



Colorado Rate Design Mini-Groups Qualitative Research Report

Prepared for Xcel Energy

November 2015



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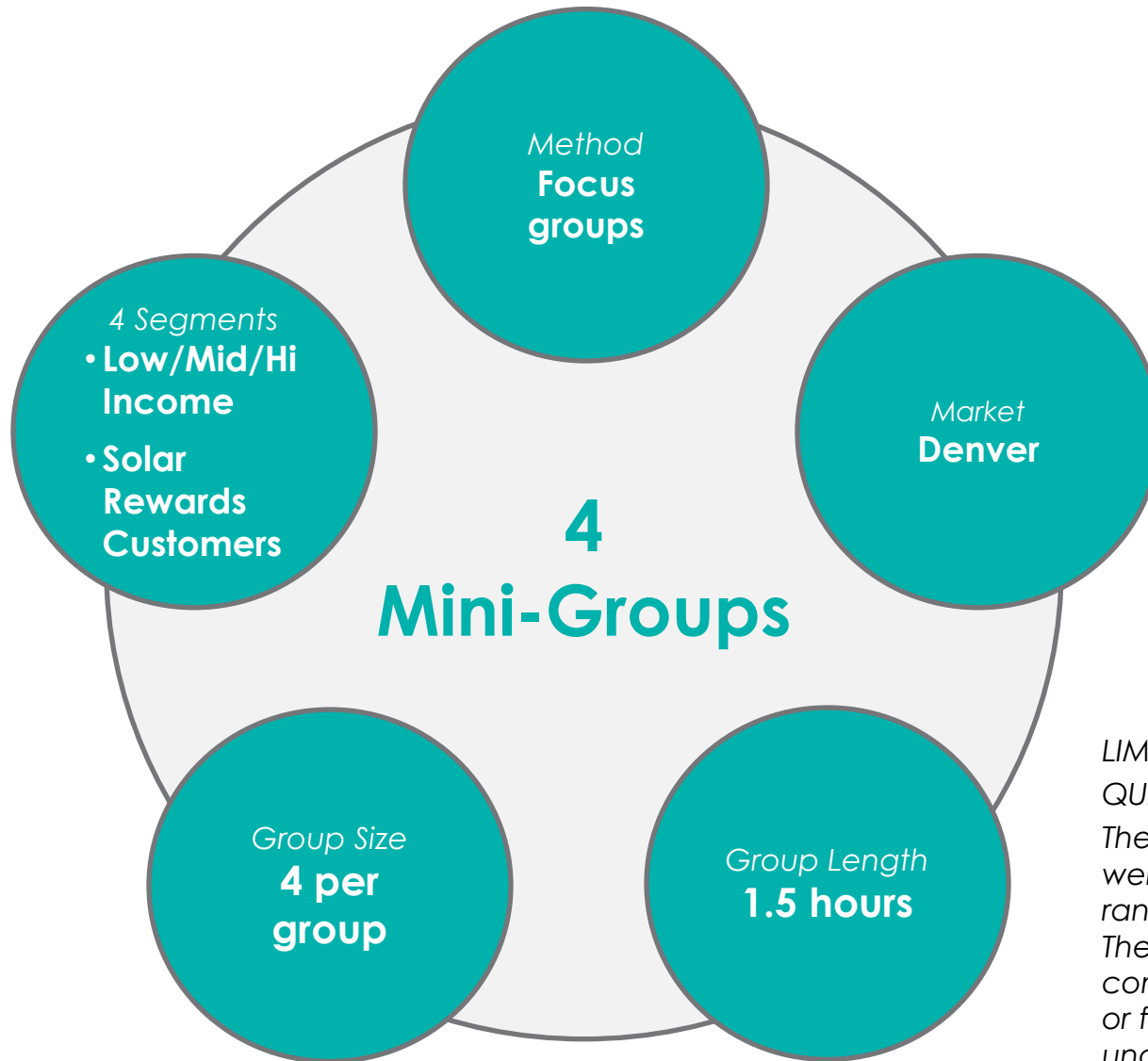
25 *Solar Customers*

Background

- Xcel Energy is exploring some potential new approaches for electricity rates for its residential customers in Colorado, including:
 - a Grid Usage Charge
 - A Peak Demand Charge

Research Objectives

- Explore customer understanding of current electric rates in Colorado
- Assess reactions to potential new Grid Use charges and Peak Demand charges
- Determine points of confusion and how to clarify
- Generate ideas for communication channels and messages that would resonate most with consumers and make them feel more favorable toward the rate changes
- Understand what Xcel could do to help ease customer transition to the new charges



LIMITATIONS OF QUALITATIVE RESEARCH

The findings presented in this report were captured from a small, non-random sample of respondents. The results, therefore, should not be construed as conclusive, predictive or fully representative of the underlying population of customers.

All participants were screened to meet the following criteria:

- Denver metro area adults age 21+
- Homeowners (except one renter in low income group)
- Responsible for paying their electric bills
- Electric customers of Xcel Energy
- Mix of ages, genders and ethnicities
- Standard security, articulation, and past participation screens
- Qualified for one of the following groups based on income or presence of solar panels:
 - Low income (\$20k < \$50k)
 - Mid-income (\$50k < \$100k)
 - High income (\$100k+)
 - Solar customers (currently own rooftop solar panels, from Xcel Energy provided list of Solar*Rewards customers)

- Focus group participants viewed these example concepts of a Grid Use Charge and a Peak Demand charge (numbers are illustrative only)

Future Method G											
Monthly Basic Service Charge <i>[fixed charge]</i>	\$7.45										
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Customers are largely unaware of how their current electric rates are calculated.

- Most customers admit that they only look at their monthly electric bills in great detail if the amount that they owe is noticeably higher or lower than usual.
- As a result, a rate change that does not noticeably impact their monthly total cost will likely go unnoticed.

A Grid Use Charge, once understood, has some perceived benefit, and is more favorably received than a Peak Demand charge

- Adding the Grid Use Charge is seen as being more transparent about charging customers for grid usage, rather than the current "bundling" of grid charges into the general energy usage rate . The tiering is perceived as providing specific, attainable goals for reducing electricity usage in order to reduce the monthly bill.
- The Peak Demand Charge as presented to the groups is seen as somewhat punitive and providing less attainable energy reduction goals because energy use during the specified hours (3 to 7 PM weekdays) is perceived as harder to control.

Customers expect multiple communications about the Grid Use Charge to explain it and to address their concerns before, during and after introduction.

- Customers want at least 2 emails, bill inserts, or direct mail pieces prior to introduction of the Grid Use Charge, plus information should be easily available on XE.com and My Account during and after the transition, and some news coverage is also expected.
- Communications should include personalized messages about what is changing and why, how the change will impact their individual monthly bill, and timing of the roll-out.

Reduction of the solar compensation rate is perceived as potentially discouraging to future solar adoption.

- Current Solar customers consider a reduction in the rate of reimbursement as not necessarily surprising, but they believe it could discourage others from adopting solar in the future (since adoption motives are seen as primarily financial).

- In light of the observed confusion about the Grid Charge details, design of the billing statement layout and the communications for the introduction of Grid Use Charge need to be consumer tested for accurate comprehension
- More research is needed to understand the reactions to a Peak Demand charge, including research to:
 - Quantitatively test reactions to individual elements of the charge, e.g., an upcharge for smart meter installation
 - Understand the potential size of negative reactions to the charge and key demographic predictors of negative reactions
 - [Closer to actual Peak Demand Implementation] Test communications for message comprehension and tone

Detailed Findings

Context: Baseline knowledge of electricity rates

Current energy usage

Denver customers are fairly savvy about how their daily activities contribute to their monthly electric bills, though few feel they have been able to make changes that have lowered their bill.

Easier to change/
more flexible

Harder to change/
less flexible

ACTIVITY

FREQUENCY/TIME OF USE/SEASONALITY

- | | |
|--|--|
| <ul style="list-style-type: none"> ▪ Running the dishwasher ▪ Running clothes washer/dryer ▪ Using small appliances, (hair dryers, space heaters, etc.) ▪ Watching TV ▪ Charging mobile devices ▪ Using home computers | <ul style="list-style-type: none"> ▪ Daily/depends on personal schedules ▪ Weekly/mostly nights and weekends ▪ Depends upon need; some daily, some seasonal ▪ Daily/mostly nights and weekends ▪ Daily/mostly nights and weekends ▪ Daily/depends on personal schedules, working from home, etc. |
| <ul style="list-style-type: none"> ▪ Lights ▪ Temperature control (HVAC) | <ul style="list-style-type: none"> ▪ Daily, mostly evenings, winter is peak season ▪ Daily, highly seasonal, stay-at-home/work-from-home households can run continuously in |

Energy conservation techniques used: programmable thermostats, CFL lightbulbs, evaporative coolers, insulation, only running large appliances at certain times of day, etc.

- Seem more important to lower income households
- Harder to conserve/control in households with children and/or stay-at-home/work-from-home parents
 - Evening routines, including family dinners and time spent with kids, cannot be altered
- Maintaining comfortable temperature inside the home usually something homeowners not willing to sacrifice

Current understanding of Xcel electric rates

In general, customers do not read their bills very closely (if at all), making them less likely to notice a rate change that does not noticeably impact their total monthly bill.



UNDERSTANDING OF XCEL ENERGY ELECTRIC BILLS

- Customers who brought their bills with them to the groups admitted that this was the first time they had looked at the bills this closely.
- Customers said they would read their bills more closely when they saw a spike in the monthly cost.
- Upon further examining their bills in the groups, many noticed fixed charges for services and facilities, plus tiered rates for Summer Tier 1, Summer Tier 2, and Non-Summer Rates. Customers could not find any descriptions that matched the asterisks next to each tier name.
- Without “official” definitions of the tiers, many surmised that they were based on a combination of time of year and either time of day or volume. For instance, Summer Tier 1 might be a summertime rate when total usage is under a certain number of kilowatt hours.

“It’s 21 cents less per day from October 2014 to October 2015. How do they calculate that?” - Group 1, Low Income

“I’ve got Summer Tier 1 and Non-Summer rates plus administrative fees and adjustments. So you can’t really say it costs ‘this much’ per kWh because they break it down into 20 different categories.” – Group 2, Mid-Income



Note:

Low income customers were more familiar with their electric bills than many of the mid and higher income customers. A few in the mid and high income groups used “budget billing”, making it even less likely that they would look very closely at their monthly bill.

Awareness of other potential rate designs

Customers are largely unaware of whether other companies or other states calculate electricity rates any differently than Xcel.

AWARENESS OF ALTERNATIVE RATES

- In general, there is very little awareness of alternative rates from other companies or in other states, and most customers seem to have never thought about the possibility.
- Some feel that others pay higher prices, or they have reason to believe that other states have different rates for electricity, but there was no factual evidence shared in the groups.
- Several mentioned that electric rates are government regulated, and so felt that rates cannot fluctuate from state to state or county to county without government approval.

"I've had people tell me that their bill is something crazy but I'm not sure why." – Group 1, Low Income

"It's regulated by the government, so they'd have to get permission to raise the rates if they wanted to do that." – Group 3, High Income



Note:

One participant in Group 3 (High Income) mentioned Arizona rates being different, but explained that it was probably because the temps are so high year-round and charges to run A/C must be lower.

Grid Use Charge: Comprehension and Perceived Impact

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Bundles all costs associated with:

- Generating and transmitting electricity
- Using the power grid
- Administrative costs

Cost of using the local power grid is charged separately from the Energy Usage Charge

Comprehension of Grid Use Charge

At first glance, Grid Use Charge seems familiar and somewhat intuitive, with similarities to Xcel's current tiered rates.

However, the more deeply they consider Grid Use Charge the more questions arise...

GRID USE CHARGE: QUESTIONS

- Is the Grid Use Charge only applied to the number of kWh used over a certain amount (e.g., over 500)? Similar to an overage fee for a cell phone data plan, for instance?
- Can you opt-out of Grid Use Charge?
- What does the term "grid" really refer to? Is it the table with the ranges? Is it the actual grid that supplies electricity?
- What does the term "local power grid" refer to? The word local is confusing, since everyone in a given area uses the same grid.
- Do the rates assigned to each kWh range vary by season?
- How are the kWh ranges for the different tiers determined?
- How is a price assigned to each kWh range?
- How long before Xcel changes the pricing structure again?
- Why are administrative costs being bundled into a variable cost? Shouldn't they be a fixed cost?

"This tells me that the first 650 kilowatts used is charged at the rate of 7.567 cents, and then anything beyond that is going to be charged this grid use charge." -- Group 1, Low Income

"I guess I have questions about how those ranges are chosen." -- Group 2, Mid-Income

"I would want to know how long is this going to be the case? Is it set in stone, or are we going to go back to the old rates?" -- Group 3, High Income

"I'm distrustful of it being different charges in different places. It makes it more confusing to me." -- Group 4, Solar

Comprehension of Grid Use Charge

Several misinterpretations of Grid Use Charge kept resurfacing in each of the groups.

Common misinterpretations of “Grid Use”

It’s an “Overage” rate

- You pay a flat rate up to a certain number of kWh (say 500), and then you pay a higher rate on every kWh over that amount.

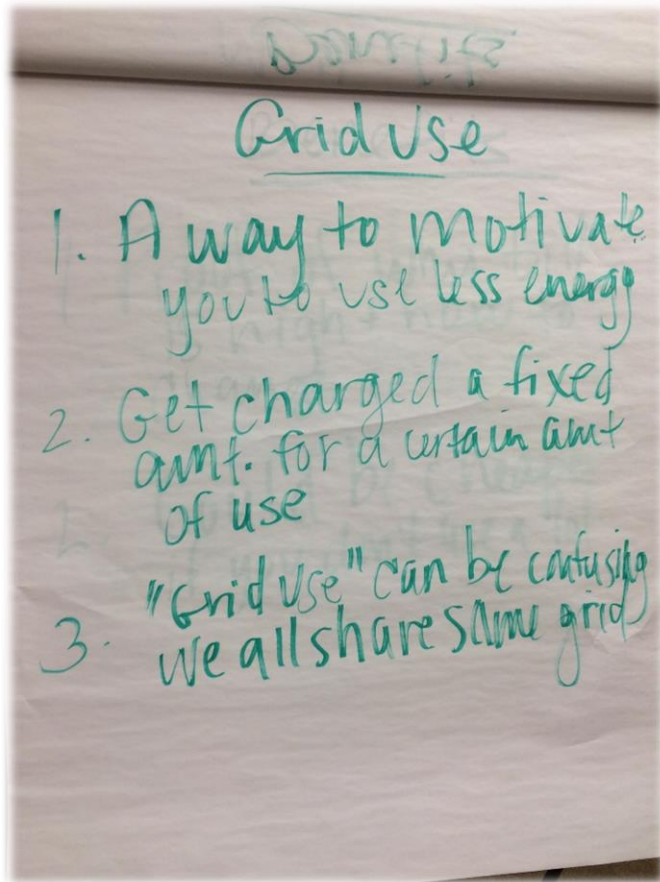
The term “grid” refers to the pricing table on the bill

- Paying for using the local power grid was a foreign concept to several customers.
- Many referred to the table showing the tiers on the bill as the “grid”.

The price will vary within the tiers

- Many questioned if the actual rate would vary within the tiers based on where your usage fell within the tier.

Consumers described the Grid Use Charge several ways . . .



GRID USE CHARGE: CONSUMER DESCRIPTIONS

- Tiered pricing for usage volumes over a certain amount
- An additional charge that escalates based on your individual household's usage
- A way for the electric company to encourage you to use less electricity by promising a reward of a lower bill
- A way for the electric company to charge you for the cost of your house being connected to the grid
- A way for the electric company to charge more in order to fund the building of infrastructure for renewable energy sources

"It acknowledges the grid and the fact that it costs to maintain that infrastructure." – Group 2, Mid-Income

Perceived Impact of Grid Use Charge

Customers seemed to grasp the concept of “use less, pay less” (as they put it), but the degree to which they felt it would impact them varied based on income level and current usage.

DIRECT IMPACT OF GRID USE CHARGE

- Some, particularly in the lower and mid-income groups, seem willing to change their habits in order to move down from one pricing tier to the lower tier based on monthly kWh usage.
- Those with higher incomes and energy usage, on the other hand, seemed resigned to the “fact” that they would be paying higher monthly bills under the Grid Use Charge.

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Those on the cusp of entering a lower range are most motivated to change

Those using over 1,400 kWh are least motivated to change

Some see potential benefits of the Grid Use Charge ...

GRID USE CHARGE: BENEFITS

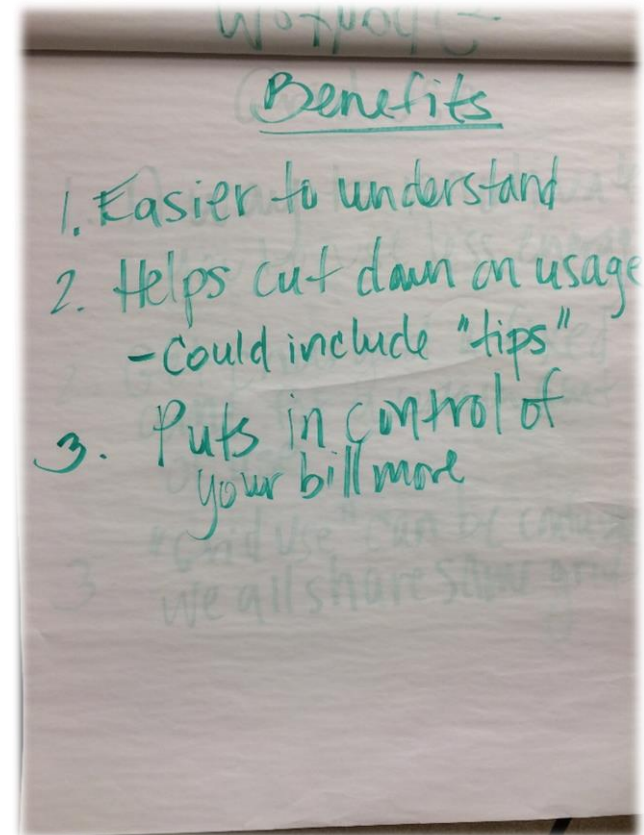
- Costs are broken out more so they are easier to understand
- Makes it easier to set goals to reduce your overall bill each month by aiming to be below 1,000 kWh
- Puts you in the driver's seat to control your costs
- Could make your bill less expensive

"Grid Use is laid out in a way that's easier to understand. It makes it easier to save on your electric bill." – Group 1, Low Income

"I think it depends on where you fall in the different zones. Right now I'm below 500, but if I were higher up it could be a strong motivator." – Group 2, Mid-Income

"It could be good to show my family why our bill is so high." – Group 2, Mid-Income

"I prefer Grid Use Charge, because it's giving me an incentive to lower my bill each month." – Group 1, Low Income



Though most feel at least somewhat favorable toward the idea, some express concerns about Grid Use Charge...

GRID USE CHARGE: DOWNSIDES

- For those who are using a higher number of kWh each month, this seemed like it would make their bill more expensive, leaving them less likely to see any benefits.
- Most customers failed to grasp the “fairness” aspect of making heavier users pay more for the strain they put on the grid. The grid use charge seemed more like a punishment or a tax to some.

“It’s an incentive to use less, but if you use just a little bit over that break point then you get hit with a huge charge.” – Group 2, Mid-Income

Communication about Grid Use Charge

Customers want communications to be multi-faceted and to include several phases of communication . . .

IDEAL COMMUNICATION PROCESS

PRE-TRANSITION

- Send one to two “warning” e-mails or bill inserts (tailor to individual customer preference/ type of bill pay behavior)

DURING TRANSITION

- Provide an e-mail with a link to an online video or (for My Account users) a screen overlay that explains what is different about their bill
- Provide timely press release(s) to get news media coverage on rate changes (several days before and/or during the transition)

AFTER TRANSITION

- Continue online video availability on XE.com or screen overlay on My Account until several billing cycles have passed

Note:

Nearly all customers requested multiple communications. At least 3 pieces of communication are recommended to ensure customers are fully aware of the change.

Communications about the rate change should touch on the following points:

KEY MESSAGES

What is changing?

Customers want a specific, side-by-side illustration of the current bill versus the new one, with explanations of what the changes are.

How will it impact me personally?

Customers would prefer a personalized impact analysis that compares one of their recent bills under the current rates with what the bill would be with the new rates. If true, messaging should note that the new rates will likely have only a slight impact on their monthly bills.

Why is Xcel making this change?

Though less important to some (because they can't do anything about it), it was mentioned that it would be nice to know the rationale behind the rate change.

Specific start date when the change will occur

Ideally, customers also want to know how long the change will be in effect and/or information about timing of future rate changes.

Reactions to Peak Demand Charge

Costs associated with construction of power plants and long range transmission lines are charged separately from the Energy Usage Charge

Peak Demand Charge <i>[varies each month based on monthly peak demand in kW from 3 PM to 7 PM weekdays]</i> = Peak Demand kW times \$19.70	
<i>Example: 1.4 kW peak demand for this month times \$19.70 =</i>	\$27.58
Total	\$71.15

Amidst some enthusiasm for the idea of targeting time of day usage, there was also skepticism as to whether usage patterns could be altered.

PEAK DEMAND CHARGE

- In some groups, Peak Demand was favored over Grid Use Charge because it seemingly gave customers more control over their bill by allowing them to pin-point exactly what time of day their usage would impact costs the most.
- Others were quite negative, viewing Peak Demand Charge almost like a “luxury tax” and mentioning that it seemed like Xcel was just trying to charge them more. It was considered more confusing than the simpler tiered structure of the Grid Use Charge which was based on volume and not time of day.
- Notably, higher income customers, those who work from home, and those with young, tween or teen children tended to find Peak Demand most challenging to manage. There was skepticism about whether they would actually be able to reduce their usage during the Peak times, or whether their bills were likely to go up.
- The idea of adding \$2 to the fixed charge to cover the new metering needed for Peak Demand added insult to injury among Peak Demand detractors and also reduced enthusiasm among those initially favoring the idea.

“This is a better break-down. It makes more sense.” – Group 1, Low Income

“If I know that there is a certain time of day that's going to be more expensive for me to do laundry, then I can control that.” – Group 1, Low Income

“I'm thinking ‘oh, they just want more money.’” – Group 2, Mid-Income

“I just don't see what you can do differently from 3 to 7. That would take a big shift.” – Group 2, Mid-Income

“It's time to be with your family from 3 to 7. Is there a price for time spent with your family?” -- Group 3, High Income

Perceptions among solar customers

Context: Current Experiences with Solar

Solar panels are perceived as helping customers alleviate some of their energy costs; one solar participant claimed she was able to go “off the grid” by using solar.

SOLAR CUSTOMERS

- Most of the solar customers report having from 5 and 12 panels, and said that solar was cutting down on their electric bills by about 20-30% over the course of the year.
- The main motivation for using rooftop solar panels was the financial benefit, though at least one person noted that she feels “warm and fuzzy” for using solar.
 - She, however, was also the person claiming to see the most financial benefit from the solar panels, with solar covering her entire electric bill other than administrative fees for her very small (750 sq. ft.) home.
- Interestingly, very few solar customers mentioned conducting extensive research prior to choosing a solar panel provider. Several seemed to have simply responded to solar panel companies cold-calling consumers and conducting door-to-door sales in the Denver area.

“A door to door salesman from Go Solar stopped by my house and said he'd talk to me for free. I had seen a few other houses in the neighborhood with solar panels so I figured I'd listen to what he had to say. I had nothing to lose.” – Group 4, Solar



Note:

Three of the four solar customers in the group had purchased the solar panels on their homes; one group member bought a home with the panels already installed.

Rate of Reimbursement for Solar

Solar customers generally had the same reactions to the Grid Use Charge as other customers, but were also presented with the following explanation of reimbursement rates for solar and were asked for their initial reactions.

Sheet S

This new way of calculating the electricity rates could also change the rate of compensation for solar generation for future solar customers, possibly decreasing the compensation solar customers receive.

Your own current solar net metering rate would likely be grandfathered to stay as it is, but future solar customers may receive a lower rate of compensation.

Reactions: Rate of Reimbursement for Solar

Current solar customers were not surprised at the prospect of a change to the rate of reimbursement, but did feel that the change might discourage others from adopting solar in the future.

Current solar customers saw the impact of a reduced reimbursement as minimal IF their own reimbursement rate is being grandfathered.

SOLAR

- These solar customers felt that the lower rate of reimbursement might have impacted their decision to buy solar panels, but it was difficult for them to be sure without more specific information.
- They indicated that the new reimbursement rate would not make much difference to them now if they would be grandfathered at the higher rate.
- One solar customer felt that the term “grandfathered” implied that there might be an expiration date and they would eventually all be reimbursed at the new lower rate.

“The price is going to continue to go up, whether it’s for inflation or something else. So it also makes sense that they’re going to decrease the compensation that people receive for solar. As the grid gets stressed, they’ve got to make more money somewhere.”
– Group 4, Solar

“This becomes a disincentive for other people to use solar. But I’ve already got mine, so I think I’m OK.” – Group 4, Solar

“The word ‘likely’ tells me that at some point I’ll be getting that lower rate also.” – Group 4, Solar

Thank you!

Questions? Please contact:

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