

Demographics and psychographics of conservation behavior during California's extreme heat event

Edy MacDonald, PhD

Sacramento Municipal Utility District (SMUD)

September 2022 – unprecedented heat wave

- Strain on electrical grid statewide
- Numerous communications to customers
 - Emails (6 over 4 days)
 - Social Media
 - News (radio, TV)
- Customers asked to conserve electricity from 5 to 8pm
- **Avoided rolling blackouts**



In addition to communication from partners (e.g., government agencies, Governor's Office, PG&E, Roseville Electric, Cal ISO)

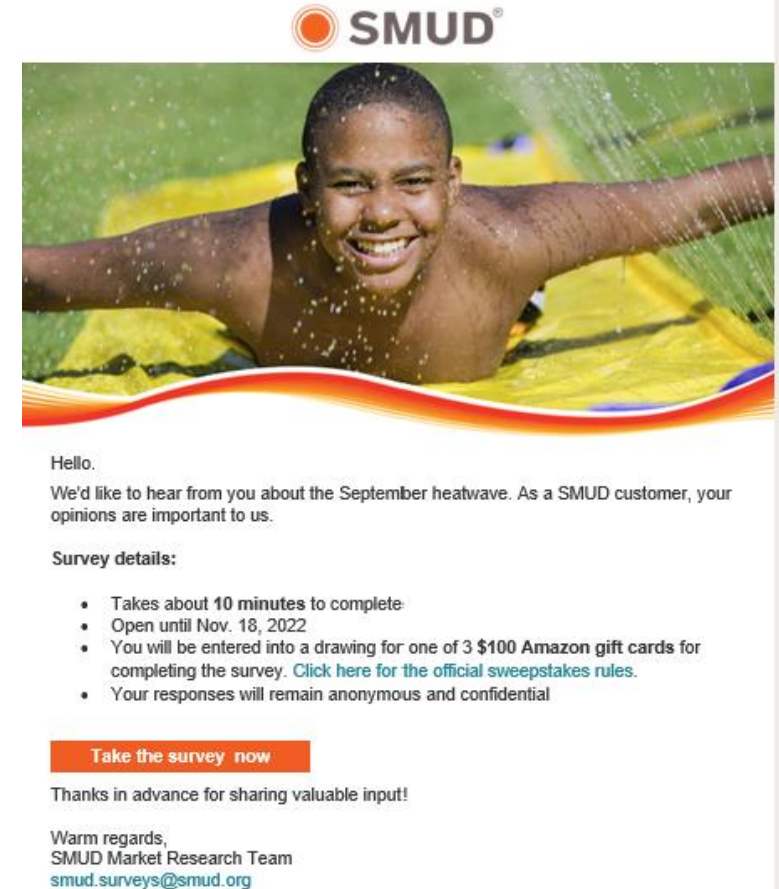
Objectives and outcomes of study

- Identify and understand who saved and who did not save electricity, and why, during the September 2022 Extreme Heat Event
- Assess the effectiveness of SMUD communications to customers on energy conservation behaviors
- Provide guidance for messaging for Summer 2023

Survey methodology

- Email link sent out to ~80,000 customers 5 weeks after heat wave
- Opened for 16 days – incentivized with one of three \$100 Amazon gift cards
- Numerous demographic, psychographic, and behavioral questions (8 mins to complete)
- Can link answers to meter data and other existing databases

Response rate of **3349** (~4% response rate)



Overall findings

- Strong recall of message to save energy 5 to 8pm
- Email was most cited communication source - high open rates (86% opened at least one email during heat storm)
- Very strong conservation response in customers – consistent across all 4 days
 - 74% strongly/moderately agreed to saving energy during the heat wave
 - 12% strongly/moderately disagreed to saving energy during the heat wave
 - **Supported by meter data**
- Renters, LI, and low levels of insulation reported less saving – **energy inequity and burden** [SMUD Sustainable Communities]

High-energy low-conservation respondents— few demographic differences

No difference between energy conservation groups:

- Number of people in household
- <18 yrs. old
- >65 yrs. Old
- Source of message (e.g., SMUD, government, news)
- Type of message (e.g., email, text, Robocall, social media)
- Age
- Number of people home during heat wave
- Medical Rate or Energy Assistance program
- Own/lease
- HHI



High-energy usage customers
more likely to have pets and not
program thermostat

High-energy low-conservation respondents— psychographic differences¹



Lower in tradition (commitment and acceptance to cultural/religious customs)



Lower in security (safety, harmony, stability of groups/nation, clean)



Higher in pleasure (enjoying life, self indulgent, hedonism)



Lower in conformity (self-restraint, obedient, self-discipline, politeness)

Application

Summer 2023 email campaign

- Focus on pleasure principle
- Utilize pets
- Set thermostat

View email in a browser



During hot summer days, your home can be a relaxing oasis of chill.

Air conditioners have the biggest impact on electricity usage and summer bills, especially during peak hours.

If your home cools easily and can maintain a consistent temperature for 2-3 hours, try pre-cooling to keep comfortable between 5 p.m. and 8 p.m. Here's an example of thermostat settings to consider:

- If you normally set your thermostat to 78° during the summer, try setting it to 76° from 10 a.m. to 5 p.m.
- Raise the temperature to 80° from 5 p.m. to 8 p.m. and **use fans to help you feel cooler**. Remember, you'll save 5-10% on cooling costs for every 2° you turn your thermostat up.
- Set your thermostat back to 78° after 8 p.m.



Enjoy your summer while reducing your energy use during peak hours. It can help keep your summer electricity bills low. Plus, it's good for the environment and the power grid, too!

[See more energy savings tips](#)

Find instant rebates on energy efficient products, including programmable and smart thermostats, at [SMUEnergyStore.com](https://www.smuenergy.com).



Thank you

Edy MacDonald - LinkedIn