

CADMUS



Listen Up: Renewable Energy Program Design for All

IEPEC | San Diego, California

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Methodology

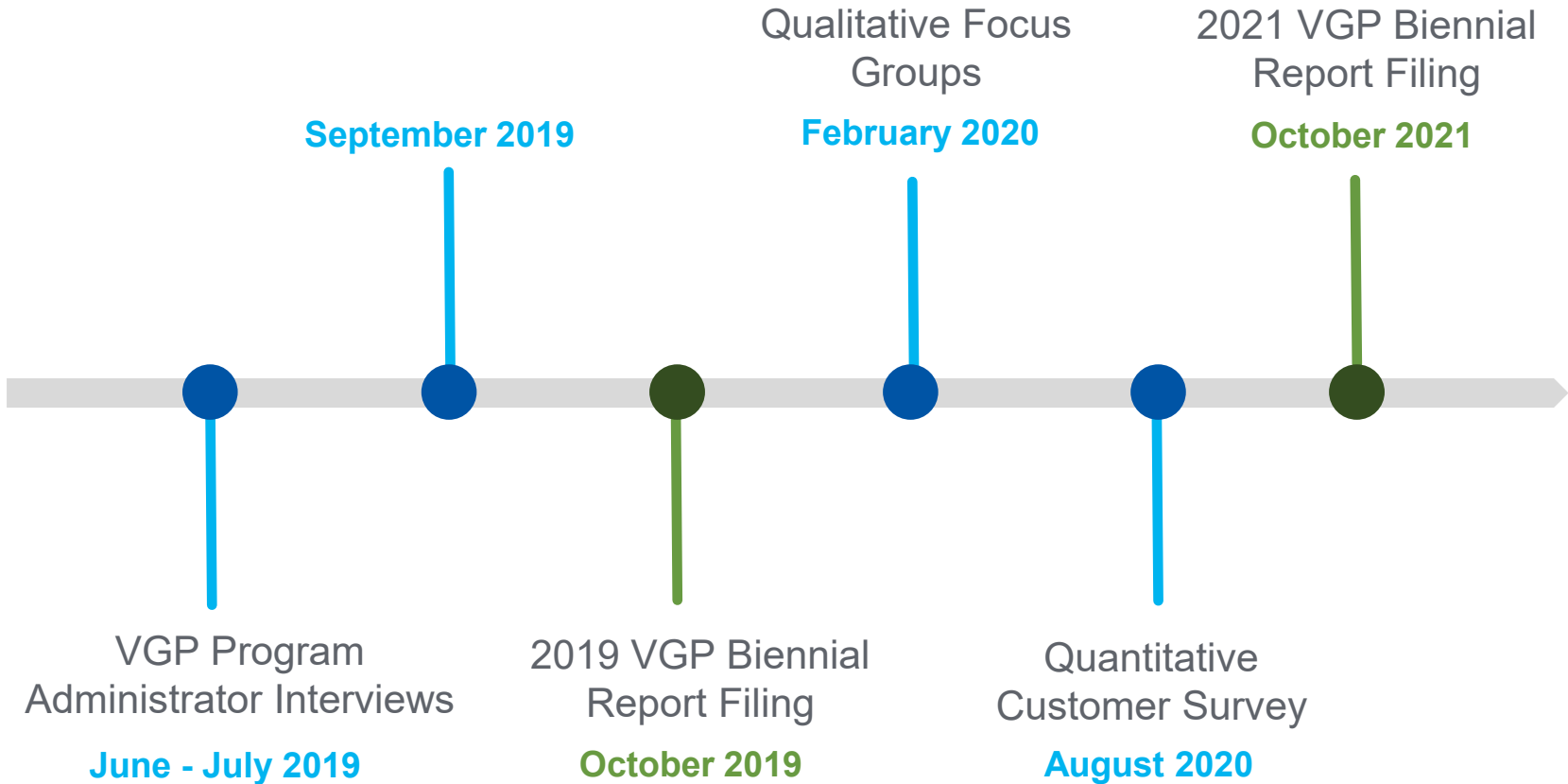
Results

Research Application to Program Design

Conclusions

Methodology

Research Overview



Research Objectives

Identify perceived challenges and barriers to accessing renewable energy

Understand financial constraints for renewable energy

Identify motivating value propositions

Research Approach

SURVEYS

8 groups, 4 locations, 56 customers \leq 300% FPG

- Muskegon
- Cadillac
- Flint
- Jackson

Targeted mix of age, gender, ethnicity based on U.S. Census

\$100 incentive for participation

Surveyed 1,502 customers \leq 300% FPG

Stratified random sample by region: North, East, South, West

Sample frame: list of likely income-qualified customers identified by Consumers Energy

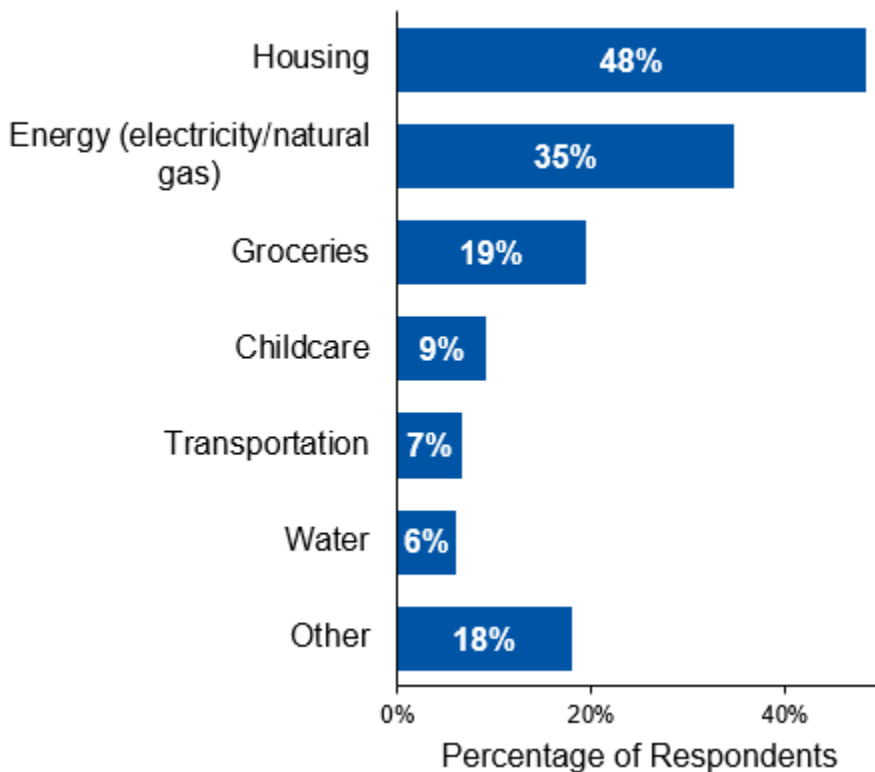
\$10 gift card for participation

Employed experimental design and customer choice modeling to measure customer preference

Results

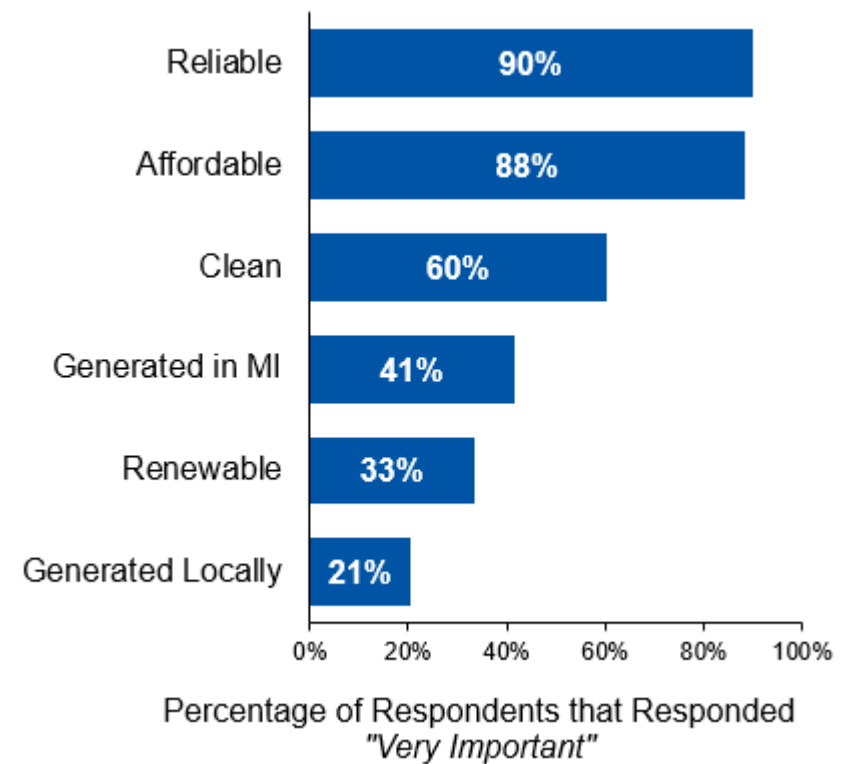
Priority Energy Concerns

GREATEST HOUSEHOLD COST CONCERNS



n=65 – 1,390

IT IS IMPORTANT THAT ELECTRICITY IS...



n=1,394 – 1,448

Market Barriers

“If the sun goes down, how do you store the energy?”

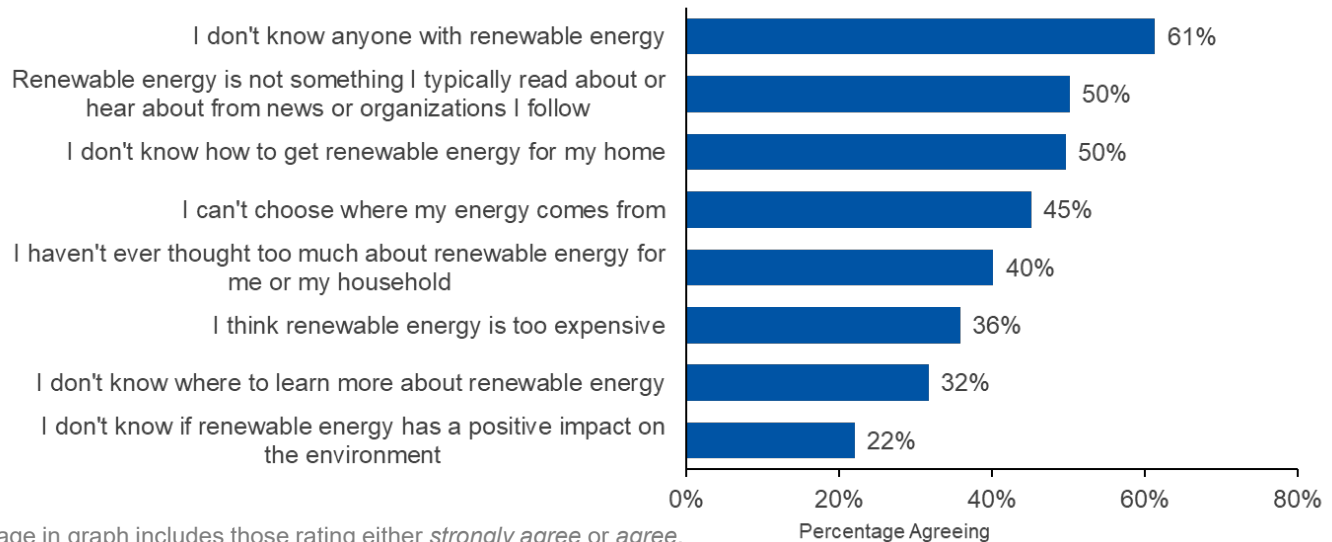
– Jackson focus group participant

“Is it accident proof?”

- Flint focus group participant

“It would be excellent if someone explained pros and cons [of our electricity options], right now we just get what we get”

- Flint focus group participant



n=1,085 to 1,242. Percentage in graph includes those rating either *strongly agree* or *agree*.

Market Barrier: Reliability

Respondents **expressed concern** that renewable energy sources would be **less reliable** than traditional fossil fuels.

“[The most appealing renewable energy would be] whatever is most reliable. I want to say solar because it’s more reliable than wind – but I don’t know.”

– Cadillac Focus Group Participant

When survey respondents were presented with more information...

rated an explanation about **how Consumers Energy manages the grid to make sure power stays on even when using solar and wind** as *helpful*

59%

rated an explanation about **Consumers Energy’s plans to grow their renewable energy mix** as *helpful*

Market Barrier: Trust

Respondents **struggled to believe** that participation in income-qualified programs would truly come at **no cost** to them and **could even result in a credit** to their bill.

“If it sounds too good to be true, it probably is.”
– Cadillac Focus Group Participant

“We are elderly. [We’re] always worried about being offered something that isn’t supposed to cost us anything. [We] do not want to be taken advantage of.”
– Survey Respondent

When survey respondents were presented with more information...

rated an explanation about **how the bill credit would work** as *helpful*

71%
rated an explanation about **why Consumers Energy is offering a program at no cost** as *helpful*

Market Barrier: Logistics

Respondents did **not understand how renewable energy credits work** and that the renewable energy they are paying for **would not flow to their home.**

“I live in a trailer park, so there is a trailer 15 feet from mine. If I pay more, how do I know I am getting the renewable energy and not the other trailer?”

– Flint Focus Group Participant

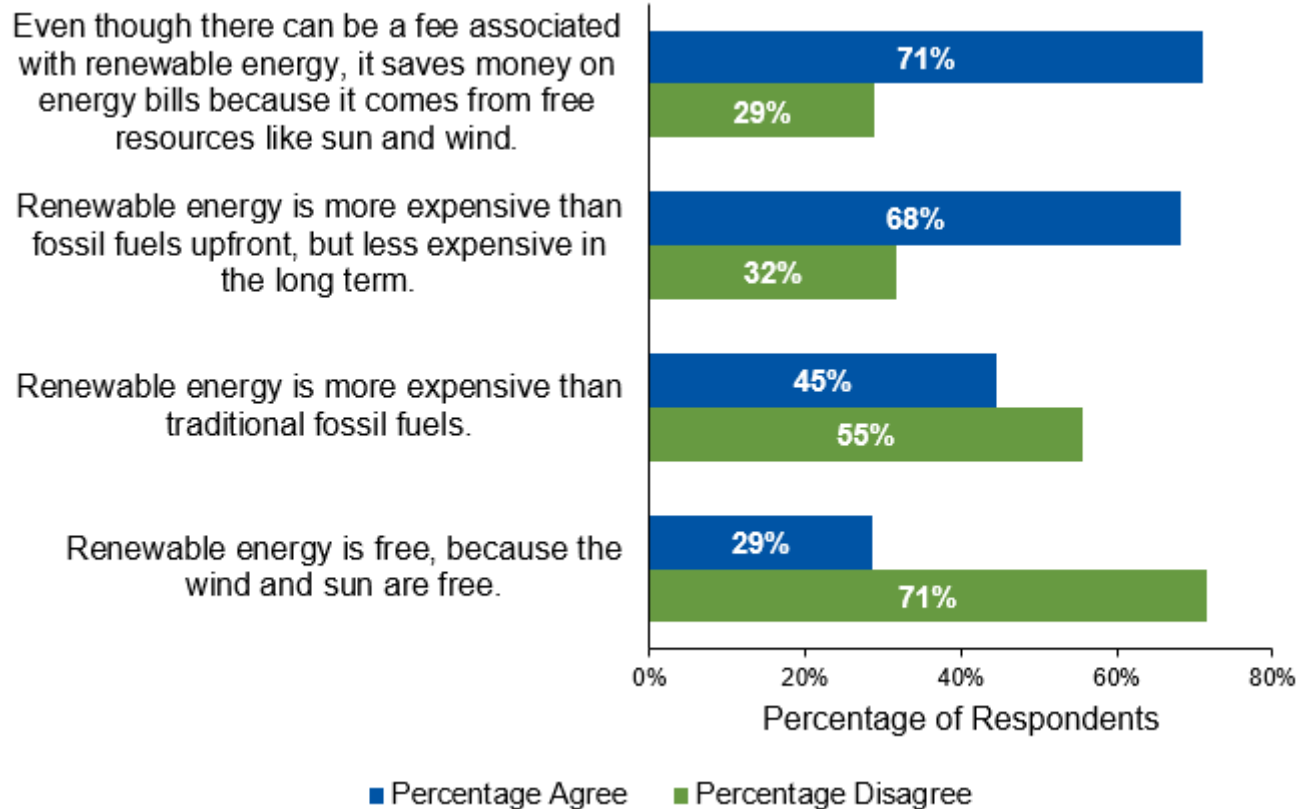
When survey respondents were presented with more information...

62%

rated an explanation about **why renewable energy costs more** as *helpful*

rated an explanation about **how the renewable credit subscription works** as *helpful*

Willingness to Pay

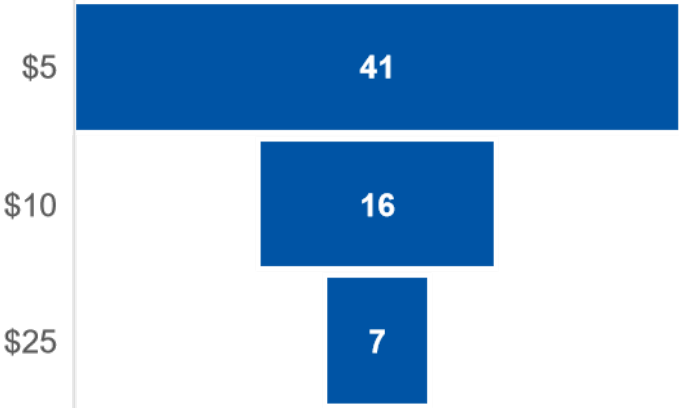


“[Renewable energy costs more because of the] development of it. Fossil fuels are established, but when renewable energy is up and running, I assume we will see costs come down.”
– Flint focus group participant

Price Sensitivity Tested in Focus Groups

Respondents generally agree that Michigan-generated energy is preferred and support additional infrastructure, but it's unclear if local generation would have more value.

WILLINGNESS TO PAY MORE PER MONTH



n=56, Multiple Response

TRANSPARENCY/EDUCATION IS NEEDED

“If I had more information, then maybe \$10 [instead of only \$5]”
- Muskegon focus group participant

“\$5 or \$10 is a soda and maybe a coffee a month. [But] \$25 starts dipping into other expenses. [That] could be a quarter tank of gas.”
- Flint focus group participant

Drivers for Pursuing Renewable Energy

Which renewable energy value proposition is most important?

Supporting renewable energy helps future generations

Renewable energy is good for the environment

Renewable energy is a reliable energy source throughout the year

New renewable energy development promotes energy independence

Renewable energy fights climate change because it does not produce greenhouse gas emissions like coal-fired power plants do

Renewable energy is good for my health because it reduces air pollution and smog

New renewable energy infrastructure creates jobs

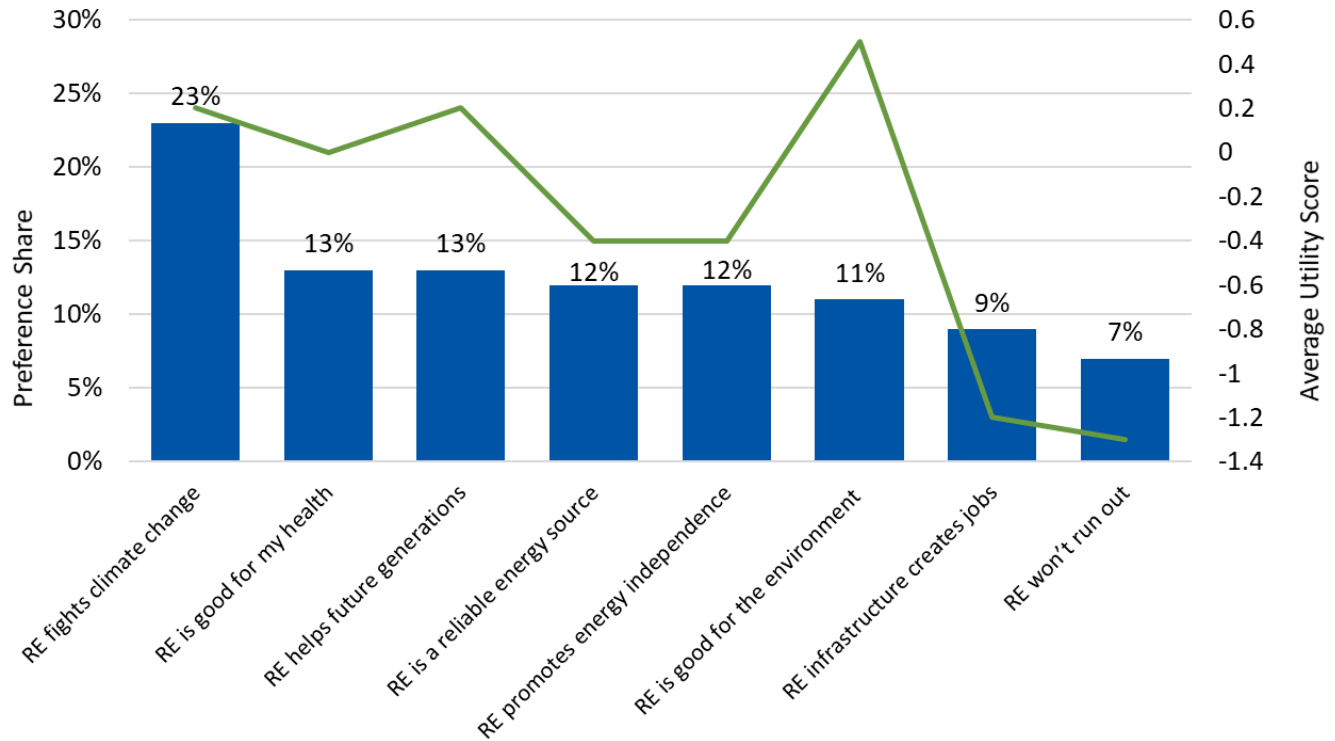
Drivers for Pursuing Renewable Energy

Preference share:

likelihood of actually being the most appealing benefit

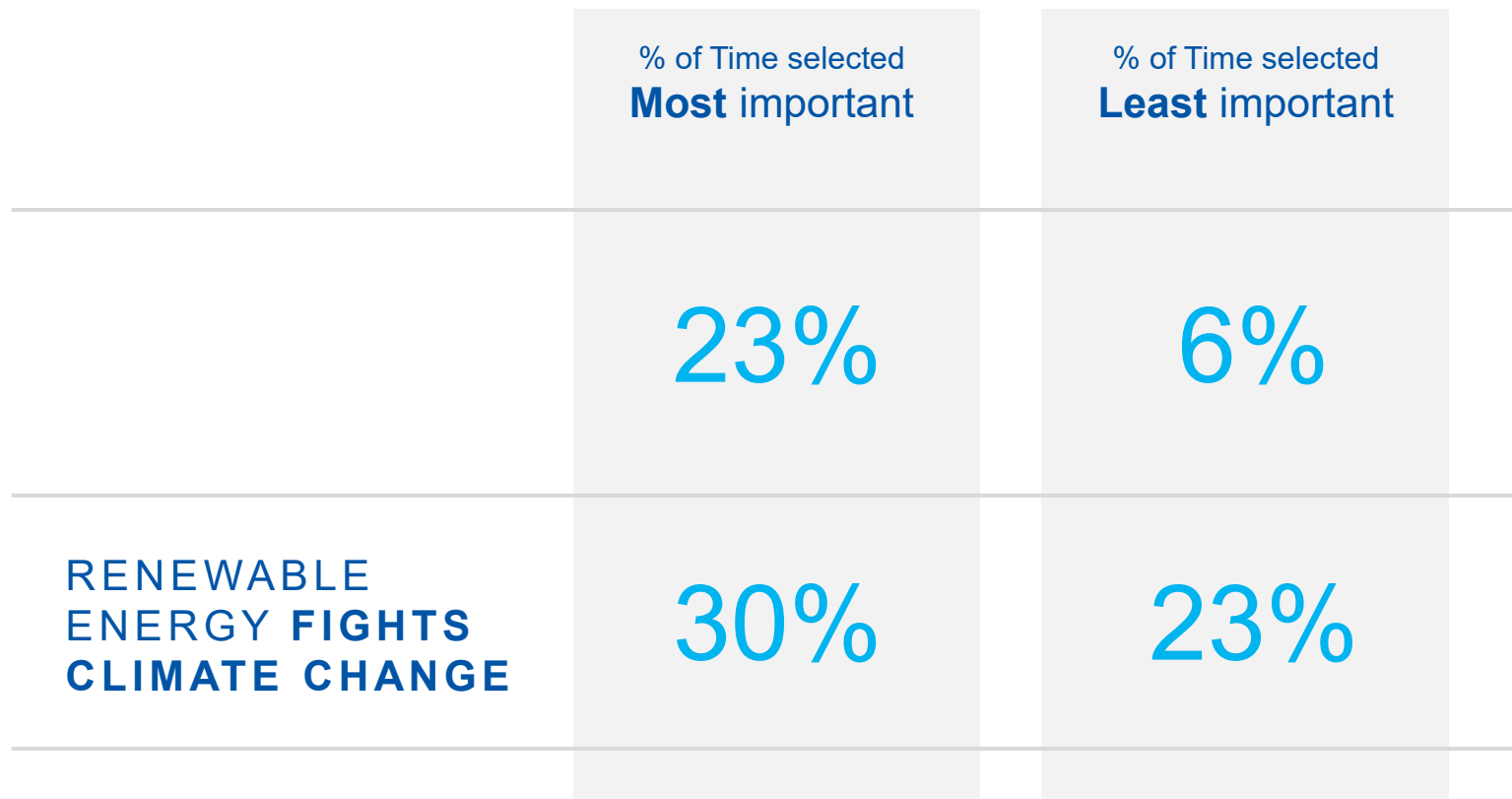
Utility Score:

a metric representing relative importance. Represents no. of times selected “most” and “least”



“Climate Change” vs. “Environment”

Climate change was predicted to be the most important driver. However, a similar percentage of customers also ranked this message as *least* important.



Research Application to Program Design

Income-Qualified Program Options

Launched June 2021

Donated community solar from non-profit organizations

Monthly bill credits reduce monthly energy costs

Participation periods of up to 3 years (or longer)

39% market demand

Conclusions

Conclusions

1

While reliability remains a top energy concern, income-qualified customers understand the benefits that clean energy can provide to their health, future generations, and the environment; with environmental benefits being a powerful driver for pursuing renewable energy.

2

Conclusions

3

Income-qualified customers understand why renewable energy may cost more than fossil fuel energy up front and are willing to pay more to obtain it, though they favor least cost options.

4

Thank You

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