle to satisfy the energy provider is not a comfortable one for anybody. Whatever my lifestyle is, I am willing to accommodate the energy provider, but I'm also of the mind that I get the energy I desire to have at a fair price...and if there is punitive pricing involved, such as what the summer rates, I feel, were here -- then I am not too happy about that*

Some attendees said the program provided more in benefits than costs, in some cases because the costs incurred seemed minor to them. One attendee didn't mind monitoring the temperature (*The effort is not too much...just watch the temperature, that's all*). Another attendee didn't mind learning how to use the new thermostat in the technology treatment:

*I know it takes work initially -- the initial setup...if you're not computer-literate, you're screwed....I found out it was me who had to go to the computer and adjust all this stuff....but after I got it set perfectly...I am like, 'OK, perfect'....You can do it on your phone with an app, but again, that takes work initially*

Other attendees found the savings levels acceptable (*It's worth it because instead of paying \$600, I'm paying \$400, that's worth it. If it's \$100, or \$80, maybe not so much...it's worth it because we saved substantially. I mean, its \$533*).

However, in the third set of focus groups, many attendees said the program provided more in costs than it did in benefits. Some attendees were losing money in the program (*I have spent more money...substantially more...I actually thought it wouldn't be difficult for me to save because we are a small household, and I certainly don't have an issue with shifting things...to off-peak hours and It seems more of a nuisance than the savings has been worth for us...it just doesn't seem to fit for us to continue on this plan, because...I have spent 14% more*). Another attendee was frustrated due to mistakes and corrections in the program:

*It makes it like a job to make sure that they are doing everything that they are supposed to be doing. Like, I don't have enough time to go through everything to make sure that they are doing it right, or that they are billing me right, or to see what mistakes they haven't corrected or haven't caught themselves yet. It just makes too much work for it*



But the most common reaction among the negative attendees in the third set of focus groups was that the savings achieved weren't worth the effort invested. For some attendees it was a close call:

*My total overall program to date is, I am below by...roughly a dollar a week. It has me wondering, is it worth to consider: 'whoops don't turn that on, or no, don't go out to the hot tub, or...alter how you are doing your laundry', because, you know, a dollar a week*

and

*It was a struggle with the kids...the combination with the girls, working with them...the windows...watching the time...I believe it probably wasn't worth it. Right on the edge, you know. Based on the thriftiness that we already have, we figured we are going to clean the clock on this one, but it didn't pan out*

and

*I would need to save more, I think, to make it worth it in the summer months. To be pushing it to be as hot as I can stand, or to always be trying to be out of the house, and using somebody else's AC. But I don't know*

For others, the imbalance was clear:

*Our December statement showed that we had saved \$3 year to date...I think the summer months really, really killed us...even being aware of what time it is, and 'oh, I shouldn't turn this on because it's this time,' that's obnoxious to save \$3 a year. That's not worth it*

and

*I will have saved maybe \$40, and in order to do that \$40, I went through rather inordinate handsprings in the three summer months... the incentives of the program are wrong. They need to be set up in such a way that I can at least see break even for doing what I have to do...all that we are really doing is taking money from the winter months and taking that in the summer...for \$40, it wasn't worth it*

Most of these attendees had saved modest amounts, and believed their efforts deserved more (*\$2 a month is not enough incentive to you know, just rework your lifestyle and I don't think your stress level is worth the 7% savings*). One attendee averaged savings across the year, but specifically cited the summer period of greatest cost and effort (*I am at 7.9% I am saving a month, I guess. Not all for what I am doing, you know. I am doing everything...and it's not that much. It's because of the summertime when the penalty is so high. I think it's a little too high*).

Some attendees said they could not defend the program's balance between savings and effort to outsiders (*I don't think I would encourage someone. I don't see that much difference*), and family members:

*Going through those couple of months of battle, I don't know if it's worth it for the rest of the year...it's really, really like a marriage challenge to have those summer months*

and



*This is the report I got...My total savings in this program is \$15. That's not a lot of money considering the exercise we have to go through, and my wife saying, 'can I turn on the dishwasher now?' ...for \$15, if she wants to run the dishwasher at 6 o'clock at night, she can darn well start running the dishwasher at 6 o'clock at night*

One negative attendee summed up an evaluation (*it's just not worth the hassle...I proved to myself that it ain't worth the hassle. I would rather pay the bill*).

Earlier focus group appraisals might have been based on hopes, expectations, and plans. Attendees in the third set of focus groups were appraising the Choose When You Use program with nearly a year's experience behind them. The attendees had not only established their own approaches to shifting and reducing electricity use, they had discovered for themselves the costs and benefits of following these approaches. For some, the adaptation had proven to be natural and easy. For others, the adaptation was in convenient, uncomfortable, and effortful.

However, the new rates these attendees had received were designed with utility cost structures in mind rather than their households' circumstances. The savings that the attendees discovered by following their approaches were independent of the other benefits and costs they encountered. Some approaches would shift and reduce electricity use significantly, and some would not. Some approaches would yield significant savings, and some would not. Some participants would find the results acceptable, and some would not.

## *Focus Group Set Four: Reenlistment*

### Results

Below, the results of the fourth set of focus groups are summarized, (*including direct quotes in italics*). The summary again addresses three topics: the attendees' (1) motivations and understanding, (2) experiences with learning, behavior, and bills; and (3) expectations and outlook.

The fourth set of focus groups was conducted in late April, 2014. The last set of focus groups for the program's first year differed from early sets in that the groups were recruited not by cell, but instead by program reenlistment opt-in or opt-out status. Four groups were conducted, one each of opt-in and opt-out participants in the North, and one each of opt-in and opt-out participants in the South. Again, regional differences in attendee comments were less significant than differences among the attendees within each group. As a result, for the purposes of this interim report, we have discussed each group in turn below, and then combined regions to compare opt-in and opt-out discussions.

### North Opt-in

#### Motivations and Understanding

Attendees from the North opt-in group recounted a familiar range of reasons for originally enlisting in the Choose When You Use program. One reported that prior to Choose When You Use, his household was



already shifting electricity use away from peak times (*I was unplugging things, the dryer. But things like running the dishwasher I would schedule for the middle of the night. You know, I rarely ran the air conditioner...So I think we were already shifting away from peak times*). Another had planned to do something like the program:

*We were already trying to conserve, but we're too busy, both of us work full time, so we never had the time to think about how to save enough ... it looked like something different for me, especially that you could control with your phone... even if there wasn't a rebate program with this I would have signed up for it*

A couple of attendees weren't so sure at first (*I had a letter, and I actually threw it away...and I took the garage can out of my office and went to dump it, and I saw that thing in there...it looked to me like it was just another ad, so I started reading it, and I thought it was a pretty good deal and I read it, kind of set it aside...and then I talked to my husband, and said, 'should we try this?' Because we couldn't lose anything, we figured it was worth trying*).

On the other hand, several attendees thought the program had sounded like their kind of thing (*I'm the one that's always walking around turning the lights off*) and

*I'm a nut, I'm an idiot, I want to play with this stuff, so I do it ... nobody can leave a light on in my house over ten minutes because I got motion sensors all over the house...they aren't hard to do, I'll tell you, but it's a little expensive. I've probably got \$5,000 in gadgets in that house just to do that kind of stuff*

and

*I was kind of intrigued with it because...I put one of those tank less water heaters in my house, and the savings on that alone before getting into this program was phenomenal...40, 45 bucks a month...so I was, like, 'if I can save a couple of bucks on that, then it was worth it'*

Informed about the program, these attendees began thinking about what they could try to do differently (*It was just interesting. Because if I have to wash clothes, I'm going to wash them, and I hang my clothes out in the summertime, but not in the wintertime. You know, I try, but...basically I would do what I wanted. I thought maybe I could do something with it and I told my husband, 'I'm going to try this'...maybe we can save on it, and get that power bill down, because it's a little crazy. You know, \$200 and \$300 for two of us*). They could become energy-conscious and save money (*Just trying to be energy-conscious and save money and I had two reasons...I want to reduce energy use, and I want to benefit from saving money...and long term, I was thinking about the fact that if we can shift away from peak times, then NV Energy doesn't have to build another power plant*).

The program had seemed to some of these attendees to be a good idea they could share:

*I'm all about conservation for anything...I thought, 'well, when are the peak times that I can run the dishwasher, or do this? And I can work around it, and not only save a little money, but...just have an*



*ethical way of doing this to save energy for everybody*

and

*I just thought it was a good idea, you know. The opportunity to save money was an incentive...I thought it was a good idea to educate the family, and, hopefully save money*

A couple of the North opt-in attendees recalled that they were just trying out the program (*I was probably 60-40 for it, but the fact that there was a guarantee on the first year, I figured I can't lose anything, I might as well see if our behavior shifts enough that we save some money and It was really...let's just give it a try*) But most of these attendees were committed from the start (*I'm all in and I knew it was right for me. My husband, it's not right for him, but it was right for me and I was already kind of in that mind-set where, you know, the peak times to do your laundry. I wasn't using the central air a lot...this could only be a win-win. And also the guarantee helped as well*). One attendee recalled missing the opt-out option completely (*I don't remember having the option of being out of it. I mean, I don't want to get out of it, but when I first signed up for this program I was under the impression that if you signed up for this, you were in it for the two year period*).

However, once signed up for the program, the North opt-in attendees still had questions:

*I didn't even understand it. And the first bill I'm going, 'oh my God, what is this?'...I called them because honest to God, I didn't understand. So she was so nice, she told me everything on there, what it was, what I was doing. 'Well congratulations, you saved money!', and I says, 'well...I might have saved money, but I still don't know what I did here.'...it was real confusing for me. I understand it now*

and

*My rates went up, not like the 'normal energy people'...my energy, the price went higher. They told me it was going to be higher, so I'm going, 'man, am I doing the right thing here, you know?'...I called and said, 'I don't understand the higher. Well, maybe it's in there somewhere, you know. So I listened to what they're telling me, but I guess that's to make you watch the peak hour*

## Experiences with Learning, Behavior and Bills

The North opt-in attendees said that during the program, they had reduced and shifted electricity use in familiar ways. One found the program fit well (*The parameters that NV Energy sent out originally kind of fit my lifestyle...I wasn't home during the day...I have central air but I hardly ever use it...a lot of the times when I did my washing...it was all off-peak, so I was, like, OK with the rates*). Another ran into constraints (*We both work...and we're not home during the day, and it's kind of hard to do my laundry at 9 o'clock at night when you need to get up the next day...I tried to adjust as much as I could on the weekend, but it was challenging*). Other attendees adjusted their air conditioning:

*It's going to be hot, it's easily predictable...what I was doing, which was around 11 o'clock in the*



*morning before the 1 o'clock rate change...if it was getting warm in the house I would crank up the air conditioner and then shut it off at 1 o'clock*

and

*We made the decision to run it at night since it is a lot cheaper...there were some days that it was just too hot, and we ended up turning on the air conditioner anyway*

and

*I pre-programmed the whole thing based on the guidelines they sent, and I left it alone*

Generally, opt-in attendees in the North adjusted ventilation and laundry (*I kept my back windows open at night, when it gets real cool, and before the mid-peak I shut everything down, all the curtains, everything went closed and it stayed nice and cool in there...I do my laundry real early in the morning*). They used fans and swamp coolers (*We looked at our air conditioner, and then we have portable swamp coolers because our upstairs gets so hot*) and they shifted laundry timing as well (*I changed when I did my laundry...when it was critical peak or...just the regular high peak period I tried not to use the air conditioner, and just use...overhead fans and We don't have air conditioning, and I couldn't get a thermostat, so I had to, you know, basically do my laundry in the time frames when it was cheaper*).

Two attendees tried to do everything possible:

*I would go around the house and shut things off just to see what difference it would make, and I could not find anything that was really a big enough difference to drop that rate down, except the air conditioning...I got eight computers running at the house right now, and if I go around and shut those all off, that's about 150 watts...that adds up to what, 1 kilowatt-hour a day*

and

*I bought power strips, and I put everything in my house on a power strip, and I used to turn it on, turn it off at critical peak*

Among North opt-in attendees there were typical service problems (*One network out on thermostat and A couple of smart meter problems*). They spent little time with their energy reports (*How long does it take to look at a smiley face? and Just look at the bottom line, if I saved or not, then throw it away*). All spent under ten minutes per month (*90 seconds to two minutes and Not very much...five or ten minutes and I would say five or ten minutes*). All were focused on the savings metrics (*I just see if I saved...a couple minutes and Five minutes at the most...I look at it, look at the bottom line. I like comparing our house to other comparable houses and To see the smiley face, and 'oh good,' and I'm done, I achieved it...five or ten minutes*). Most attendees spent little time on the NV Energy website (*I just never thought to and I've been there a couple of times in the whole year, but not for very long and Maybe five minutes, because there's a lot of clicking around you can do*), but it seemed long enough to them (*Once a week. I don't spend long, but I'm there long enough to*



*track what's going on and Just to pay my bill, and then I can look and see what I'm doing).*

The opt-in focus group in the North was distinctive in that attendees cited a long list of things they had learned from the program. Like the attendees in other groups, these attendees cited specific energy use items (*I never knew that if you turn off the whole power strip, it saves you the current...there is a lot of stuff like that I learned and I didn't know was that when you had things plugged in, like your charger or your phone...that was using energy. Because I thought, OK, it's not charging anything, so it's fine*). One attendee was reminded of steps to take (*I knew a lot of that stuff...but I ignore it, because I don't want to turn my TV off and have to have it reprogrammed every time it comes back on. Things like that*).

Attendees reported learning about peaks (*I didn't know that...most people or a lot of people use energy at specific times of the day and Peak times...that was probably the big eye-opener to me*). They learned how peak rates worked (*How vastly the rates change from off-peak to the middle of the night to the middle of the afternoon, and that we can save money by doing things at a different time, and things differently of how we've always done things*). The attendees paid attention to peak rates (*When to use power. I was amazed in the summertime at the difference in those rates and I learned ...when the peak times of usage were. I never really knew...I never realized it went into the nighttime like it does*), and they aimed to learn more (*I didn't know before how to conserve, and ...which time of the day is best....the big picture is, there is a lot more to learn*).

For two of the North opt-in attendees, interest in learning carried over to the education treatment (*I love the online questions and stuff that we got, because that taught me a lot of things that I didn't know before*) and to the NV Energy website (*I went to the link that I can monitor my meter on a minute-by-minute basis*). Other attendees said they had learned from the energy reports (*The newsletters that they sent out every month with the bar grids, and the pie grids, and the little energy tips that they would give you throughout the year: I thought they were pretty helpful and It would show how well you did, and the colors, and you would look at it and compare it: 'oh, I'm doing better than last summer'*). One attendee noted he was broadly interested in energy:

*I've always been interested in science...and I'm curious about the production of energy...deferring the costs of building power plants...those kinds of issues do interest me...so I think probably I learned more about the sensitivity of the marketplace to energy usage at different times of the day, just looking at what I'm doing versus, you know, what the general population might do*

The program taught many things, according to the opt-in focus group attendees in the North (*I will say the number one thing I loved about this program, is it forced me to learn good energy habits and It was a learning process*). What is notable about these attendees is that they invested the time it took to learn.

It might be expected that opt-in focus group attendees would all have saved money as part of Choose When You Use, but that was not the case. Two attendees had lost money, but reenlisted anyway:

*I lost \$150 in the deal, but the reason I did was because of the fires... ...I didn't leave the house almost for two months because I couldn't go out there...but they rebated that money for the first year, which is fine with me, and if I hadn't of had that happen, I was saving about \$40 a month before*



and

*We lost \$18...every month the new rate was less than the old rate except for August and September, and a little bit...when the fire was. We ran our air conditioner pretty much 24 hours a day because my husband has breathing problems. So then coming out only a negative 18 isn't so bad*

The attendees who saved reported modest amounts (*I did save money, and it was about \$66 and I saved about \$60, I think and We saved \$66 and I saved \$62*). One attendee was happy with any savings (*I don't remember the dollar amount. It was 15%, though. It wasn't a big dollar amount because we were already very energy conscious. I'm the only person I know who has a clothesline...15%, that's significant, so I was pleased*), and another more or less said his dog ate his savings (*I have a dog door, which is part of the reason I probably didn't save more. I save a hundred, 115, which I'm happy with*).

## Expectations and Outlook

The North opt-in focus group attendees were less distressed, and had learned more than other attendees in earlier focus groups. The North opt-in attendees reported having been on a smoother road than other focus group attendees had described. Yet in many respects, they were similar to the other attendees. For example, many of the North opt-in attendees expected greater savings (*Yes, I think so. I hoped I would have...saved more money, but it's what I expected and I think it was. I...thought I would have saved more money*), especially since they had worked hard:

*I expected to save more money because I really was very diligent*

and

*I expected to save more monthly...I was very surprised at how much energy we were using during the peak times in the summer, because I was doing so much...we were all doing so much shifting of things until late at night or early in the morning for heavy-duty things...I couldn't really figure out where it was coming from*

and

*I think so...I didn't really know what to think when I saw I had saved 115 bucks...I was thinking, 'am I going to be one of the bad kids'? You know, I guess I was expecting to save a little bit more*

One attendee who had not saved, expected to (*I expected to save money...I figured we would catch up before the end of the year, but we never did*). Another attendee said the program performed as expected once she got her expectations in order (*After I understood it, yes. And I liked getting those little smiley-face letters in the mail*).

Even though several of them were disappointed, the North opt-in attendees said they reenlisted because



they found reasons to stay (*It's a challenge. I didn't think I did bad at all...when you know what happened and what you can blame it on, then you got a reason to stick with it*). More than one found the challenge in the program:

*I think I've done a lot myself, you know, but I thought, well, I'll try it again...I've got it down...it's only one more year, I said, 'OK, let's do it one more year'...it's like a challenge, see if I can do better this year*

and

*I liked the idea of saving energy, and I kind of find it to be a game, actually...to see if I can save some more money next year. But I just like the idea of trying to reduce the amount of energy we use*

and

*It was a challenge, and I'm being educated as to when I should use the energy, and I get to go out to dinner more and to the movies, you know, because I don't have air conditioning. But it was fun*

One attendee found both challenge and control in the program:

*Because I like the idea of ways to conserve energy, and I like the challenge of it...and I like being able to say that I'm a little bit in control of when I do things, and how and whether I can save the money or not...because I can say, 'OK, yes, I know it's a critical peak, but I don't care, I'm going to do this anyway,' or 'I can say it's critical peak, I'm not going to do those things'*

Attendees came to terms with their savings levels, believing that next year they might save more (*I think I saved money to begin with, so I'm happy to begin with that, and I think I can save more, find a little more and You know saving money is saving money, and also the idea of we can do more. It was a learning year, this next year we can do more to save even more money*). One attendee equated the savings level to something he liked (*I always think in terms of if I'm saving on X, what is that equated to? I was basically getting my Netflix for free, so I thought 'OK, this is worthwhile'*). Another attendee reminded himself that the program's philosophy was attractive:

*This is really a market-based concept, and I believe in market-based concepts. If you mandate me that can or I cannot do something, I'm going to rankle at that, all right? But if you give me, 'here are your choices and if you choose to save money, fine. And if you don't choose to save money that's fine too: you're going to pay more', I think people respond to that*

Two attendees admitted that their lifestyles were already aligned with the program (*There is no reason to change...the parameters that NV Energy put out really kind of fit my lifestyle, so it was like I didn't think I could lose in this situation*) so participation wasn't difficult (*This was not difficult to do...I was already kind of shifting power usage anyway, and because I'm home all day I'm pretty much in control of what's going to happen during the day in terms of energy usage, so it wasn't a big burden*).



Two other attendees, one saver and one non-saver, indicated that the lapsing of the bill guarantee wasn't a prohibitive concern:

*I lost money on the deal, so sure, I thought about it. But I'll take another shot at it and see what happens*

and

*I didn't worry about it, because...I knew I was saving money, so I knew I was near the sweet spot. Maybe I could go up a little bit or a little bit down, but I will feel confident that I've gotten enough control over what we're doing that I didn't feel any risk at all*

The North opt-in attendees had opinions about other program participants who had opted out of the program, even though they saved money. The North opt-in attendees were critical:

*There is a certain percentage of the population that is never happy no matter what*

and

*I'd say with the information that NV Energy sent out about this program...talking about how the rate jumps throughout the day...if you didn't agree with the program, then you were an idiot to sign up for it...you had an option to sign up for this program, and if you didn't want to change your lifestyle, or even were open to the habit, then you shouldn't have signed up for the program in the first place*

The North opt-in attendees also said they looked at the reenlistment decision differently:

*It's up to you how you look at it. I mean, if you think of it as a challenge...it's a game. If you think of it as misery, then yes, sure, if you turn off everything walking into every room, then it's misery for you. But if you're saving money...I don't see why that's, you know, not...part of your decision*

The North opt-in attendees speculated that their counterparts might have established habits incompatible with the program:

*I think it has to do with habits. People have habits...turn off the lights. Turn the fan off... but I know a lot of people...all the lights are on, everything is on everywhere...they have morphed into a habit, a system of habits in which they don't think about those things*

and

*My nephews and nieces...don't have a sense of what money is...nobody is telling them...so they're just doing whatever they feel like doing. And those habits become ingrained until you get to the point where taking away any little piece of that becomes painful. I mean, pain is really the difference between your desire and what you have...if there is a big gap, the pain is greater*

In general, the North opt-in attendees were confident and positive, estimating their savings for the year to



come:

*About the same amount, which was a little bit under a hundred dollars, if I remember correctly...I take everything as risk...I'm facing a bit of risk on the downside that I might use more electricity, but how much is the risk going to be? 50 bucks? That's not going to break me. But I'm expecting within that risk range I'll probably do equal or better, because I'm probably even more aware now of things I might be doing*

and

*I saved about \$66, and if I saved a hundred dollars I would be happy -- a little bit higher....as long as I save something...it doesn't really interfere with my lifestyle*

Two North opt-in attendees claimed they would be satisfied with whatever they saved in the second program year (*As long as I save, I think it's wonderful. I learned a lot of stuff: what I can't do, and what I need to do. But it doesn't interfere with my life. It never has and Even if I break even, I'm OK with that...I saved 60 bucks. I'm fine with 60I would be happy with the same amount. I would like to save more*). Two attendees, one saver and one non-saver, made it clear that savings wasn't the point:

*I hope to save money....if I save 50 bucks, I'll be happy. I'm not going to leave it. I honestly feel the responsibility to save electricity means more to me than a little bit of money...I think I can save more money, but we'll see what happens*

and

*I didn't save this year...but I would like to see, like \$60...but it's mostly about conserving energy...the saving money was important, but I was more interested in the conserving of energy*

In a strong indication of energy ownership, two North opt-in attendees said that whatever the result, it would be on them:

*Even if I don't save anything, I know it was my choices, and the consequences were mine, and I was in control, so it isn't really about the money*

and

*It's my responsibility. I would love to save \$110 or \$115 again, but if I don't, then it's my fault*

The set of North opt-in attendees, regardless of cell or treatments, despite some disappointment at savings levels, was looking forward to the second year of the program.



## South Opt-In

### Motivations and Understanding

Some of the South opt-in focus group attendees recalled that they were careful in signing up for the program (*I researched it a little bit first. I just went online to the information they gave you, to read information on it...and find out if there was a catch anywhere, and from there I decided to do it*), and analytic (*The fact that for the first eight months I got almost half rates for a flat fee*). Several said they signed up to give the program a try. Of those attendees trying out the program, at the outset some were cautious (*I was in between. I thought it could be for me, but I'll try it*) and some were enthusiastic:

*I liked the idea that they were trying something new, because it just seems that when you're dealing with energy and issues like that, you just can't sit with the status quo. It just makes sense to say, 'OK, are you game? Here's what we would like to try.' And it sounds like a plan*

One attendee thought suitable habits would lead to savings (*That was for me, because I already used electricity at the lowest rate, so I said, 'hey, I can save money by doing that'*), while others attendee focused on a single feature (*The guarantee and It seems to me that...it was a safe bet. If you're in this for the first year, and you don't save money, we'll pay you back...it seemed to me that you couldn't lose*).

The South opt-in attendees had several opinions about why the utility was offering the program. One believed that NV Energy was supply constrained (*It's one of those methods they're testing to see whether during peak time usage can be reduced because there is only so much to go around*). Another had decided that the basics of ratemaking had changed:

*Cost savings...for both of us...if our costs were less during peak times or certain times during the summer and less during the winter months, they could pass those savings down to us. But we have to be diligent...they no longer have to average out into everyone's same rates, OK, now it's on the individual to save what you want...it's a theory I have*

Reminded about the SGIG project, one attendee observed that the program was spurred by a federal requirement (*they were sort of nudged into it, it's not something that they on their own wanted to do*).

### Experiences with Learning, Behavior and Bills

South opt-in attendees approached shifting and reducing energy usage as other attendees did. Adjusting air conditioning was the most common step, including precooling:

*Right before the critical peak I'm like cranking up the air conditioning because I know if I need it during the critical peak, and I do, but it delays and limits the use of the real expensive energy*

*I used a lot of techniques to save. I invested in a programmable thermostat...I cooled my house down 2 extra degrees before the peak time, so it took longer to get back up because it's warm, but I do things*



*like that*

and

*I was just really aware...I tried to make sure when I left at 8 am that it was about 78° or 80°...every day check the thermostat...I was at work, it was, just subconsciously, check the thermostat...I had to play thermostat police in the house*

Some attendees denied making changed in behavior, even as they adjusted their thermostats (*No. But I kept hitting that thermostat...very aggressive and I didn't do anything differently, but I work 9 to 5...as far as I know, we didn't change our habits. I did change the AC setting, but that was it*). One attendee was very clear about the distinction (*I just programmed my thermostat and let it run. And I told my wife, you do what you need to do when you need to use it*). Similarly, one attendee with a different technology merely adjusted temperature (*I didn't do anything different. There was nobody home during the day, so the peak hours there is nobody home. I don't have an air conditioner, I have a swamp cooler, and I still saved \$220 by doing that*).

One attendee noted that adjusting the temperature had consequences:

*All of a sudden you're saying, OK, I don't do it now. The only coping is really with when it's really, really hot: you don't have as much air conditioning as you might otherwise. That was really my only coping.*

Others agreed that even with automatic controls, the program still required effort (*There is no work, but there's thought, and that's consuming*). Avoiding or enduring discomfort might be available merely through a thermostat setting, but required programming in advance. Avoiding or enduring inconvenience involved attention in advance and ongoing attention to shifting the timing of activities (*I don't think it's necessarily work, but there is some effort and thought...there are just certain things where I have to be conscious or subconscious about doing or not doing during the day. So it's more effort*). Shifting and reducing energy use seemed simple (*It's just being aware*), and actions could be automated through controls (*programming my swimming pools in the evening*), but attendees noticed setup and operating costs.

Attendees experienced the setup and operating costs of developing new habits, but for some attendees, paying attention paid off, in discoveries (*In the summer, I don't even heat my hot water. It's hot enough -- the garage makes it hot enough*). One attendee noted that paying attention could also provide control:

*I got a little bit of a kick out of having a little bit of control over, OK, I'm not going to do the laundry now because I'm saving money...so there was sort of an element where I was in control if I wanted to save money, that I thought, it was rather enjoyable*

But another South opt-in attendee understood control differently:

*You choose when you use, so...if they take away the choice and they wanted to control, I'm not OK with that. You know, if I'm feeling sick, and I want it at 75°, I want it at 75°. I don't want the electric company to come and override that*



This attendee experienced the additional operating costs of an ongoing dialogue with the utility, whenever objectives differed.

There were opt-in attendees who were free riders, changing little in their behaviors after discovering a happy coincidence between what their new rate would reward, and what they were already doing. But for many opt-in attendees, discomfort, inconvenience, and mental effort were real costs: real, and **tolerable**:

*It's not the kind of uncomfortable that drives you crazy, because, you know, you have some purpose...it's amazing what you can endure if there's a purpose behind it...if it's too uncomfortable, it's not like I'm stuck*

This opt-in attendee appeared willing to endure a higher absolute level of discomfort, inconvenience, and mental effort than other attendees, at least in part because the benefits available seemed substantial as well.

The South opt-in attendees seemed to spend the same amount (*30 seconds and Less than a minute and Just a minute*) and kinds (*I skim the summaries, you know, I don't read them in detail and I read the savings box and move on*) of time with the program materials as other attendees did. The South opt-in attendees attended to the feedback metrics (*Look at the savings and The smiley face*), and they appreciated them (*It's just like biofeedback. It really helps you figure out what's going on, as opposed to just taking it on faith*). One attendee included energy reports in a routine of casual bill review:

*I try to set aside some time aside for my bills...and look at them carefully, but I might look at them while there's a game going on, so the time I spend actually looking at it might not reflect the attention I give to it*

Another attendee managed by exception (*I compare the different months. I have the whole year saved up...just a minute or so. I know exactly what has changed*). Another attendee used the summary numbers for motivation:

*I think they were critical for me...because it was a good reminder or boost for my decision...knowing that the summer months, I could say 'OK, well, I saved \$200 in the front end of this. I know I'm going to spend it during the summer months, but if I would have been on the flat rate I would have spent that \$200 or more*

Although many of the South opt-in attendees employed the materials, they didn't find them easy to understand (*I thought the instructions were really obtuse and It was totally confusing...critical peak hours, and peak hours on those critical peak days*). The rate schedules were complicated and hard to recall:

*I think they sent me out a schedule, but it's hard to go back and refer, and try to remember, 'oh, was that Tuesday? Was that Wednesday?' ... so it's more random, I think*



and

*I have a complicated schedule. That's why I got all confused...I have certain hours, like between 2 and 7, but my critical care days it's between 3 and 7 -- it's really high -- but the 2 and 3 is still high, which I didn't know about*

The South opt-in attendees would cope with the complicated schedules by devising heuristics (*I almost don't have a clue...it seems to me that the hours, I just make sure that I don't do much between the hours of 2 and 7*) and using devices (*I got a thermostat. I guess it's computerized, and that's it. There's not much else to say about a thermostat*). Compared to other attendees' reports, the South opt-in attendees' reports seemed to display a similar level of confusion and learning attributed to the information the program supplied.

As with the results in the broader program, the South opt-in focus group included a range of saving and losing results. Some attendees saved a lot of money and seemed to have done little (*I think it was in the neighborhood of 800 bucks this year...when those notices come and it says I saved, and I just throw them away*), some attendees saved only a little money while doing a lot (*I actually only saved \$40...up until October I hadn't saved anything, and I did exactly what everybody told me to do. I think maybe an older house? I don't know*). Two opt-in attendees had lost money in the program's first year:

*It actually cost me more money this year...\$78*

and

*I'm one of the few who didn't save money because I don't cook...I don't use the dishwasher, I don't use the range, I don't use any of those electrics, I just have a refrigerator, microwave, and freezer. I have lots of clothes, so I do laundry only once every two or three months. So I ended up spending more, \$16...that's because I misunderstood things at the beginning...I set the 2 o'clock temperature lower...otherwise I would have saved a lot*

Some attendees were less specific than others in recalling their savings totals (*I think it was \$127, but I don't really remember for sure and Saved...I don't remember the last count...it was a couple hundred, probably and I saved \$400, roughly*). There were attendees who remembered the amount specifically (*We saved \$220*), because it was notable to them (*I did save a lot of money...140, which is a lot because my normal bills are not much more than a hundred in the summer. So I was very happy*).

## Expectations and Outlook

Like other attendees, some South opt-in attendees had no expectations (*No expectations and I was neutral going in, just checking it out*) or expected not to save much (*I figured it would be harder because my bills are little to begin with...I actually worried that if I screwed it up, I would end up paying more and I didn't think we were going to save at all and I didn't expect to save a bunch, and I would have, I would have saved hundreds...if I didn't make that mistake*). Other attendees expected large savings, and found a way to like what they saved (*I thought I would save a little bit more...I guess in the end \$48 is more than nothing, so I'm happy I*



*saved and I think I expected a significant savings, 10 to 15% ... I have a pretty high bill, but I got a lot of money back. I saved a lot of money).*

In signing up for the program's second year, South opt-in attendees noted that they were going to try harder (*I'm thinking maybe I did something wrong, that I didn't put the thermostat the right way, so I want to fix that and I was trying to be a smarter consumer*). In the first year, the program had also reinforced that they were learning:

*They were feeding me the information, and giving me the opportunity to be a smarter consumer...after the first month I said, 'hey, I saved some money right away changing my habits of use', and then just continued it and supported it, and supported it, so I knew where I was going through the whole course of the year*

For one attendee with modest savings, the decision to continue came late (*I didn't see savings until about October or November...I was on the fence until about March*). With modest savings in year one, attendees might have considered that their guarantees were expiring, but none said so, and at least one was still unaware of the guarantee (*I didn't look at that part. I suppose I was so certain that I was going to save, because it looked so obvious, unless you must use a lot during the peak hours...but that sounds great, it was like an insurance policy*).

Several South opt-in attendees had viewed the program's first year as a trial, but they viewed their decisions to reenlist as firm (*Confident and 100%*). One attendee based confidence on the ability to choose wisely without much cost (*It's just the right thing to do. And it doesn't change my lifestyle at all I'm home most of the day and it doesn't change it. I'm fine with 88° between those last two hours*), while two others planned to learn more, and try more:

*I'm \$220 confident...because we really didn't do much, we just went with it to see what we would use, and we saved that much not paying attention to it, so now if we pay attention to the time we actually use it, we'll probably save even more money*

and

*I'm confident. I mean, overall I saw savings. What I'm hoping...maybe they'll continue to teach more, and maybe like at a deeper level than what we were getting before...that there will be something else to learn*

A saver among the attendees found self-validation (*Now that I have the experience, it sort of validates my intuition that it was a good program for me*), while two others noted that they were somewhat confident in their opt-in decisions (*I'm going to say 75 % and It will be fine when it's really hot, and the rates are really expensive...unless of course, we have an extraordinary, unusual weather...it's a reasonable risk to take*).

While several South opt-in attendees were not going to change their approaches to the program, others were going to do more managing their pools (*I just had a programmable timer put on the pool*) or do less



during peak periods (*I think that now that I know what to expect, I won't be like killing myself that I still save even if during peak hours I have it on for a few hours and My wife...I wonder what's going to happen to my bill when she retires and she's home all day...she'll be running that air conditioner all day*). Several attendees expected similar savings in year two (*I expect the same and If the weather is the same...pretty much the same*). Three attendees hoped to save more (*I'm hoping to double it, so another \$200 and I expect I might save a little more and I'm hoping to do better...lose less*), and one figured on holding the line (*I'm looking more at maintenance now, rather than trying to save above what I did last year*).

Commenting about people they hadn't met, who had decided to leave the program despite saving money, some of the South opt-in attendees were critical:

*The Las Vegas people, I love them, but I think they're a little bit behind in having a sort of attitude about 'I'll pay for what I want and I don't really worry about the bigger ramifications'...I don't want to have to be bothered, I don't want to be controlled that I can't do my laundry now*

and

*That's kind of silly. We are trying to save a little bit here and there*

and

*I think they're too lazy. You have to work to save money, and I think people don't want to take the time and effort to think about it. And even if they save money, they say 'well, was it worth my effort to save that?'*

Other South opt-in attendees had different explanations for other attendees' decisions: (*I'm guessing it's because the first year they tried it, there is a guarantee and It surprises me, because...even though my experience wasn't very much of the savings, I'm hoping for a better year...if people are saving money, why wouldn't they stay in it? and They do it and save money, and they're saying, 'I didn't save enough to warrant being uncomfortable'*).

Speaking for themselves, and speaking similarly to the opt-in attendees in the North, the South opt-in attendees were looking forward to the second year of the program., regardless of cell or treatments, and despite some disappointment at savings levels.

## North Opt-Out

### Motivations and Understanding

Like many other attendees, many of the North opt-out attendees signed up to give the program a try (*I had received a flier in the mail...and it said that you could potentially save money, but if you didn't you would be reimbursed, so I figured it was worth a shot...worth a try*). These attendees expected to save some money (*I was expecting, hoping, that I was saving some money. It turned out that I didn't, so I called them up and had it*



disconnected and I, you know, was hoping that I could save some money, and I thought it was a great idea).

Some of these North opt-out attendees were giving the program a try without any particular savings expectations from the program:

*I didn't really go in with any sort of expectation of a particular amount or percentage. I was just hoping it would be a savings. Power can be pretty expensive, so I figured even if it was, you know \$20 to \$40 that would have been great, if it was more I would be happy with that, but I really wasn't thinking it was going to be tons*

But several of the North opt-out attendees entered the program with general savings expectations, as well as related expectations about what it would take to achieve savings:

*I was really interested in conserving the energy, and I thought if we could save maybe \$20, \$30 a month by the end of the year, that adds up, and so we were looking forward to it...but we saved \$38 for the year...we just tried to, you know, only do the laundry then, and turn that thermostat down...and it just was a really big hassle when you're really busy...it was just time-consuming...to save \$38, it wasn't worth it*

and

*We had really hoped to save about...\$40 a month...that's a decent savings, but what we found is there were very few months -- am I correct? -- that went negative...we expected for being as careful as we were being...that the rates were really defeating...that on-peak, you know, was way too high*

Other North opt-out attendees entered the program expecting that Choose When You Use would be like other programs, and were disappointed when it wasn't:

*I was in a program that was similar to this in California...so when I heard about this one I thought, 'OK, this should work about the same way,' and I found that it didn't...the hours were different*

and

*I talked to my sister in Las Vegas who was on a similar program, and she said she thought it might be worth it to me. They had saved some money...so I thought I would give it a shot, but I ended up \$20 in the hole...I probably could have come out a little bit ahead, but after the summer months, I decided it wasn't worth living like that*

One attendee misunderstood the program he had signed up for (*My interpretation was that everybody had to go on this program. And I asked my other friends, and they said, 'what are you talking about?' And, I thought this was a must*).



## Experiences with Learning, Behavior and Bills

The defining experiences of Choose When You Use for most of the North opt-out attendees occurred in the summer, well before autumn and winter savings arrived. As the first year of the program entered the summer, most North opt-out attendees had encountered constraints as they sought savings. They said some of these constraints were weather-related:

*I thought I could maybe save some money, and maybe save some energy, too. But it ended up that it was a very warm summer, and I was running that air conditioner more than I normally would. And there was no way I wasn't going to do that. So I lost \$35*

and

*You try to do the basics, and then...you say 'OK, when can I bring down my usage?'...it's just me and my husband...when he comes home he needs his clothes washed so he can get back on the road, so that didn't work. And then air conditioning...we did have a very hot summer...I did turn that air conditioning on*

and

*It was kind of a challenge at first, it just became a kind of pain in the neck later...but that one month where I had to use the air conditioner -- and I was very upset about that -- my husband went out and bought a swamp cooler*

Some of these constraints were related to family members:

*The first month I wasn't too sure, so we kind of just let it go...and then we got the deck of cards and...actually learned quite a bit from those. And we started doing, setting the washing machine on a timer at night to go at night, and doing the dishwasher at night, and tried adjusting the temperature a bit during the day to take things off peak hours. And those helped for a while, but then we had a baby and brought the baby home...and that's the month the power was just outrageous...so the last month of the summer totally threw us off*

and

*I tried. My wife was a little resistant...doing dishes at night...she says, I'll do laundry when I need to do it. I'm not going to wait until a weekend, or at night, because at night I'm going to kick back*

and

*I tried the dishwasher at night, you know, doing my washing and drying at night. I did install a line and ...started hanging clothes out. But, you know, my husband he comes home and he wants to watch TV...he's watching TV all night...there is only so much you can do, and I did what I could, but it didn't*



*help*

Some of these constraints were related to schedules:

*We had to rearrange our whole life around this schedule, and we're just, as everyone is, really busy*

and

*I thought...because of the difference in the rate prices we should be able to save some money...I am home all day, and so I was really careful...to make sure that I had the house cooled by the end, and then wait until whenever to turn it back on. But...we couldn't really set the program necessarily to work with our schedule...it was just such a pain...so, yeah, we definitely thought for 38 bucks, we'll pay the 38 bucks, and be comfortable*

and

*Things like, you know, managing dinner for a family has to happen at 6 o'clock at night...I'm not going to move that to 2 o'clock in the afternoon or 9 pm. It's just not going to happen*

Some attendees found that no matter what they did, it didn't seem like enough:

*We definitely adhered to the schedule...we really watched for the critical times, and all that, the high rate times, and all that, we really matched that. And it just wasn't enough to even try to work it that way*

and

*We installed ceiling fans in every room, too. Because of this program. Because if the AC was on all the time, and it was so hot, I figured if we had some ceiling fans circulating the air, maybe it would lower the cost, but no. Not significant enough*

and

*I kept the schedule, like, right on the fridge, and then I would set timers on my phone so at 9 o'clock, I wouldn't start the dishwasher until then. And then I did try to do my laundry later, but then I would be up all night, or I would forget it in the washer, and then I would get mad, and I would have to rewash it. And yeah, I really, really tried*

As a result of these problems, after the first year of the program some of these North opt-out attendees were disappointed with the savings they achieved (*I didn't, it was the opposite...188 and I lost \$35 and We decided to try it. We ended up saving \$16. It just wasn't worth the hassle*). Instead, of savings, most lost money across the first year of the program (*100-120 bucks...and I ended up \$30 in the hole and I just ended up being about \$15 in the hole and I ended up \$20 in the hole*).



One attendee who saved, but still opted-out, explained the stress involved:

*I thought it was a great idea. I'm kind of a tree hugger, you know, I'm like, I can conserve energy during peak times just to kind of help out, and I did end up saving over the year -- \$45 -- but it just stressed me out. Like, I didn't think it would stress me out so much, and I was trying to, you know, make me and my fiancée both do our laundry on the weekends, and you're busy on the weekends. So it was just a hassle, and it wasn't worth the stress for saving \$45 over the whole year...it was like one more thing for me to get irritated about, and I was, like, 'this is so silly,' you know*

Encountering these constraints had been unpleasant, according to many of the North opt-out attendees:

*It was almost like guilt, like I guess we have enough in our lives to feel guilty about. It was like this looming cloud. Like, 'don't do that', you know. And really, I don't need one more thing to feel guilty about*

and

*I was real good with the dishwasher...and I washed clothes at night or early morning...but in the summer I was running that air conditioner a lot more than any summer I recall...because it was hot. I mean, when it's 100° I'm not going to sit there and roast, just because I'm trying to save 5 cents....that made a huge difference. And my bills were higher than they've ever been*

and

*There were times, you know, where I would say 'OK, I just can't do it now,' and it really disrupted the schedule. That was the one hard thing...trying to schedule, now all of a sudden you have this boilerplate laid down when you can schedule things to do: it just was not working...we just needed to be able to do laundry when we had the chance to do laundry, whatever it may be*

Some of the North opt-out attendees were able to adapt to the program (*We stuck with the schedule unless there was an emergency...I didn't have too much trouble sticking with the schedule and I'm retired; I never get miserable and irritated*). Others claimed that early on, they had really tried to participate in the program properly (*In the beginning it was OK, and then I was kind of, yeah, irritated and In the beginning it was OK, but when you can't match the schedule and you got other things going on, then you're just, 'what's wrong with you guys? You don't have the right schedule down'*).

Most attendees ran out of patience well before the autumn:

*I kept adhering to the schedule, but...I forgot that it was just, like, the summer months. So then I was following it, and then I really got irritated because I had been following it, like, two months longer than I needed to...I did try*

and



*We did it religiously. I don't like things on my refrigerator, but I put this on there...what day and what time. And so we did our laundry that way...we really tried. And we were fortunate...we have a really huge ceiling fan...in the room we totally live in...that really helped us. The big thing was...the hardest thing to adjust to, doing the laundry. It was very difficult at a different time when you're really busy anyway...I was getting up at 4:30 in the morning doing laundry...it didn't bother me*

For most North opt-out attendees who were able to adapt, the bill savings that resulted caused them to give up on the program. Many of these discouraged attendees gave up on saving enough long before they received their annual energy report (*Before and I knew quite a while in advance*). The summer experience had made the decision for these attendees:

*That one month when it just kind of blew everything out of the water, I was like, 'wow, so much for that' ...it's kind of like a diet: when you gain some weight you say, 'OK, I'll just eat'*

and

*I wasn't miserable until I got the, like, August power bill that was through the roof. Before then, complying with the schedule was...OK, I mean, doing laundry and dishes at night. But that month, still trying to do those things and still having such a huge power bill made it feel like it was a giant waste of time*

and

*I stuck to the program really well. Until in the summer I was doing fine, but with the three tiers in the summer instead of two, it made a huge difference. I was losing more, and still sticking to the program. And towards the end of the summer I decided it just wasn't worth it...I had that attitude, for another \$40, I wasn't about to do that again*

Two of the discouraged attendees only gave up on the program later (*The letter just confirmed it. We kind of knew by the last couple months and I would go online to see how I stood compared to others...and I was using less energy than a lot of people were, almost all the time, and still...I lost money*).

For the remainder of the North opt-out attendees, the annual energy report made up their minds (*It was when I got the letter and it was when I got the letter and realized I was a big, fat loser and I had thought of stepping out of this, but pretty much when I got the letter, I just said, 'yeah, it's not worth it' and When I got the letter. I wasn't tracking it that close*).

One attendee summed up the experience of investing, and then achieving nominal savings:

*We bought a much larger refrigerator and freezer, the biggest thing we could fit...and our bills suddenly started going down. So I think a lot of people have, probably, inefficient appliances. We also bought a high-energy washer dryer and a new dishwasher...up to that time we had been losing money, and we ended up saving \$16*



Only one North opt-out attendee said an extended bill guarantee would have made a difference:

*I thought if I had the bill guarantee for the second year, I would have likely to probably do it again, because I felt like I worked out a lot of the kinks in the first year, and could probably save money in the second year, but I didn't want to risk it if it wasn't guaranteed*

Other attendees said the lapsing guarantee made no difference in their decision, or they didn't even realize the guarantee was lapsing (*I didn't realize that because I obviously didn't read something, but I just didn't want to hassle with it*).

For the majority of the North opt-out attendees, their autumn and winter experiences made little difference in their eventual decisions to opt out of the program. For many, their summer experiences led directly to the decision. For others, their annual savings was inadequate to justify continuing in the program.

## Expectations and Outlook

Having opted out of the program, these attendees had no further expectations of the program. Most of them were leaving the program's rates without a clear understanding of what rates they had experienced, or what rate they were returning to (*I really don't know and I want to say it was like 50 cents a kilowatt, or whatever the measurement is and Quite a bit higher than the standard rate, but I don't know*). Some had a general idea of their rates (*Wasn't it like, 6 cents to like 59 cents? and It was, like, 3 to 4 cents to, like, up to 50 cents and It was off-peak, and then there was a critical that was 57 cents*). Two were skeptical that the program's rates had been set with their interests in mind (*what kind of savings are they realizing by not powering up that second plant, and are they really reimbursing the people who are trying to keep the peaks low and I think they could have made their point with a less dramatic increase...if you just used a little bit during that time, your power bill was through the roof*). Attendees did not mention rate and bill calculations in connection with their decisions to leave the program.

Instead, the North opt-out attendees' decisions to opt out of the program were based on the constraints they encountered and their disappointment in the amounts they saved. For those on the CPP rate, the unpredictability of critical peak days was an additional factor:

*NV Energy would decide that, because of pulling fairies out of the air, that tomorrow is going to be a critical peak day, which means basically the whole day is at the highest rate*

and

*What we felt is they were calling critical days, and we would look at each other, like, 'it's cool today, why is today a critical day?'*

Some attendees viewed critical peak days as particularly inconvenient:



*If you had something planned the next day, or you had family coming over and it was hot outside, it was like 'OK, sorry guys, we got a critical day so I can't turn the air conditioning on.' I don't think so*

and

*In our case, we would say, 'OK tomorrow we can do laundry,' and then here comes the critical peak day*

The North opt-out attendees had volunteered for a program that provided inadequate savings (or other benefits) to balance the discomfort, inconvenience, and mental effort they had experienced. One attendee was apprehensive:

*Our concern was this: is this the wave of the near future? Because at the prices they had it at...that would be really negative...we enjoy conserving energy, but there again, having to change your whole life around the schedule, and then also with extreme high rates*

However, many attendees said these results did not affect their views of NV Energy:

*It really didn't....I will keep doing the same thing*

and

*It doesn't really. I mean, I'm glad I tried it, I'm glad they offered it, I'll probably try something else in the future...it was as advertised...I don't have any problems with Nevada Energy, or it doesn't make me more inclined to like them*

and

*Not how I feel about NV Energy. But I think having off-peak and on-peak hours is an excellent idea. And if it were just out there that everybody had to abide by that, I think we could do a lot better with our energy use*

and

*Not really. I've had other dealings with NV Energy and they've always been very nice...I'm glad I had an opportunity, you know. It wasn't what I expected it was going to be, but that's OK*

Three attendees were reflective, or philosophical (*I have nothing against NV Energy. I think they do a pretty good job and I mean, I'm not unhappy...I tried it, and it was an experiment. And it didn't work for me. Maybe it will work for somebody else and I'm in the middle. I looked at it as an experiment. You never know how they're going to turn out...we're still trying to keep the schedule*).

Other attendees had a positive outlook:



*I'm glad I tried it. I'm just totally bummed that I couldn't make it work. But as far as NV Energy, nothing one way or the other, really*

and

*I just liked the idea that they were trying to implement a plan like that. So I have a more positive outlook...Even though it didn't work, I think they are on the right track, and I like that they are actually paying attention to something like this, and they may come out with something that will work, because they're actively trying to be better*

and

*I got a raised awareness, I mean, even though I'm not in it now I will probably be more cognizant of when I run the dishwasher. It just won't be so stressful*

The North opt-out attendees were disappointed with how the program had worked out for them. Some of them had experienced significant discomfort, inconvenience, and mental effort. However, their views of NV Energy remained unchanged, or had improved, as a result of the program.

## South Opt-out

### Motivations and Understanding

South opt-out attendees cited reasons for trying out the program similar to those cited by others. One attendee said that the program featured an attractive rate with a guarantee (*It did have the advantage of a very low rate in most of the months, so I figured, 'oh, OK'...and...they said, 'well, if you use more we'll give you back...that was part of the deal that you wouldn't end up paying more. So we figured, OK, fine*). Another attendee agreed that the guarantee helped, but the discomfort didn't (*I'm going to try it because it doesn't cost me anything, but when you get uncomfortable...it was definitely excessive to make people uncomfortable, which wasn't the purpose of Choose When You Use*).

All of the attendees noted that the recruiting material was clear about the new rates (*It was pretty generic, I thought. A separate rate*), but one attendee still didn't quite understand (*I think I was initially confused on that, the...critical peak... overlapped with regular peak, and so I was confused*). Some of the South opt-out attendees recognized that the program was aimed at peaks (*To reduce energy consumption at peak times to better distribute...that was sent out in the propaganda, and accurate and Try to keep us from getting to a point where they have brownouts...to get us all to conserve and to save*). One attendee summed up:

*It wasn't really misleading to me, and it was fairly simple...I said, 'hey here is an opportunity for me, you know, to save some money, maybe. I did not save any money, though. But it was an opportunity...it was our choice, you know, whether we want to use it or not*

South opt-in attendees were ready to invest in the program (*We put the variable speed thing on the pool*



*pump: that was the best thing we've ever done. And all new windows).* But the South opt-out attendees ran into constraints in their families:

*When it first started, I was excited. I'm all about saving money...I'm a stay-at-home mom, so I'm all about whatever I can contribute money-wise. So it was a game, you know, run the dishwasher in the morning, do all the laundry as soon as I woke up, and I really tried to do that...I'm home with the kids, they weren't in school...you had to run some air or they were just dying in there...it was too difficult with young kids*

and

*I really appreciate all of you coming in here and telling us this. I really feel better. Now I can go home to my wife and say, 'yes, dear, you were wrong. I'm not the only person crazy enough to follow this program'*

One typical attendee noted that his interest, and willingness, wasn't matched by results (*We were willing to try it...I changed my habits, and I still really didn't save anything*).

## Experiences with Learning, Behavior and Bills

South opt-out attendees said they had learned (*I learned a lot. It changed our behavior, how we use things and I learned a lot about how to conserve*). The South opt-out attendees were confident they knew what to try (*The only place you could save money was the air conditioner and the pool, you know*). One attendee offered an approach (*Everything else plugged in is not...you can use the coffee maker all you want and it's not going to cost you hardly anything*), and when questioned by another attendee (*I thought it did*) replied with a smile (*Well, you must drink a lot of coffee, then*). These attendees also had put their learning and their confidence to work:

*I don't run the pool pumps all day, I run them at night. Close the blinds...change the air conditioning filters, lots of things like that we learned, so we reduced our average usage by almost a third during the trial period*

Although they had developed approaches to the program similar to those of other program participants, the South opt-out attendees reported greater discomfort than their peers:

*I don't think there is enough money, miserable as I was. You know my dogs were walking around panting, so I had saliva all over the tiles...my three daughters...they would have had me committed. They would have said, 'Mom, this is insane. What are you doing here?' Thank God, it was just me there*

and

*I'm here 18 years: this was the worst summer of my life in this town on that program, because those five hours I didn't watch TV, I was really looking for substantial savings...I didn't even play the radio, a lot of*



*times I went to a casino or a movie. I put the thermostat on 90° at 2 o'clock, I programmed it. And when I came home at 7 o'clock at night, if I did go out, the air conditioning had to pump all that much harder to cool it back down to my 78°, which I'm accustomed to having it at. So it was pure misery for me, those five hours a day. It just wasn't working...I used nothing, no power at all between 2 and 7, except for my refrigerator*

and

*We cooled the house down to, I don't know, 72° or so during the cheap time, which to us was pretty uncomfortable. So it drives silly behavior, which we did to go along with it, but I figured that I'm just not that hurting for money that I need to act silly*

The attendees also experienced excessive inconvenience:

*I go to eat -- the mall, you know -- it's not a savings, because most of the places I was going I was spending money...if someone came over, you're definitely not going to keep it at 80°...you don't want it to be hot. 'What are you doing? Can you turn your air conditioner down? It's hot in here'*

and

*That was such an inconvenience on those days when we would be outside swimming for six hours, and it's really hard on the kids to do that all night...my husband is all day working and he would come home and have to be in a hot house: it just doesn't work*

and

*I didn't save anything...so it didn't work for me at all. And I was inconvenienced. I had to leave my house*

Even attendees who endured the summer then found that achieving a reasonable level of savings was impossible (*It's crazy and There was no reward in it and For us to work as hard as we were working to keep that number down between 2 and 7, you know, you couldn't do it. I mean you literally could not and There was no winning on this one*). The summer rates were simply too high (*I got killed in the two summer months, saving fairly substantial in the rest of the months, but I got killed in July and August and It's excessive...but it turns into punitive and I actually forgot the real name of the program. I've been calling it Choose When You Lose since probably the first big bill*). These attendees had worked hard at the program, but believed the savings resulting weren't worth it:

*We would shut off the computers during the day for the power bill. We have monster power purifiers...unplugged those. No chargers, no nothing...you name it, we did it, and I'm on the computer every day checking to see what our usage was...we saved...the letter says \$85, and for \$85 that cost us a good deal, and it's not worth it*

and



*For all the work that was put into trying to make it work, and it was a job, I mean, a conscious decision...the computers are off, don't run the sprinklers...everything I could do to consciously reduce the power I did, and it just didn't work. And for that much work, for a hundred dollars, it was out of line.*

The losses a couple of South opt-out attendees registered didn't seem large to them (*I lost...It wasn't too much. It was probably less than \$200 and I actually lost \$7... I was trying not to use my AC during those peak hours, so I did make a lot of sacrifices to see how much I could endure*). Several South opt-out attendees had saved money on the program's first year (*I did save on it, but nothing substantial in the program...maybe \$85 if that and I saved about 100, a little over \$100 and I saved a couple hundred and We saved \$200*). In some cases, South opt-out attendees saved considerable sums that might have satisfied other participants (*Saved maybe \$400 and We saved about \$700*). But as one attendee summed it up, these savings levels weren't enough to continue (*We did save about \$100, but it was extremely, extremely difficult*).

## Expectations and Outlook

Among the South opt-out attendees, there were those who believed they knew their rates:

*I know my rates...we used to pay, I believe...11.4 cents, and they offered to give us .72 off-peak for eight months, two months you're talking like 14.4, and two months you're talking 44.4, which is hard to float...it's three times the rate*

and

*I think from the 14 to 41, and yes, a couple of months 14 cents, the rest of the time 7 cents, and then our flat rate is 11 cents*

The difficulty was that these views contradicted one another, and were generally incomplete (*Two different times, but I had critical and I had a three-time variable with a regular non-peak hour, and then a 1 to 3, and a 3 to 7, with the 3 to 7 being the highest and Three different rates, the standard one about 70%, the shoulder rate about 200%, and the peak rates at 400%*).

However, like their peers in the North, many South opt-out attendees were leaving the program's rates without a clear understanding of what rates they had experienced, or what rate they were returning to:

*In between 2 pm and 7 pm was a very high rate. I'm not exactly sure what it was...the peak, that was the highest. I'm thinking 12 to 14 cents...it could have been...40 cents 41 cents...and then the other 20 hours was a lower rate of something like 7 cents a kilowatt*

and

*A certain rate from 11 am until 2, and then from 2 until 7 pm was really crazy, and I don't know the*



*exact numbers, but it was just astronomically high through the 7 period*

and

*I don't know what the rate was, but it was crazy*

Like their counterparts, the South opt-out attendees understood the program in terms of their personal experiences: the constraints they encountered, their disappointment in the amounts they saved, and the numbers they saw on their energy reports.

Most of the reasons the South opt-out attendees offered for leaving the program were familiar, but there was one attendee who initially offered conceptual objections to the program's rate design and justification:

*It just didn't seem like it was a well thought-out program to me. The rates were not related to the actual cost of energy to NV Energy. Oh, I know they are not. During the peak...it does not cost them four times as much for all the energy they generate. They may have to buy on the spot market...but that's like, what 5 or 10% of the total bill, which means their actual energy cost is about 20% higher. So to me it was unfair, it was actually punitive, and it drives the wrong behavior*

This attendee later added excessive bill levels as another reason for leaving the program, but another attendee suggested program participants could have known high bills were coming:

*[Attendee A]: I didn't think it was humanly possible to have a bill that high...it was just under \$800... And I called...and she said 'no, we should have warned you better. You are going to save at the end, based on what you're doing, but you are going to get this now, and you have to pay this now.'...that's all I would have asked for, just somebody to say 'brace yourself, tuck your head between you legs and prepare for what's coming'*

*[Attendee B]: We got that. That was in the literature, and we knew. We knew that we were getting hammered in the summertime*

*[Attendee A]: NV Energy...drove the wrong behavior. I'm sure it was not their intention to make us miserable, but the way the program was structured...they led people into making themselves miserable...they put the incentives there...good people, trying to save energy...it's unfortunate that they took advantage of people's good intentions, and causing them to be miserable...kind of like a casino sets up the conditions to get you excited so you lose money on your slot machine...I know they don't want to irritate their customers, but they did*

*[Attendee B]: I was fine...I was fine with the explanation. I saw the trend. My bills beforehand were less...my highest bill before that I think was 380 or 420...but the 800 number never crossed my mind*

In the end, both agreed that the bills were higher than expected, although one attendee clearly read more into the problem than the other did.



More typically, attendees said they opted out due to discomfort (*All summer long \$300 bills...I could have been comfortable and paid 220, 250, in between that was my normal summer bills. Instead I was miserable*). In one case, the attendee attributed discomfort to the thermostat optimization feature (*Only one factor involved, and I probably would still be on it had it not been for, is that the program told me they could decide they could make it a little warmer in my house in addition to what I chose*). In another case, the attendee had achieved sizable savings, but valued comfort more:

*You have to cool the house down as much as you can bear, and then shut both...air conditioners....I don't think I would have stayed longer...even saving 700 bucks this time, because I've been tracking what I was using in the last few years...I feel that it's in our best interests to be comfortable, pay the regular rates versus these up and down rates...and call it good*

Other attendees said they opted out due to inconvenience (*I was definitely inconvenienced by the heat, and...the higher bills were not flowing well*). One attendee offered a telling account:

*I think there were two moments in the program that I pretty well decided I was done with it. And the first one was my power bill that was over \$300...and the second moment...is I came home from work, you know, and I did my routine, and then I went into the kitchen to make a cup of coffee. And I have a machine that's loud. And he was in another room, and I hear...'you didn't plug the coffee pot in and start to make a cup of coffee, did you?' And I said, 'well, yes.' It's not seven yet. And I knew at that moment I was done*

Still other attendees said they opted out due to insufficient savings given their level of effort: (*I lost \$7, after I made all those sacrifices...going to the mall during peak hours, walking outside in peak hours...I thought I'd save somewhere along the line, but I didn't*). In two cases, these decisions came early:

*We thought we would probably opt out of this program about a week after we signed up, because I had a reasonable idea on what our appliances use in energy, and using that scheme I found that unless you went to very extreme levels, or just happened to not be home during those times, it would be very hard to actually save money on this program*

and

*I knew by the end of July, I was thinking, 'ah, this is not going to work,' and then we discussed, 'what's it worth to you? What dollar value do you put on that?'...I was at \$200. If I have not saved \$200 in this program, it's not worth it. And we didn't. So I would much rather be comfortable and pay more.*

South opt-out attendees decided to leave the program given their summer experiences (*I knew when I got those \$300 bills in the summer...maybe for someone who goes up north...and they close down their place here in the summer months and Probably in December I knew it wasn't for me, because the summer, it's inconvenience to be in a warm house*), or once the annual energy report arrived (*I made the decision at the end of the program*).



Similar to their peers in the North, many South opt-out attendees said these results did not affect their views of NV Energy (*No and I don't hold it against them, you know. I was a willing participant, and I knew about the 44 cents and No bearing at all. I mean it's still my utility...they offered me a trial program, I thought 'hey, let me see, and I can't lose.' Did I change my habits a little bit? Barely...they'll provide what I need, electricity in the summer*). One attendee chalked up his losses to experience (*It doesn't change my attitude towards NV Energy, you know. There was an opportunity for me to maybe save some money. It was an experiment, and I experimented. I got a credit back...it's an experience*).

Two attendees said that their attitude toward NV Energy had improved, despite their decisions to opt out of the program (*As a whole, better, because they forced me to really open my eyes...NV Energy helped me to understand that you really need to monitor your usage and Neutral. Better. I appreciated the things I learned...whenever they sent suggestions, I really did do the suggestions, you know, even if it has a little impact...I'm happy to make a little impact, and I think they gave me a good education...it just is what it is*). These attendees appreciated the education the program had provided.

However, the attendee who had earlier offered the strongest objections to the program again offered a strongly negative view, and again found himself in dialogue with other attendees:

*[Attendee A]: I thought this was one of the worst programs ever rolled out...I don't think they knew what they were doing. It was designed to see how humans would respond to this very extreme variation in energy rates...the one thing that irritates people the most is unfairness...no matter what you were told ahead of time, if your customer is mad, you screwed up. If your customer is uncomfortable, you screwed up...everybody is willing to put up with a little discomfort, to save money, but this has been well out of proportion. It certainly was for me*

*[Attendee B]: But you're missing the point. NV Energy did not cause us to suffer. We made a conscious decision in an attempt to make this program work. We didn't have to do that...I mean it was a conscious decision by an adult to say 85° is OK, 86° is OK, I'm going to do that to see if I can make this work*

*[Attendee A]: You're right, and again, you're one of those people who is more generous than me when it deals with making customers happy...they put the incentives there to cause their customers to suffer*

*[Attendee C]: I don't know if that's fair*

*[Attendee A]: No matter what else they did, that's the truth. That's what they rolled out in the end...I think people are saying it's fair, in that they told you what it was, and if you found yourself suffering it's your fault. I don't agree with that...they were a little misleading on their initial advertising, because it did say with making minor adjustments you would save, like, 20%. Well, people here made major adjustments and didn't save 20% ... we made major adjustments, and we probably did save 20% overall, but it's certainly not worth it*

While Attendee A's views were not shared by others, it is important to note that he was commenting both



on his own household's experience in the program, and his views of the program's design as a whole, with clarity and conviction. He noted his own convictions that the program's high rates were unjustified by utility costs, and that the program's high bills were therefore not merely surprising, but were unfair. He believed that the recruiting materials told him, incorrectly, that minor adjustments would lead to significant savings. Instead, his household made major adjustments in behavior, resulting in misery, and yielding inadequate savings as a result.

Attendee A believed he was hearing other attendees reporting similar experiences, but evaluating them differently. These other attendees seemed to believe that if they volunteered for the program, and made their own choices about electricity use, the results would be their responsibility. Attendee A did not agree: he believed that NV Energy could have foreseen the discomfort, inconvenience, and mental effort the program would cause, and that these costs were unacceptable even if participants chose to risk them.

Attendee A and the other South opt-out attendees were disappointed with how the program had worked out for them. Some of them had experienced significant discomfort, inconvenience, and mental effort. However, with a single striking exception, their views of NV Energy remained unchanged, or had improved, as a result of the program.

## *Energy Ownership in the Focus Groups*

### *An Introduction to Energy Ownership*

As noted above, the NDPT hypothesizes energy ownership is a customer attitude that may be related to the treatments provided. The NDPT will assess this correlation, which requires identifying the levels of energy ownership (and satisfaction with energy ownership) participants have at the close of the NDPT.

Because research into participant energy ownership is direct, and can be impactful on behavior, most NDPT investigation into energy ownership will take place at the end of the trial, in early 2015, after participant energy use data collection has completed. At the present time, in this interim report, we summarize the indirect indications of energy ownership available through focus group content.

Before providing this summary, we briefly explain what customer energy ownership is, why customer satisfaction with energy ownership is relevant.

Energy ownership is the customer's assumption of responsibility for energy usage (i.e., energy consumption, management, costs, and environmental consequences). Energy ownership has different levels, generally related to customer behaviors such as:

- awareness, analysis, and assessment of past and current energy usage;
- understanding, mastering and using energy management tools;
- understanding the costs of energy, rate design, and rate selection;
- preparing and executing individual, household, or workplace changes in energy use behavior;
- initiating and completing energy management measures and projects; and



- understanding and engaging in the development of energy management norms, standards, guidelines, policies, regulations, and laws in the household, workplace, or community.

As these and other customer behaviors become reliable habits, they combine into an attitude expressing itself as energy ownership. An attitude may be conscious, or may be unconscious. In either case, attitudes frame everything customers see and do, so an attitude can filter moment-to-moment or day-to-day variations in customer experiences, resulting in consistent behavior despite the variations. Identifying, building and managing customer attitudes is useful for organizations that are dependent upon customers for performance.

Energy ownership is vital for utilities in the world of the Smart Grid, because the Smart Grid includes customers as active elements in the system. The performance of customers across the responsibilities they assume will have an impact on the performance of the Smart Grid. Similarly, without care, the responsibilities assigned to customers in the Smart Grid may be too great or too small, stressing the system or underutilizing it. Customer performance within the Smart Grid is a resource for utilities, generally underutilized and undermanaged.

As with many other kinds of ownership, energy ownership involves choices customers make to take on certain responsibilities, or leave them to others. Different customers want different responsibilities. Some customers can handle certain responsibilities, and some can't. Because customers choose how they handle these responsibilities, performance of the Smart Grid relies to a degree on customer choice. If customer energy ownership can be managed by utility interventions, then customer performance within the Smart Grid may become more extensive and reliable.

Customer energy ownership and customer satisfaction are related but independent attitudes. Customers who are dissatisfied with their utility can be strong energy owners, and customers who are very satisfied with their utility can be weak energy owners. Identifying, building, and managing customer satisfaction may not relate to customers' performance of Smart Grid responsibilities. Identifying, building, and managing customer energy ownership may be directly related to customers' performance of Smart Grid responsibilities (as the NDPT is investigating).

While customer satisfaction with their utility is not a focus of the NDPT, there is a different kind of satisfaction that is a focus of the NDPT. Customers may see themselves as either burdened with too much energy ownership, or provided with the opportunity for too little energy ownership. In other words, customers may not be satisfied with their level of energy ownership. In these cases, the NDPT hypothesizes, the treatments may help customers adjust the balance of energy ownership to meet their needs.

Treatments may enable reduced energy ownership by automating certain functions; reducing the amount of time, attention, and effort required of customers; and permitting customers to adopt useful habits without thinking. Treatments may enable increased energy ownership by providing customers with the tools, data, information, ideas, opportunities, and motivation.

The electric utility industry includes many customer programs and technologies that seek to deliver



benefits by requiring more, or less, from customers. The NDPT's treatments do both, in identifiable ways. The NDPT's treatments were not selected to be optimal of their type in design or delivery; rather, they were selected to be typical, and different enough from the participants' previous experience to enable the participants to reset their level of energy ownership.

The NDPT does not assume that more energy ownership is evidently suitable or desirable for all customers. To the contrary, the NDPT hypothesizes that different customers with different lives (and even the same customers at different stages of their lives) will benefit most from different levels of energy ownership. The NDPT is an experiment in providing customers with several different treatments, and the opportunities to self-select a level of energy ownership.

The NDPT also assumes that if customers can be helped to adjust their own levels of energy ownership in a properly managed Smart Grid (e.g., through rates, technology, and education), and different customers can play different roles, the value of the customer as a Smart Grid component can be improved, or even optimized.

Thus in our final report, we will assess not only the participants' levels of energy ownership, but also the participants' satisfaction with those levels. Did the NDPT leave them burdened? Did the NDPT leave them deprived? Or were they near to a balance in their lives with their level of responsibility for energy usage?

## Indicators of Energy Ownership Behaviors, Attitudes, and Dynamics

### *Focus Group Materials*

The four sets of focus groups provided indicators about whether or not NDPT participants were resetting their levels of energy ownership, and whether or not they were they satisfied with their progress, and results.

### *Energy Ownership in the First Set of Focus Groups*

The first set of focus groups revealed attendees who were concerned about the level of effort required to understand the program's rates. Some attendees in the first set of focus groups voiced support for cost-matching complicated rates as opposed to more averaged simpler rates (*I would like the more explicit rates. For one, it saves the company a lot of money. For two, I am detail-oriented*). These attendees liked the notion of general principles behind rates (e.g., cost-matching) (*They've got to pay more, you've got to pay more*), and they believed that cost-matching led to better behavior (*The closer you can marry price to the cost, the better off we are as a community, because otherwise people will just waste energy or not be careful of it during those peak periods and It's being more responsible, everyone being more responsible with the resources we have*).

However, even though one attendee wanted to learn how rates were designed (*I'm almost 71...I want to learn everything, I want to know everything....everything is new, so we have to adjust*), several attendees



found the program's rates confusing (*This is totally confusing me -- this is all the peak hours, the peak days*) and inherently complicated (*I think they made it as simple as they could*). One attendee supported the effort to explain the basis of rates (*I think it's good that they are bringing it to people's attention*), while others sought better explanations (*Complicated and confusing* and *It's still complicated, but it looks more complicated here* and *If you present it in a simpler, down-to-earth manner -- it's the way they present it*). Few attendees sought to achieve an understanding of rates beyond what was needed to conclude that the rates were properly designed in some fashion by the utility (*It's a business decision*).

Asked about the language employed in the energy reports, many attendees reported they enjoyed the reinforcement (*Congratulations* and *Happy/smiley face*) and feedback (*You saved money*) they received. They enjoyed having options (*Opportunity to save more* and *If you have questions call this number*) and safety (*Rate guarantee*). Many attendees did not enjoy acronyms (*CPP – not a clue what that means* and *TOU – I couldn't figure out what that was* and *The whole idea of on-peak, off-peak, mid-peak, CPP*). Some were simply not interested in a new way of presenting their energy usage information (*To be honest, when I received this I just looked at it and threw it away, because all these numbers and everything on here did not make sense compared to my bill*). Others disliked language about any kind of uncertainty (*Two events will be called* and *Estimated* and *Guarantee for the first year*). Language about costs, fees, taxes, and charges was not popular. Attention to the tips provided, and appetite for more tips, was limited. Attendees not only reported that they spent very little time with their energy reports, they showed little interest in studying their reports. Rather, they preferred to use the reports as alerts.

Asked how to improve the energy reports, many attendees sought additional comparisons with others, to reinforce their decisions to participate (*I'd like to know how other people in this program are doing* and *I would like to see the comparison to not being in the program...since this is a voluntary thing, and I am participating in it, was I smart to make this decision or not?*). Many attendees asked for much simpler performance metrics about usage (*These graphs don't mean anything to me...take away the graphs and just tell me what the graphs mean* and *Spell it out* and *Do it again, but not so confusing, because this is confusing*). Even those attendees motivated to learn more had problems (*The upcoming season is hard to figure out...I manage \$10 million dollar budgets. I know where every penny is. I can get this stuff, and it was still way too complicated for me and I gave it to my wife and she couldn't figure it out. She said 'see, I told you, you shouldn't be doing that program'*).

According to the attendees of the first set of focus groups, the tasks of understanding rates, and analyzing energy usage were different from the task of identifying behaviors to try to shift and save energy usage. The attendees were willing to choose when to use, but they chose not to study usage. Even this early in the program, when almost all attendees had been receiving positive energy reports noting their savings, and with an uncertain summer approaching, very few attendees were spending time analyzing, studying or even reviewing the program information they had on hand. Instead, many attendees reported merely glancing at their energy reports in passing, and spending a limited amount of time selecting a few behaviors to change. For a few attendees, enlisting in the program led to immediate mindfulness about energy usage and identification with shifting and saving. But for most attendees, enlisting in the program led to very limited engagement.



One possible motivation for such a tentative approach early on in the program might have been a preexisting attitude toward NV Energy, yet when attendees were asked to rank their satisfaction with the utility on a standard 1-5 satisfaction scale, almost none of the attendees responded negatively (rankings of 1 or 2) There were some neutral rankings (3), but the typical ranking was satisfied (4), and there were many rankings of very satisfied (5). Some attendees had experienced issues with NV Energy in the past:

*They ticked me off when they stopped taking bills here, saying I had to go someplace else to pay...they've got this huge facility here and they can't accept the payment that they want for their bill*

and

*The rates are too high...it is ridiculous...every time they go before the Board, and ask for a rate increase, they get it, and they don't deserve it*

and

*Some of the people, when you call on the phone, you want to just hang up on them, they're rude. They aren't customer service conscientious*

Other attendees felt their interactions weren't the best (*they are always really nice, but it was just a waste of my time and We had to get a piece of paper notarized to let us get electricity into our home*), but they were still open-minded about the program.

Other possible explanations for a tentative attitude toward the program could be that attendees believed they weren't responsible for the levels of their electricity bills, or that they couldn't do much to affect their bills. But attendees believed the contrary, that NV Energy, legislators, regulators, and they themselves were responsible for their bills (*It's everybody and Of course, you're responsible for handling your bill*). NV Energy had roles to play (*It's obviously the utility's job to supply us consumers with energy at an affordable cost and I think they should be helping to educate the consumer*), but so did the customers.

Attendees also believed that change was up to them (*We don't do enough...people are not active enough to make the world the way they want and Either way, Nevada Energy has got to work for the people this way or that way, but we could win as well if we choose and I try not to complain, I try to change*). Attendees saw the program as providing responsibility they wanted (*It gives me control, it's me, it's not the company, it's not somebody else, it's me. So I cannot blame anybody else if I fail and I don't want to be penalized because I am a smart consumer, and I am the one in control of that thermostat, and I am not wasting energy*). So many attendees acknowledged that Choose When You Use was a program assigning responsibilities to them.

So the limited engagement many attendees expressed early on in the program seemed not to be associated with preexisting negative views, or beliefs that there wasn't much they could or should do about energy usage. Even though they weren't devoting much time or thought to the program, attendees generally seemed positive and willing to act. There were certainly exceptions (skeptics and free-riders on the one hand, all-in devotees and bill analysts on the other), but the typical attendee of the first set of focus groups



was happy enough to be lightly-engaged with a program they had chosen.

### *Energy Ownership in the Second Set of Focus Groups*

Attendees of the second set of focus groups had encountered summer, and some of their lightly-engaged experimental approaches to shifting and saving electricity usage were either unchanged (wait and see) or relatively unchanged (try a few things). For those who increased their electricity usage shifting and saving in the summer, many found their approaches were restricted (try until constrained). These attendees reported being constrained or miserable. Of the more active attendees, many also found their approaches were successful (see it through, and all-in). These attendees reported tolerable, being engaged, and saving.

While the focus groups did not measure the consistency or intensity of these behavioral approaches and the attitudes associated with them, they did indicate that these ranges were similar across the different cells, and the different regions. Attendee's approaches to the program and attitudes were generally not particular to the variety of Choose When You Use they experienced. Rather, attendees seemed to select for themselves how to experiment with the program, and their lifestyles and environments either reacted with prohibitive costs (discomfort, inconvenience, mental effort), or they did not.

Attendee engagement with the program increased during the summer in terms of actively shifting and saving electricity usage, but most attendees were still not students of the program. The summer did not trigger a general move to review, analysis, and reflection regarding energy usage data. Attendees were focused on actions, and the consequences of actions. Increases in energy ownership, and frustrations regarding energy ownership, both revealed themselves as the experiment continued.

For some attendees, energy ownership was increasing across the summer (*It's almost like a new way of thinking about how to spend money on the electric bill*), through awareness (*Is this something that consumes a lot of energy?* and *I am more aware of its use*) and choice (*Is it necessary? Do I need that?*):

*I was very negligent with all the usage....this has brought everything to light, to see what I was doing. And now, when I leave a room, I turn then lights off, I put the computer on sleep. It just seems to come naturally now*

and

*When you do it over the year, you see the difference, and just being more conscious and aware of what we learned from what we're doing, and how the footprint we're making on the environment is much better now, because we are more conscious of what we're doing*

and

*You're so conscious of everything you use, it is almost like 'oh, what time is it right now?' ...it makes you appreciate stuff more. You don't take stuff for granted like energy*



It wasn't always easy (*Equal that to the HOV lane, you know, from 2-7 weekdays...just keep that time period in mind....I didn't suffer. Now, my wife didn't like it too much*), but for these attendees, the increased awareness and attention seemed worthwhile.

Some attendees recognized the path they had taken wouldn't be easy for others (*If I still had my three boys at home and was working full time, I wouldn't be doing any of this....when you are older, you have more time, it's not such a big deal to change your habits around*). There were also attendees who seemed to feel that others might not be as far down the path as they should be:

*So we care maybe more about the bill, so we'll shift our loads, whereas you know Mr. Millionaire running a casino doesn't care, so let him pay \$500 or \$1,000 a month for his bill because he wants it when he wants it. Shift those costs to him, because, as a community, he is causing us to run those other power plants that shouldn't be run*

and

*If I was in this program making a penny, and you built a power plant...then I would come and get you....I like saving money, but \$8.50 a month, I blow on Netflix and a million other things, so forget it...give me a reason...I'm not going to have a power plant built in my home state*

These attendees had levels of energy ownership they felt were not shared by others.

For other attendees, their approaches to the program seemed to lead directly to suffering, without adequate savings to compensate:

*we sweat it out...my electricity bill went double...after sweating it out, \$160 more than I would have been on the flat rate*

and

*I think 2 until 7 is an unreasonable expectation for a family: they are home at 4 or 5 o'clock, they have to cool down, they have to cook dinner, they have to shower....being on the program, it doubled and tripled the rate, so it didn't work for us at all*

and

*I get this jolly little letter that says 'congratulations, you saved \$135'...before the heat came, and the humidity...the next one we got we were over our usage...we're not going to suffer*

Several attendees unsuccessfully sought more information to help:

*I called to see whether or not there is a big difference between the usage of 110 and 220 and nobody could give me an answer. I said, 'is it twice as much?'*



and

*If someone would have explained in dollars and cents to me it would have made sense...we are sweltering, we are suffering, and for what...my highest bill was \$700 something, maybe \$800 and now I'm getting bills for \$1,300, \$1,400, \$1,500*

and

*In July...I got a \$459 bill. Nobody was in the house for a week. I get the bill and I called. I said it has to be something with their meter...a month goes by, nobody calls me...I called the Public Utilities Commission...nobody showed up, nobody called...I called the Public Utilities Commission back...finally...I got a manager...very nice lady. We went over this whole meter together, no problem. OK, I understood what she was talking about, but the arrogance below them runs rampant in that company*

Some attendees continued to enjoy features of the energy reports (*Happy faces* and *My usage. I used less than what most people did. This made me happy*), but the energy reports weren't meeting all of the needs attendees had for information:

*You can't determine from the paper what you've done that you shouldn't have done...the last two I've gotten, I studied them probably half an hour at least, with my husband. I had him look at them to compare them. I wanted a little more explanation, and I thought maybe he could give it to me, and he couldn't understand it either*

The tips were familiar (*everything it says in that tips we're doing, so that's probably why we haven't looked at it* and *We already know that. We don't need to look at the tips*). The references were incomplete (*Tells you to go online for more, but doesn't tell you what's there*), terms were unfamiliar (*what's the regular rate*) and the formatting had issues (*Graphs not labeled clearly* and *The chart I don't understand*).

These attendees were trying to figure out what to do next, given the constraints they were encountering. The information and data provided didn't provide a clear path for them (*It looks like we can't do anything about what we're doing. So I might as well go back to the straight rate....we'd really like to cooperate, but it's not cost-effective*).

Summer had required the typical attendees of the second set of focus groups to become more engaged with Choose When You Use, resetting their levels of energy ownership. The summer rewarded some approaches to shifting and saving energy usage, but it frustrated others. The program divided into attendees who were satisfied with their progress, and those who were not. Many of the frustrated attendees tried to figure out how to change their behaviors to be more productive. Even in the face of discomfort and inconvenience, many attendees seemed ready to spend the considerable mental effort to try again, through new approaches. They retained the belief that they might still be able to achieve the savings they sought.



## *Energy Ownership in the Third Set of Focus Groups*

The third set of focus groups anticipated reenlistment decisions, which like the initial enlistment decisions, reflected energy ownership. After the summer, attendees understood that shifting and saving energy usage had both benefits and costs. The primary benefit of savings was supported, for many attendees, by secondary benefits such as stewardship, control, and challenge. Major costs included discomfort, inconvenience, and mental effort, and these seemed to endure over time (*We have to do it all, and we see no results, what is NV Energy doing?*). Most attendees seemed to view energy ownership as a mixed blessing.

A notable minority of attendees were all-in in their approach to the program, and identified with it: their energy ownership had reached a place where reenlistment was a foregone conclusion, regardless of savings levels:

*It's a fact of life: we are going to consume power, that power costs money...am I doing what I can do, have I availed myself of all the opportunities the power company has provided for me? ... can I sit there and say, yes, you know, I have no regrets paying the bill that I pay every month....I think they have done a very good job of putting it on the table for us to use*

For many of these attendees, the pursuit of stewardship, control, or challenge as intrinsic values was worthwhile in its own right. Other attendees had experienced prohibitive costs in trying to execute their approaches to saving and shifting energy usage, and had already decided not to reenlist. These attendees were determined not to repeat their first-summer experiences of discomfort, inconvenience, and mental effort. They knew of no way to sufficiently reduce these costs (*For the amount of effort that's being put into it, we want to see more saving. What can we do better to see a more significant saving for our efforts that we're putting into it?*)

Between these committed advocates and critics of the program, most attendees were considering savings levels in their decisions, and although they were disappointed at the level of savings achieved up to that point, they were still considering reenlistment. They were willing to give the program another try. These attendees' cost/benefit evaluations were rarely quantitative or even analytic; most anchored on the savings level then indicated on the energy reports as the basis for general forecasts. These attendees were less emotional in expressing their attitudes than the advocates and critics.

In the third set of focus groups attendees were asked to identify organizations they enjoyed paying, and most attendees noted charities, churches, and civic groups. Some attendees enjoyed paying their auto loans or home mortgages or credit card companies because these payments moved them one step closer to ownership. Attendees cited many commercial organizations (telephone and water utilities, grocery stores) and personal services (handymen, veterinarians, gardeners, housecleaners, pet trainers, gym memberships). Of course, some attendees also said they didn't enjoy paying anyone, but most could identify one or more organizations they were satisfied to pay. NV Energy was not cited, although a few attendees did note that they didn't mind paying their bills for electricity.

Many attendees mentioned one of two reasons for their failure to pay NV Energy with a smile (*It's not like it*



*brings me joy*). First, being served by NV Energy was a necessity (*Because you always have to pay them and Because I have to and It's a given and It's there. It's a utility something, you have to have and I don't moan about it, I just know that it's a necessary thing and It's in the background and It's like death and taxes. It's just the third thing*). There was no choice (*We don't have any of the other utility companies to compare with and It's just one of those things you have to do*).

Second, being served by NV Energy seemed to involve higher and higher bills, without a clear understanding of why the bills were rising:

*The power still flows, and the power still turns on, OK, but the bill for my house...has gone from a 120 budget to a 250 budget over the course of 10 years...you know, we keep adding more things. We counted it up the other day. There's 67 things plugged into my house...when I was a child...it was like nine things plugged in...there are a lot more things plugged in. But the rates itself...keep going up*

With no particular evidence cited, a few attendees had an impression that they were paying a lot (*It seems like they are spending money on some stuff pretty freely, but then they have to raise the rates on everybody and Because we still pay too much*).

Underlying both of these reasons is an impression some attendees had that using electricity is a neutral experience at best. There were exceptions; one attendee noted she was satisfied merely to use electricity (*I think NV Energy is awesome, because I don't have to use candles or kerosene*). But most felt otherwise, like the one who mused:

*Electricity really is an intangible. You can't see it, you can't hold it. You use it, and you see the lights, but you don't see that it's electricity. And is that part of the problem of not being, maybe, so cognizant or understanding? Maybe that's why we need the why, because we can't touch it and feel it*

In the instances of organizations these attendees do pay with a smile, the attendees cited the primary value of using the provider's service (*I feel really good about having clean water all the time and The lawn service, I look out the window, and I see it being done*). As attendees said, those organizations are chosen, offer choice (*Grocery stores...you have a lot of choice, you get what you want*), and the primary experience of engaging with them is satisfying (*what most people mentioned are things they want to do. Something they like to do. Something that they feel are contributing, making a difference in*). Using electricity apparently provided similar satisfaction to only a few of the attendees.

The third set of focus groups indicated that for many attendees, using electricity lacked the intrinsic value that they experienced in some other cases of using products and services. To some degree, attendees who valued stewardship, control, or challenge could find these intrinsically-satisfying benefits in the program. For some attendees, savings was also an intrinsic, satisfying benefit. But for most attendees, the discomfort, inconvenience, and mental effort involved in mastering energy use could only be balanced by whatever other uses the savings would have. Using electricity seemed not to be an emotionally-satisfying activity in its own right, but instead seemed to be a commodity requirement. Being involved with NV Energy was also a neutral requirement. Increasing energy ownership would seem to require deeper or more extensive



involvement with the program, yet the experience of Choose When You Use had little intrinsic satisfaction to offer.

### *Energy Ownership in the Fourth Set of Focus Groups*

The fourth set of focus groups included attendees who had decided to reenlist or opt-out of the program. As an indicator of energy ownership and satisfaction with energy ownership, the attendees were asked what observations about Choose When You Use they would have for NV Energy executives and the Public Utilities Commissioners.

Reenlisting attendees were positive (*They need to continue to offer programs like this one going forward and This is an interesting program and I hope it continues and Take this system wide and offer it to everybody*). These attendees understood they had been in a test:

*I think I would tell them not to be discouraged by any growing pains, because I think the concept is a really good one and it's the only way forward, I think, to have this kind of flexibility and give it the timing*

Many reenlisting attendees noted the importance of energy use education (*The common denominator is education and if they can do more education with the public they might be able to get more people to participate in it and More education and Education for the public on use of power, unplugging appliances and things like that, to conserve and Educate more widely on how we can save the money, if you choose to use your energy more wisely*). Others emphasized the importance of keeping rates low (*bring the overall pricing down a bit further and bring down that peak price tag so that everyone could afford it and Low cost power equals economic growth, and I think it's important to do whatever they can do to keep power prices down and Now that NV Energy has been bought for billions of dollars, they should spread the wealth and drop the rates*).

Beyond these familiar suggestions, reenlisting attendees recommended attention to their particular interests (*I have been diagnosed with COPD...I would like to see them make some kind of a gesture in some way to help the people like me that have that problem and Make solar energy a little more reachable for us*). They also recommended research within their program (*I'm glad they're doing the market research and listening to what we have to say and For the year number three, get a really good read on how things are going and Educate the people in the program and the true benefits of it, give them hard facts, and stuff they could hold in their hands and actually see*). One attendee suggested letting program participants communicate with one another (*Possibly an online forum so all of us that are in this program and other programs can discuss things*).

Some opt-out attendees were negative about the entire program, (*The program didn't work. It can only work if you have a summer house up north...nobody here is happy. We all suffered*) or were just negative about the rates (*The peak rate was still too high. I don't know how they came up with that. I think it should be reasonable, not three times as much as the flat rate and It makes no sense for the electric rates to jump in the program the way they did...you're paying so much at certain periods of time and so little in others...let everybody pay the same flat rate year-round and Don't force feed us with the this high cost during the*



*summer...they need to be averaged out over a year or two period, or five years). One attendee referred to the bill shock and misery some participants experienced as problems to be avoided in the future (plan these things better...talk with customers beforehand, run through the scenarios... understand what the unintended consequences are).*

As with reenlisting attendees, some opt-out attendees sought lower rates (*Try also, for all of us who aren't in programs, to keep the fees down and Lower the rates and I would hope that they would focus on keeping the energy cost down*). Another opt-out attendee sought choice: (*if they try new programs...they're able to keep their promises as far as this staying not mandatory, that it is voluntary*).

Other opt-out attendees thought the education treatment (*The game*) had promise for the future:

*I think that game that they rolled out to some of us, I think that that would be something that would be really beneficial for just the general population. I mean, I'm sure we all get exposed to that, like, in 3<sup>rd</sup> grade when you're learning about environmental science, but as an adult you don't really think about a lot of those things, so it's kind of a nice refresher ... that's why the games were so fun, was, it was, you know, it was five seconds, a quick snapshot, one quick fact, something you could do to save energy. So it wasn't like, here's our annual report of the 9 million things we're doing, because nobody really wants to read that unless you're an energy guru. But that format worked really well. When they mailed me, like, newsletters and things, I don't want to sit down and read that. It was quick, it was easy to look at, if I wanted to look at it then I could; if I wanted to look at it later I could. It's the same with the playing cards, like, for each just had a quick fact, and that was even fun to do with kids. Like my oldest, this is why we turn off the lights, why you don't leave the lights on in the room, and you know, just the quick snippets. They stick with you a lot better than a whole document of information*

and

*I think something like that, like the game, even though I didn't win anything, I found it fun, and every time I hear that little, you know, the little thing going off, I'm like, 'where's my phone?'*

Like their reenlisting counterparts, opt-out attendees recommended supporting renewables (*Implement like alternative energy, or I guess like rebates*). Another attendee urged focus (*I think they have to target the two big electric users, the pool pumps ... and ... air conditioners*). A third attendee recommended additional incentives:

*I would just like a program that rewards people for making changes...if you can see somebody that's able to follow advice, and decreased their energy bill year-over-year, provide a savings for them and Incentives that people can follow...what you're supposed to do, pay an extra incentive*

The primary message from the opt-out attendees was that the utility should keep trying to develop useful programs, even though this one hadn't worked out for them (*It was an interesting program. I would say, you know, it was a pretty good try. It didn't work for me; it might work for others. Don't stop trying and I like what they're doing. I like the fact that they're trying. And I would just encourage them to keep trying and Keep*



*trying, you know).*

Recommendations were similar from reenlisting and opt-out attendees. No particular treatment or rate received widespread endorsement except for education, although opt-in attendees recommended the program as a whole. There was a single attendee in the fourth set of opt-out focus groups who believed the Choose When You Use program design was flawed and should be replaced. Most opt-out attendees urged more, similar programs be trialed, especially if they featured incentives.

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