

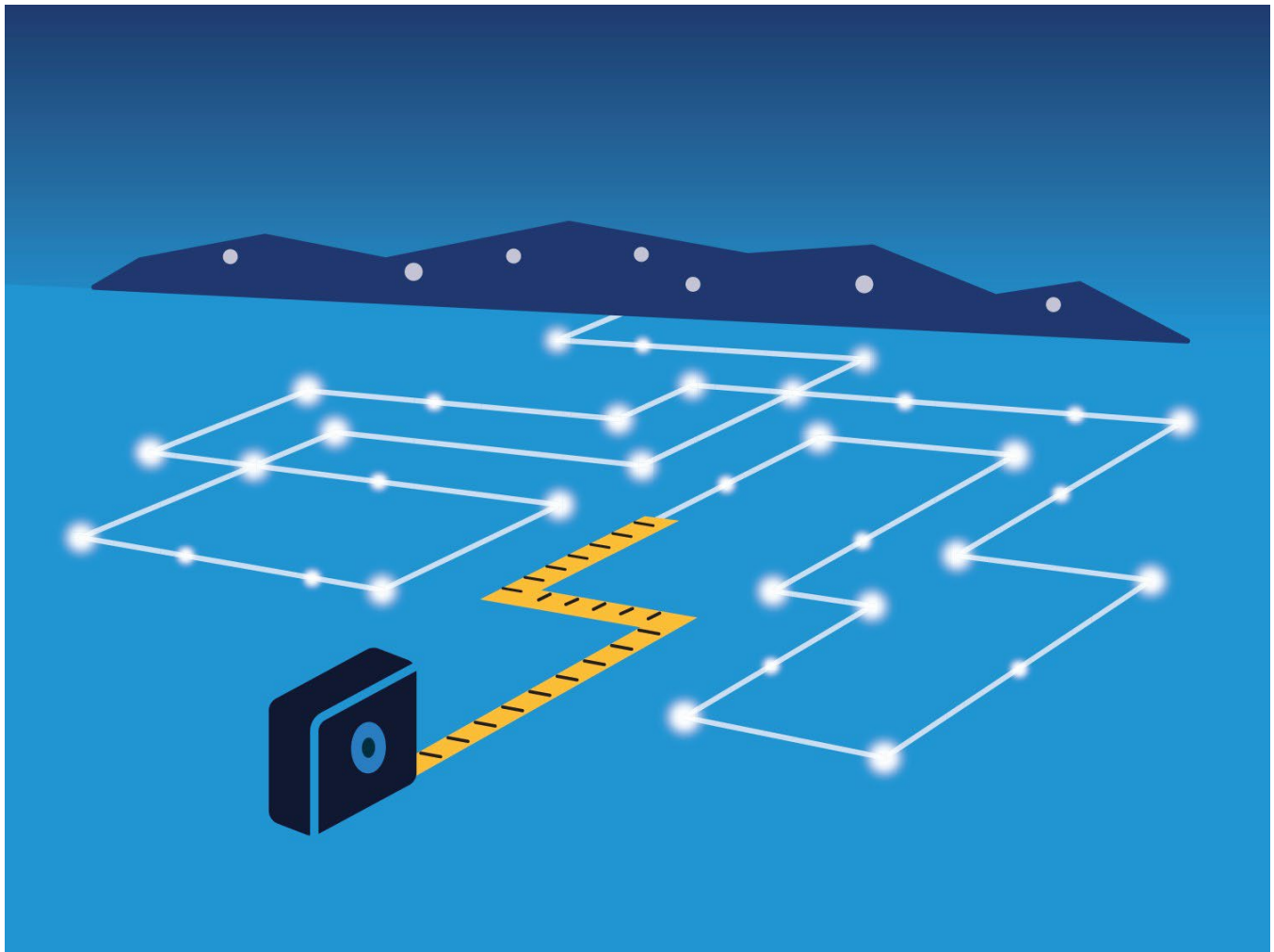


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Marketing, Education & Outreach Effectiveness Study: 2021 Annual Performance Report

Appendices

December 8, 2022



APPENDIX A. DATA COLLECTION INSTRUMENTS

Energy Upgrade California Effectiveness Study: Draft CBO Interview Guide

April 29, 2021

Instrument Information

Table 1 includes key characteristics about the instrument.

Table 1. Overview of Data Collection Activity

| Descriptor | This Instrument |
|-----------------------------|---|
| Instrument Type | In-depth interview |
| Estimated Time to Complete | 30-40 minutes |
| Population Description | Community Based Organizations (CBOs) active in the EUC campaign who agreed to an interview in our 2021 survey or who have received EUC grants |
| Sampling Strata Definitions | 2/3 rd have Tier 1 grants, 1/3 rd have Tier 2 grants, equal proportion of classifications |
| Completion Goal(s) | 12 |
| Contact List Source | DDC |
| Type of Sampling | Purposive by grant tier, classification, or prior interest in completing an interview |
| Contact Sought | Person most knowledgeable about CBO activities with EUC |
| Incentive Types and Amounts | \$25 gift card |
| Outreach Methods | Email |
| Fielding Firm | Opinion Dynamics |

Research Objectives Information

Table 2 maps the research objectives and questions to specific questions in the instrument.

Table 2. Research Objectives and Associated Questions

| Research Objective/Question | Associated Instrument Questions |
|--|---------------------------------|
| Retrospective – what has occurred, how they’ve been involved | Q1-Q13 |
| Prospective – capacity and willingness for future engagement | Q14-Q17 |

Program Description

Energy Upgrade California is the statewide marketing campaign. One way that EUC is attempting to connect with low-income and hard-to-reach customers is by partnering with CBOs. The goal of these interviews is to

support the assessment of the effectiveness of these partnerships, their impact on reaching hard-to-reach customers, and the future of energy efficiency messaging independent of EUC.

Outreach Materials

INVITATION EMAIL

Hello <Name>,

I'm contacting you on behalf of the California Public Utilities Commission (CPUC). My firm is working with the CPUC to assess the Energy Upgrade California marketing campaign. We understand your organization [INSERT IF GRANT RECIPIENT: received a grant from Energy Upgrade California and] is helping the campaign connect with Californians like those your organization serves. As part of our evaluation, we're speaking with people like you to hear your perspectives about the Energy Upgrade California campaign. As a thank you for your time, I will send you a \$25 gift card after our conversation.

I'd like to schedule a time to talk over the phone in the next week or two. We'll need about 30 to 40 minutes to cover all the questions. The questions allow me to learn more about your organization and the constituents you serve, learn about your activities in support of the campaign, and hear your thoughts on what's working well and what might be improved. We'd also like to know your level of interest in continuing energy-related messaging long-term. Everything you say is confidential and not tied to your name or organization's name in what we report to the CPUC.

Please let me know when you have availability within the next two weeks. I'm also happy to answer any questions you may have about this research.

I look forward to chatting with you soon,

Natalie Fortman

Instrument

Introduction

Hi [FIRST NAME]. This is _____ from Opinion Dynamics, calling to chat about your involvement with Energy Upgrade California. Is now still a good time to talk?

Great. As I mentioned in my outreach, my questions cover your organization, your activities in support of the EUC campaign, and your thoughts on continuing energy outreach long-term. I'll be taking notes as we talk, but I'd like to record the conversation to help with my notetaking. Is that okay with you?

Do you have any questions for me before we begin?

Retrospective

Q1. Let's begin with you. What is your title and role within your organization?

1. How long have you been in this position?
 2. What role have you played related to the Energy Upgrade California campaign?
- Q2. Please describe your organization's mission and the types of Californians you serve.
- Q3. From your perspective, how does the mission of EUC align with your organization's own mission? [IF NEEDED: As a statewide initiative, the Energy Upgrade California campaign unites organizations and communities in saving energy and increasing energy efficiency. They provide tools, knowledge, and inspiration to help Californians better manage their energy use for the future of California.]
1. How does your level of activity on EUC compare with the other causes and issues your organization is focused on?
- Q4. Briefly, how did the COVID pandemic affect your organization and its operations?
- Q5. Tell me about how your organization has been involved with Energy Upgrade California to date.
1. [If unclear] How long has your organization been involved with EUC?
 2. [If unclear] What activities have you done in partnership with EUC? [PROBE: distribute newsletters, share EUC posts on social media, **partner on events**, provide digital toolkits to members, distribute physical materials, etc.]
- Q6. [If event mentioned in Q5] Tell me a little bit about the event(s) your organization hosted with EUC, what did you do? [Probe for event description and EUC/CBO's role]
1. What are your thoughts about how that went? [Probe: getting it scheduled, relevance of info, attendee level, etc.]
- Q7. What EUC resources have been most useful in addressing your constituent's energy-related needs?
1. Which resources have been the least useful? Why?
 2. [IF NOT CLEAR] What types of energy-related information or assistance is most helpful for your constituents? [Probe for 0% financing for small businesses]
- Q8. [ASK IF NEWSLETTER STATUS UNKNOWN] Have you received the emailed newsletters from EUC?
1. [IF YES] Do you forward the EUC newsletter to your constituents? [Probe for frequency]
 2. [IF YES] What is the open rate, if you know it?
- Q9. [ASK If NEWSLETTER STATUS IS UNHELPFUL AND NOT ALREADY MENTIONED] You indicated in our recent survey that you distribute the EUC newsletter to your constituents, but you did not find it particularly helpful. Please tell me a little bit about why that is.
- Q10. What sort of benefits has your organization seen as a result of partnering with EUC, if anything?
1. Due to your involvement with EUC, would you say your constituents view your organization as a trusted resource for energy information? Why or why not?
- Q11. What challenges has your organization experienced while working with EUC, if any?

- Q12. What more, if anything, could the EUC campaign do to help your constituents better manage their energy use? [PROBE: Hosting events/webinars tailored to your constituents' needs, providing in-language materials, providing community-specific tips or information on energy efficiency, etc.]
- Q13. [ASK GRANT RECIPIENTS] I understand you applied for and received a grant from Energy Upgrade California. Tell me about the project you planned.
1. How's it going so far?
 2. How have your members/constituents responded?

Prospective

For the rest of our conversation, I'd like to focus on the potential for your organization to continue energy messaging longer-term.

- Q14. Absent EUC support, how much interest would your organization have in continuing to educate your constituents about energy-saving actions and energy management tools and resources? Why do you say that?
- Q15. And how much capacity (e.g., staff, funding, educational resources) does your organization have to continue these efforts absent external support and resources?
1. Would it be easier for your organization to provide energy messaging in an ongoing manner, year-round compared to providing messaging at only at critical times, like during heatwaves?
- Q16. What, if anything, would make your organization more likely to distribute energy-saving tips and messaging independent of EUC?
- Q17. What support would your organization need to allow you to provide energy messaging on an ongoing basis? [Probe: information, resources, templates]
1. How about during heat waves, what support would your organization need to provide energy messaging at critical times like that?

Closing

- Q18. Those are all the questions I have for you today. Is there anything else about your organization's involvement in EUC or the energy-related needs of your constituents you think is important for me to know?
- Q19. Is the email we've been communicating at a good one to send the gift card to?

CPUC ME&O: Diary Study Moderation Guide

May 17, 2021

Instrument Information

Table 1 includes key characteristics about the instrument.

Table 1. Overview of Data Collection Activity

| Descriptor | This Instrument |
|-----------------------------|--|
| Instrument Type | Other: Diary Study Moderation Guide |
| Estimated Time to Complete | 8 days; 20 minutes each day, Target field date: 6/08/2021 |
| Population Description | California Residents |
| Completion Goal(s) | Recruit 25, goal 20 completes |
| Type of Sampling | Purposive 2 yr+ resident of CA, spread across geographical region, renter/owner, age, and race/ethnicity |
| Incentive Types and Amounts | \$250 for completing all 8 days |
| Fielding Firm | Opinion Dynamics |

Research Objectives Information

Table 2 maps the research objectives and questions to specific questions in the instrument.

Table 2. Research Objectives and Associated Questions

| Research Objective/Question | Associated Instrument Questions |
|--|--|
| 1. What prompts Californians to think about energy in their daily lives? In times of crisis | Q7, Q26 |
| 2. How do customers think about the need to save energy in their daily lives and how does it differ in times of crisis? | Q43, Q46, Q47, Q54, Q73 Q77, |
| 3. Where are Californians seeing or hearing energy messaging during times of crisis? | Q31A, Q31B |
| 4. What motivates Californians to take energy savings actions and how does that differ in times of crisis? | Q50, Q51, Q54, Q55 |
| 5. How do Californians prioritize energy conservation with other needs in times of crisis? | Q54 |
| 6. How does experiences with energy emergencies impact Californians' decisions to purchase energy-saving appliances and equipment, especially heat pump technologies? | Q43, Q44, Q75, Q76 |
| 7. How do we effectively communicate to Californians about energy every day? What needs to change when communicating in times of crisis? How do Californian's differentiate these messages, if at all? | Q33, Q34, Q35, Q36, Q38, Q39, Q64, Q65, Q66A, Q65,Q70, Q71, Q72, |

Programmer Information

The variables listed in Table 3 are from the sample, database, or other external data source. The variables listed in Table 4 are to be generated/calculated within the instrument.

Table 3. Variables from Sample or Database

| Variable Name | Variable Description and Values |
|---------------|--|
| SINGLE-FAMILY | 1 = lives in single-family home, 0 = lives in other type of home |
| APT/CONDO | 1 = lives in apartment or condo, 0 = lives in other type of home |
| RENTER | 1 = rents home, 0 = owns home |

Table 4. Variables generated internally

| Variable Name | Variable Description and Values |
|---------------|--|
| EV | 1 = owns EV, 0 = does not own EV, created from Q3e |
| OUTAGE | 1 = experienced a power outage, 0 = has not experienced power outage, created from Q43 |
| | |

Day 1: Get to Know You Survey

Welcome to Day 1 of the CPUC Energy Diary Study.

Today's activity is an online survey. Click the arrow below to start.

- Q1. For Day 1, we'd like to get to know you a bit better and some basics about your home. When we use the word "home," we are referring to the place you live including houses, apartments, condominiums, etc.

Please tell us who lives in your home **and** their ages. For example: "my son, age 3" or "my roommate, age 24."

1. [FORCED RESPONSE] Yourself:
2. [OPEN-END TEXT BOX]
3. [OPEN-END TEXT BOX]
4. [OPEN-END TEXT BOX]
5. [OPEN-END TEXT BOX]
6. [OPEN-END TEXT BOX]
7. [OPEN-END TEXT BOX]
8. [OPEN-END TEXT BOX]

[FORCED RESPONSE]

Q2. Do you have any pets living with you?

1. Yes
2. No

[IF Q2 = 1 ELSE SKIP]

Q2A. Please tell us what kind of animal and how many. If your pet is fish, please tell us how many tanks you have and not individual fish. *If you have more than five pets living with you, please prioritize the animal type you have the most of or only include those that live indoors.*

- | | | |
|----|---------------|---------|
| 1. | Pet 1 animal: | Number: |
| 2. | Pet 2 animal: | Number: |
| 3. | Pet 3 animal: | Number: |
| 4. | Pet 4 animal: | Number: |
| 5. | Pet 5 animal: | Number: |

Thanks for your work on the report!

Q3. Now we would like to know about the appliances and technologies you might have at your residence.

[SINGLE RESPONSE: SCALE]

| Items | 1. I have this | [DISPLAY IF APT/CONDO =1]2. My apartment/condo building has this, but I do not | 3. I don't have this | 98 Don't know |
|--|----------------|--|----------------------|---------------|
| A. Refrigerator | | | | |
| B. Standalone freezer (separate from refrigerator) | | | | |
| C. TV | | | | |
| D. Laptop or desktop computer | | | | |
| E. An all-electric battery electric vehicle (BEV) | | | | |
| F. A plug-in hybrid electric vehicle (PHEV) that can be plugged in to charge the battery | | | | |
| G. Gas-powered vehicle (non-EV) | | | | |
| H. Central air conditioning (AC) | | | | |

| | | | | |
|---|--|--|--|--|
| I. Window-AC, room AC, or evaporative or swamp cooler | | | | |
| J. Tankless water heater | | | | |
| K. Tanked, storage water heater | | | | |
| L. Solar panels | | | | |
| M. Smart thermostat (like a NEST or Ecobee) | | | | |
| N. Back-up generator | | | | |

Q4. Do you have any medical devices that are powered by electricity or rechargeable batteries at your residence? Examples include breathing machines such as a respirator or ventilator, oxygen-related equipment, suction devices like a breast pump, home dialysis equipment, or mobility devices such as a power wheelchair.

1. Yes
2. No

Q5. [If Q4 = 1] Please tell us what medical device(s) you have and how often they are used? As a reminder, answers you share are confidential and will not be attributed to your name.

1. Device #1 [FORCED RESPONSE]
2. Device #2 [OPEN-END TEXT BOX]
3. Device #3 [OPEN-END TEXT BOX]
4. Device #4 [OPEN-END TEXT BOX]
5. Device #5 [OPEN-END TEXT BOX]

Q6. [MULTIPLE RESPONSE, PIPE IN ANSWERS FROM Q1 FOR ITEM OPTION]

Please indicate which individuals of your household are home during the typical workday?

[INSERT CHECK BOXES, MULTIPLE RESPONSE]

| Items | Home | Out of the home |
|--|------|-----------------|
| [PIPE-IN Q1.1 RESPONSE] | | |
| PIPE-IN Q1.2 RESPONSE; DISPLAY IF Q1.2 IS NOT BLANK] | | |
| PIPE-IN Q1.3 RESPONSE; DISPLAY IF Q1.3 IS NOT BLANK] | | |

| | | |
|---|--|--|
| PIPE-IN Q1.4 RESPONSE; DISPLAY IF Q1.4 IS NOT BLANK] | | |
| PIPE-IN Q1.5 RESPONSE; DISPLAY IF Q1.5 IS NOT BLANK] | | |
| PIPE-IN Q1.6 RESPONSE; DISPLAY IF Q1.6 IS NOT BLANK] | | |
| [PIPE-IN Q1.7 RESPONSE; DISPLAY IF Q1.7 IS NOT BLANK] | | |

Q7. What words come to mind when we say “**energy**?” There are no right or wrong answers. We just want to get your immediate reaction. Please enter up to five words.

1. [OPEN-END TEXT BOX]
2. [OPEN-END TEXT BOX]
3. [OPEN-END TEXT BOX]
4. [OPEN-END TEXT BOX]
5. [OPEN-END TEXT BOX]

Q8. What words come to mind when we say “**energy conservation**?” Again, there are no right or wrong answers. We just want to get your immediate reaction.

1. [OPEN-END TEXT BOX]
2. [OPEN-END TEXT BOX]
3. [OPEN-END TEXT BOX]
4. [OPEN-END TEXT BOX]
5. [OPEN-END TEXT BOX]

Q9. How knowledgeable would you say you are about ways to save energy in your home?

1. Not at all knowledgeable
2. A little knowledgeable
3. Somewhat knowledgeable
4. Moderately knowledgeable
5. Very knowledgeable

Q10. [MULTIPLE RESPONSE] Do you use any of the following energy sources at your home?

1. Natural gas
2. Propane
3. Diesel or kerosene
4. Wood or pellets (for a wood or pellet stove or a fireplace)
0. Other, please specify: [OPEN-ENDED RESPONSE]
97. None of the above – I only have electricity [EXCLUSIVE]
98. Don't know [EXCLUSIVE]

Q11. Do you pay your electricity bill or does someone else?

1. I pay my electricity bill
2. My landlord or someone else pays my electricity bill
3. Other, please specify:

Q12. Who provides electric service to your home?

1. Pacific Gas and Electric Company (PG&E)
2. Southern California Edison (Edison/SCE)
3. San Diego Gas & Electric (SDG&E)
96. Another provider, please specify: [OPEN-ENDED RESPONSE]
98. Don't know

Q13. Who provides gas service to your home?

1. Pacific Gas and Electric Company (PG&E)
2. Southern California Gas (SoCalGas/SCG)
3. San Diego Gas & Electric (SDG&E)
4. Southern California Edison (Edison Catalina)
96. Another provider, please specify: [OPEN-ENDED RESPONSE]
97. None, don't have gas
98. Don't know

Q14. [SINGLE RESPONSE] [ASK IF Q11=1] Do you pay more for the electricity you use at certain times of the day – known as a Time of Use rate?

1. Yes
2. No
3. Don't know

Q15. How concerned are you about energy shortages in California this summer?

1. Not at all concerned
2. Slightly concerned
3. Somewhat concerned
4. Moderately concerned
5. Extremely concerned

Q16. How concerned are you about water shortages in California this summer?

1. Not at all concerned
2. Slightly concerned
3. Somewhat concerned
4. Moderately concerned
5. Extremely concerned

Q17. How concerned are you about wildfires in California this summer?

1. Not at all concerned
2. Slightly concerned
3. Somewhat concerned
4. Moderately concerned
5. Extremely concerned

Q18. How concerned are you about the possibility of power blackouts and/or brownouts this summer?

1. Not at all concerned
2. Slightly concerned
3. Somewhat concerned
4. Moderately concerned
5. Extremely concerned

Q19. The following statements reflect feelings that you may have about energy use and conservation. Please rate your level of agreement or disagreement with the following statements. **[RANDOMIZE a through i]**

| | 1. Strongly Agree | 2. Somewhat Agree | 3. Neither Agree nor Disagree | 4. Somewhat Disagree | 5. Strongly Disagree | Don't know |
|--|-------------------|-------------------|-------------------------------|----------------------|----------------------|------------|
| a. Climate change is a problem that deserves attention | | | | | | |
| b. Climate change is really just a hoax propelled by politics and the media | | | | | | |
| c. I have a personal responsibility to conserve energy | | | | | | |
| d. Energy conservation is part of the California way of life | | | | | | |
| e. I believe that my energy provider wouldn't ask me to save electricity unless they really needed me to | | | | | | |
| f. I know where to look to find information about ways to save energy | | | | | | |
| g. I have taken all of the energy conservation actions possible | | | | | | |
| h. I am interested in learning about additional ways to save energy | | | | | | |
| i. My actions have more impact if I reduce my electricity usage at the times when everyone else is using electricity | | | | | | |

Q20. What is the approximate square footage of your home? *Your best estimate is fine.*

1. Less than 500 square feet
2. 500 – 999 square feet
3. 1000 - 1499 square feet
4. 1500 - 1999 square feet
5. 2000 - 2499 square feet
6. 2500 – 2999 square feet
7. 3000 + square feet

[ASK ALL]

Q21. [CAID1] How important is being a Californian to your identity?

[SINGLE RESPONSE]

1. Extremely important
2. Moderately important
3. Somewhat important
4. Slightly important
5. Not at all important

[ASK ALL]

Q22. [CAID2] How much do you feel strong ties to Californians as a group?

[SINGLE RESPONSE]

1. A great deal
2. Quite a bit
3. Somewhat
4. A little
5. Not at all

[ASK IF SINGLE-FAMILY =1]

Q23. Approximately when was your house built? *Your best estimate is fine.*

2. Before 1977
3. 1978-1993
4. 1994-2015
5. After 2016

98. Don't know

Q24. What was your total household income in 2020? *Your best estimate is fine.*

1. Less than \$10,000
2. \$10,000 – \$19,999
3. \$20,000 – \$29,999
4. \$30,000 – \$39,999
5. \$40,000 – \$49,999
6. \$50,000 – \$69,999
7. \$70,000 – \$99,999
8. \$100,000 – \$149,999
9. \$150,000 – \$199,999
10. \$200,000 – \$249,999
11. \$250,000 or more
99. Prefer not to say

Q25. *That's it! You're done with day one.*

Here's some important instructions for tomorrow: We will want to know when you think about energy and what prompts you to think about energy. We will ask you to enter this data 3 times tomorrow. To help with those 3 entries, starting when you wake up tomorrow, please make a note of every time

you think about energy. Write down on a piece of paper or make notes in your phone of what prompted you to think about energy.

We will still send you the link with the day's instructions tomorrow and will send 3 reminder text messages* but wanted to let you know what to expect.

*Message and data rates may apply.

End of survey message: Diary Days 1-7

Thank you for your diary entry today - your responses have been recorded.

We will send you an email tomorrow with a link to the day's activities. We look forward to hearing from you again tomorrow.

You can leave this webpage or close your browser.

Day 2: Energy on my mind

Q26. Welcome to Day 2 of the CPUC Energy Diary Study!

Today, we want to know when you think about energy and what prompts you to think about energy. Anytime you think about energy or how an action may influence the energy used in your household throughout the day, please let us know what caused you to think about energy and how you're feeling about it. Please also take and upload photos of what caused you to think about energy. We will also be sending reminders. To clarify, we mean energy that powers things in your home like electricity and gas, not things that give you energy like coffee or exercise.

Q27. Morning (waking up until noon): [Q27 – Q29 OPEN-ENDED RESPONSE + PICTURE UPLOAD ABILITY]

1. Describe what you saw, read, heard, or thought about energy in this timeframe. Please write up to a few paragraphs. [OPEN-END]
2. How did this make you feel? Please write a paragraph. [OPEN-END]
3. Please upload any photos of what caused you to think about energy. [PHOTO UPLOAD]

Q28. Afternoon (noon to 4pm)

1. Describe what you saw, read, heard, or thought about energy in this timeframe. Please write up to a few paragraphs. [OPEN-END]
2. How did this make you feel? Please write a paragraph. [OPEN-END]
3. Please upload any photos of what caused you to think about energy. [PHOTO UPLOAD]

Q29. Night (4pm to 9pm)

1. Describe what you saw, read, heard, or thought about energy in this timeframe. Please write up to a few paragraphs. [OPEN-END]
2. How did this make you feel? Please write a paragraph. [OPEN-END]
3. Please upload any photos of what caused you to think about energy. [PHOTO UPLOAD]

End of survey message: Diary Days 1-7

Thank you for your diary entry today - your responses have been recorded.

We will send you an email tomorrow with a link to the day's activities. We look forward to hearing from you again tomorrow.

You can leave this webpage or close your browser.

Day 3: What energy messaging have you seen?

Welcome to Day 3 of the CPUC Energy Diary Study! Today's activities contain a follow up from yesterday and some questions about energy messaging you may have seen.

- Q30. During Day 2, you let us know all the times you thought about energy from waking up till 9pm. We are also curious about the timeframe after that - from 9pm to bedtime. If you were still awake, please let us know if you thought about or used energy after 9pm.
1. Describe what you saw, read, heard, or thought about energy in from 9pm to bedtime. Please write up to a few paragraphs. [OPEN-END]
 2. How did this make you feel? Please write a paragraph. [OPEN-END]
 3. Please upload any photos of what caused you to think about energy. [PHOTO UPLOAD]

[FORCED RESPONSE]

Q31. Ok, now we are going to switch focus.

Q31A. Please list up to 10 organizations or groups that you know which provides energy information. They can be public (governmental) agencies, private companies, non-profit organizations, initiatives, or community groups. One might be your energy utility. Feel free to come back to this question if you think of any later.

1. [OPEN-ENDED RESPONSE]
2. [OPEN-ENDED RESPONSE]
3. [OPEN-ENDED RESPONSE]
4. [OPEN-ENDED RESPONSE]
5. [OPEN-ENDED RESPONSE]
6. [OPEN-ENDED RESPONSE]
7. [OPEN-ENDED RESPONSE]
8. [OPEN-ENDED RESPONSE]
9. [OPEN-ENDED RESPONSE]
10. [OPEN-ENDED RESPONSE]

Q31B. Next, please tell us what each organization says or does about energy. Feel free to come back to this question if you think of any later.

1. [PIPE-IN Q31A.1 RESPONSE]
2. [PIPE-IN Q31A.2 RESPONSE; DISPLAY IF Q31A.2 IS NOT BLANK]
3. [PIPE-IN Q31A.3 RESPONSE; DISPLAY IF Q31A.3 IS NOT BLANK]
4. [PIPE-IN Q31A.4 RESPONSE; DISPLAY IF Q31A.4 IS NOT BLANK]
5. [PIPE-IN Q31A.5 RESPONSE; DISPLAY IF Q31A.5 IS NOT BLANK]
6. [PIPE-IN Q31A.6 RESPONSE; DISPLAY IF Q31A.6 IS NOT BLANK]
7. [PIPE-IN Q31A.7 RESPONSE; DISPLAY IF Q31A.7 IS NOT BLANK]
8. [PIPE-IN Q31A.8 RESPONSE; DISPLAY IF Q31A.8 IS NOT BLANK]
9. [PIPE-IN Q31A.9 RESPONSE; DISPLAY IF Q31A.9 IS NOT BLANK]
10. [PIPE-IN Q31A.10 RESPONSE; DISPLAY IF Q31A.10 IS NOT BLANK]

Q32.

How likely do you think you are to see or hear messages about saving energy from the following sources? Please make your best guess even if you do not listen to the radio or read print newspapers, for example. [RANDOMIZE] [Response options: Very likely, Somewhat likely, Not likely]

1. Your utility bill
2. Email
3. TV
4. Online streaming platforms with ads, like YouTube, Vimeo, etc.
5. Radio
6. Print newspaper
7. Print magazine
8. Online newspaper
9. Online magazine
10. Social media like Facebook, Twitter, Instagram, TikTok, etc.
11. contractor advertisements
12. In-store messaging, such as at Home Depot, Lowes, etc.
13. Out-of-house ads such as billboards or bus stops.

Q33. How do you prefer to receive information about ways to save energy? Please select your top three choices from the options below. [RANDOMIZE] [Response options: First choice, Second choice, Third choice]

1. Your utility bill
2. Email
3. TV
4. Online streaming platforms with ads, like YouTube, Vimeo, etc.
5. Radio
6. Print newspaper
7. Print magazine
8. Online newspaper

9. Online magazine
10. Social media like Facebook, Twitter, Instagram, TikTok, etc.
11. Contractor advertisements
12. In-store messaging, such as at Home Depot, Lowes, etc.
13. Out-of-house ads such as billboards or bus stops

[Program Q34, Q35, Q36, Q37 on same page]

For this next set of questions, think about who you would want to hear from in regard to energy-related topics and energy emergencies. They could be specific persons, companies, organizations, or government agencies.

- Q34. Who do you want to hear from about energy related topics in general? You can include more than one! [OPEN-ENDED RESPONSE]
- Q35. What is it about these persons, organizations, agencies that makes them who you'd want to hear from? Please write a few sentences. [OPEN-ENDED RESPONSE]
- Q36. Who do you want to hear from about energy emergencies? You can include more than one! [OPEN-ENDED RESPONSE]
- Q37. What about this person/organization/entity makes them who you'd want to hear from in an emergency? Please write a few sentences. [OPEN-ENDED RESPONSE]
- Q38. Do you have a fun image about energy that you can share with us? Whether it's a meme, picture on a website, or a photo you took? If you do not already have an image, please locate one you particularly like.

Here are two of ours:



Please upload your image. [Image Upload]

Q38B Tell us what you like about the image you uploaded. Please write a couple sentences.

End of survey message: Diary Days 1-7

Thank you for your diary entry today - your responses have been recorded.

We look forward to hearing from you again tomorrow.

Day 4: Power Outages

Welcome to Day 4 of the CPUC Energy Diary Study! Today's activities are all about power outages.

Q39. Let's pretend you hear from a friend or family member that a power outage might occur in your area on Monday that could last all day. Imagine it will be a pretty hot day for your area. *Please be as specific as possible while answering this next set of questions.*

1. What do you think about? [OPEN-ENDED RESPONSE]
2. What questions do you have? [OPEN-ENDED RESPONSE]
3. What information would be helpful for you? [OPEN-ENDED RESPONSE]
4. Where would you go or what would you do to find out answers to your questions? (Such as websites or google searches, TV or radio, emergency alerts, calls to your utility, etc.) [OPEN-ENDED RESPONSE]
5. How would you prepare for the power outage? [OPEN-ENDED RESPONSE]
6. What would you do differently on Monday because of the power outage? [OPEN-ENDED RESPONSE]

Q40. When an unplanned power outage occurs in your neighborhood, who could be at fault?

1. [OPEN-ENDED RESPONSE]

Q41. How likely do you think a power outage is in your area in the next six months?

1. Extremely likely
2. Very likely
3. Somewhat likely
4. A little likely
5. Not at all likely

Q42. [DISPLAY ON SAME PAGE AS Q41] Please tell us why you gave that rating.

1. [OPEN-ENDED RESPONSE]

Q43. [DISPLAY ON NEW PAGE] Have you ever experienced a power outage while living in California?

1. Yes

2. No

Q44. [ASK IF Q43= 1] Please tell us about the power outage and be as specific as possible. If you've experienced more than one, you can choose the most recent one or the one that is most memorable. Here's some things we'd like to know:

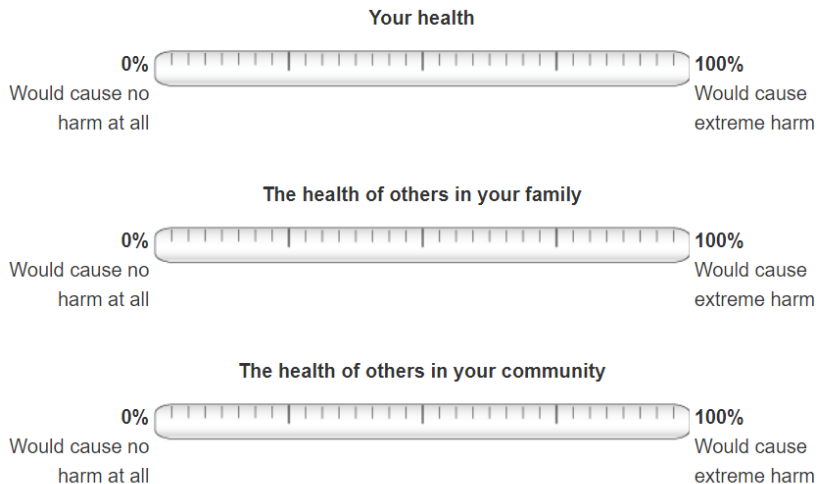
1. How long was the power out for? [OPEN-ENDED RESPONSE]
2. Do you know what caused the power to go out? If so, what was it? [OPEN-ENDED RESPONSE]
3. What did you do during that time? [OPEN-ENDED RESPONSE]
4. What *couldn't* you do during this time that you wanted to do? [OPEN-ENDED RESPONSE]
5. When your power was out, was it more of an *inconvenience* or an *emergency* to you? What made it feel that way? [OPEN-ENDED RESPONSE]
6. Have you made any changes to how you live your life because of this experience? [OPEN-ENDED RESPONSE]
7. Is there anything else you want us to know about this experience? [OPEN-ENDED RESPONSE]

Q45. [ASK IF Q43= 2] Since you haven't personally experienced a power outage, here's a thought exercise: Tell us what would be **inconvenient** for you if the power went out and what would be an **emergency** for you if the power went out? You can think about the duration of the power outage, what you can and cannot do, and how that would make you feel. Please write a paragraph.

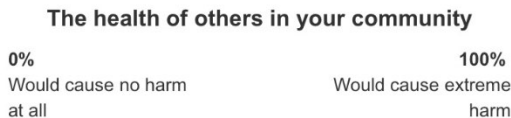
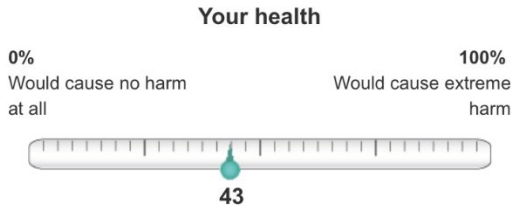
1. [OPEN-ENDED RESPONSE]

A heat wave is a period of unusually and uncomfortably hot weather. Heat waves can result in power outages because the extremely hot weather increases electricity demand, sometimes beyond available supply. This usually happens in the evening hours when solar generation is going offline and people are switching on air conditioners, lights, and appliances.

If a **power outage** due to a heat wave were to occur in your local area, how much, if at all, do you think it would **harm** the following?



If a **power outage** due to a heat wave were to occur in your local area, how much, if at all, do you think it would **harm** the following?



- Q46. [SLIDER QUESTION] If a **power outage** were to occur in your local area, how much, if at all, do you think the lack of electricity would harm the following? [Slider bar from 0 – 100 with response options anchored at 0% (“Would cause no harm at all”) to 100% (“Would cause extreme harm”).]
- A. Your health
 - B. The health of others in your family, including any pets you may have
 - C. The health of others in your community
- Q47. [SLIDER QUESTION] How worried, if at all, are you about the effects a **power outage** on the following? [Response options : 0 (“Not worried at all”) to 100 (“Extremely worried”).]
- A. Your health
 - B. The health of others in your family, including any pets you may have
 - C. The health of others in your community
- Q48. **Heat waves** can affect households in multiple ways. Please indicate the likelihood that each of the following would occur in your household if a heat wave happened in your area. [MATRIX]
- a. A household member’s medical condition or disability would worsen and/or need attention
 - b. Our home would get too hot to keep it comfortable
 - c. We would leave our home for someplace cooler to stay
 - d. We would struggle to pay the power bill(s)
 - e. We would have trouble sleeping at night
 - f. We would not be able to cook inside
1. Extremely likely
 2. Very likely

- 3. Somewhat likely
- 4. A little likely
- 5. Not at all likely
- 97. Not applicable to my household
- 99. Prefer not to say

Q49. [E2] **Power outages** can affect households in multiple ways. Please indicate the likelihood that each of the following would occur in your household if a power outage 24 hours or longer happened in your area. *If you have a generator that protects against power outages, consider that your generator also stopped working.* [RANDOMIZE]

- a. Important medical devices or equipment would no longer work
- b. One or more household members may need medical attention or treatment
- c. We would get too hot in the summer or too cold in the winter
- d. We would leave our home for someplace with electricity
- e. We would not be able to cook or prepare food at home
- f. We would struggle to replace any spoiled food
- g. We would lose work, work hours, or remote school work time

- 1. Extremely likely
- 2. Very likely
- 3. Somewhat likely
- 4. A little likely
- 5. Not at all likely
- 6. 97. Not applicable to my household
- 7. 99. Prefer not to say

You're done for the day! Have a great weekend and we'll send you a link to Day 5's activity on Monday morning! Please close your browser window.

Day 5: Energy-Saving Actions

Welcome to Day 5 of the CPUC Energy Diary Study. Today we're going to continue the conversation about power outages and talk about ways to save energy.

Q50. [SINGLE RESPONSE] What are your thoughts about what people should do to help prevent a power outage? Please pick the answer that most closely reflects your beliefs.

On hot days when energy demand is predicted to exceed energy supply and a power outage may occur....

- 1. Everyone should continue to use energy the way they want.
- 2. Everyone should do their part, such as turning lights off when not needed or unplugging items when not in use, **but only if it's not too much of an inconvenience.**
- 3. Everyone should do their part, such as precooling your home or avoiding running large appliances like the washing machine or dishwasher, **even if it's an inconvenience.**

Q51. [DISPLAY ON SAME PAGE AS Q50] Please explain your answer about the effort you think people should take to help prevent a power outage.

1. [OPEN-ENDED RESPONSE]

[Program Q52 and Q53 on same page]

Q52. To the best of your knowledge, what are Public Safety Power Shut-offs (PSPS)?

1. [OPEN ENDED RESPONSE]

Q53. How are Public Safety Shut-offs different from Flex Alerts, if at all? If you don't know, just make your guess!

1. [OPEN ENDED RESPONSE]

Q54. Do you already do or to what extent would you do each of the activities listed below? [RANDOMIZE]
[Response options: I do this already, I might do this, I'd only do this if there was a threat of a power outage, I'd never do this, Not applicable to my household or home]

1. Use a fans rather than an air conditioner on hot days.
2. Sign up for a Time-of-Use electricity rate.
3. Turn your thermostat to 78 degrees on hot days.
4. Allow my utility company to remotely adjust my water heater temperature.
5. Allow my utility company to remotely adjust my air conditioner temperature.
6. Do my laundry before 4pm or after 9pm.
7. Only use my air conditioner before 4pm.
8. Run my dishwasher before 4pm or after 9pm.
9. Use screen savers, screen dimmers, or standby mode.
10. Adjust blinds, drapes, and/or shades on windows to block out sunlight on hot days.
11. Buy an energy efficient air conditioner.
12. Get a home energy assessment to identify opportunities to save energy
13. Turn off all unnecessary lights
14. Unplug items when not in use (such as a toaster or cell phone charger)
15. Reduce my energy use when asked by my utility, to receive an incentive.
16. Reduce the temperature on your water heater
17. Clean or change filters in your furnace/air conditioner regularly
18. Enroll in an energy efficiency program through your local utility
19. Turn your power strips off when the equipment plugged into them is not in use
20. Air-dry your dishes instead of using your dishwasher's drying cycle
21. Only run full loads of dishes in the dishwasher
22. Only run full loads of clothes in the washing machine
23. Wash clothes in cold water
24. Turn lights off when you leave the room for 15 minutes or more
25. Take short showers instead of baths
26. Keep windows and doors closed when heating or cooling your home

Q55. How much energy do you think the following activities will save? *Please provide your best estimate, even for any activities that does not apply to your household.* [repeat items from above questions]
 Response options: A lot of energy, Some energy, A little to no energy]

[Program Q56 – Q58 on same page]

Q56. Think about what you typically do during the hours of 4 to 9pm.

What types of things do you typically do that require energy use or that require a battery that’s charged with energy? Please describe the activities in a few sentences.

Q57. What uses the most energy, of those activities you described?

Q58. What difficulties, if any, might you experience if you were asked to shift those typical activities to either before 4pm or after 9pm? Please write a couple of sentences explaining the difficulties.

Q59. [ASK IF EV = 1] What difficulties, if any, might you experience if you were asked to avoid charging your plug-in hybrid electric vehicle during the hours of 4pm to 9pm to reduce the chance of a power outage? Please write a couple of sentences explaining the difficulties.

Q60. [ASK IF EV = 1] Can you tell us about any special electricity rates you have signed up for, or considered, because of your plug-in hybrid electric vehicle? Please write a couple of sentences.

End of survey message: Diary Days 1-7

Thank you for your diary entry today - your responses have been recorded.

We look forward to hearing from you again tomorrow.

Day 6: Text highlighting of Flex Alert message

Thanks for joining us again today, on Day 6 of the CPUC Energy Diary Study.

Today we want to further explore energy messaging.

Q61. [BAW2] Below is a list of several brands, organizations, or campaigns. For each one, please tell us if you have heard of it before signing up for this diary study. [FORCE RESPONSE]

[DISPLAY AS A MATRIX, RANDOMIZE ALL ITEMS]

| Response Text | 1 Yes | 2 No |
|------------------------------|-----------------------|-----------------------|
| A. Energy Upgrade California | <input type="radio"/> | <input type="radio"/> |
| B. Go Solar California | <input type="radio"/> | <input type="radio"/> |
| C. ENERGY STAR | <input type="radio"/> | <input type="radio"/> |
| D. Save Our Water | <input type="radio"/> | <input type="radio"/> |

| Response Text | 1 Yes | 2 No |
|--------------------------|-----------------------|-----------------------|
| E. Flex Your Power | <input type="radio"/> | <input type="radio"/> |
| F. Green Deal California | <input type="radio"/> | <input type="radio"/> |
| G. Flex Alert | <input type="radio"/> | <input type="radio"/> |

[ASK IF Q61.G = 2 (HAS NOT HEARD OF FLEX ALERT)]

Q62. Flex Alerts ask people to temporarily reduce electricity use to prevent outages during periods of high demand. Have you ever seen or heard anything about Flex Alerts?

1. Yes
2. No

Q63. [FAU3] [IF Q61 G =1: To the best of your knowledge] [IF Q61.G=2: If you had to guess], which statement is true about Flex Alerts? *Please select one:* [CORRECT ANSWER IS 1] [RANDOMIZE]

Flex Alerts are called when...

1. the power grid operator predicts an increased demand for electricity due to high temperatures which could result in power outages.
2. the power grid operator predicts a decreased demand for electricity, which interrupts the usual balance of electricity supply and demand and could result in power outages.
3. the investors of California utilities are concerned about electricity variations that could reduce positive returns to ratepayers, thus negatively impacting their stock investments.
4. utilities predict that wildfires are likely to impact the reliability of the electric grid and/or specific transmission lines in a region.

Q64. [DISPLAY ON NEW PAGE; SINGLE RESPONSE] [IF Q61 .G=1, ADD "As you may know," TO BEGINNING OF QUESTION] Flex Alerts are one way California's power grid operators send a message to Californians that energy demand is expected to exceed energy supply and a power outage is likely to occur unless people reduce their demand. How willing are you to receive Flex Alert messages that would notify you about a day in advance if a power outage is likely to occur?

1. Not willing at all
2. Somewhat willing
3. Very willing
4. I'm already signed up to receive Flex Alerts

Q65. How would you prefer to be notified about an expected power outage in your area, if at all? *Please select all you prefer.*

1. Phone call
2. Text message
3. Email
4. Other. Please specify: [OPEN-ENDED RESPONSE]
5. I would not want to be notified.

Q66. [TEXT HIGHLIGHTER QUESTION] The following sample text describes a Flex Alert. As you read it, click on or touch the words and phrases you like and dislike. Use the green color to highlight what you like and the red color to highlight what you dislike.

The California Independent System Operator (ISO) has issued a statewide Flex Alert, a call for voluntary electricity conservation, from 3 p.m. to 10 p.m. today.

With hot temperatures in the forecast, the power grid operator is predicting higher than normal electricity demand today, primarily from air conditioning use. Temperatures statewide are forecast to be up to 15-25 degrees above normal for this time of the year today and tomorrow.

The Flex Alert is being called to help with capacity gaps in the system. Consumers are urged to conserve electricity, especially during the late afternoon and early evening, when the grid is most stressed due to higher demand and solar energy production falling.

The conservation measures can help the power grid during a time of tight demand and supply, and avoid power interruptions. Energy reduction during a Flex Alert can prevent further emergency measures, including rotating power outages.

For information on Flex Alerts, to get more electricity conservation tips, and to sign up for conservation alerts, visit the ISO's Flex Alert website. Visit the ISO's News page for more information on the heat wave's impacts on grid operations, and to learn more about alerts, warnings and emergency notices.

Q66A. Lastly, please describe why you highlighted the sections that you did.

1. [OPEN END RESPONSE]

Q67. [HEATMAP QUESTION] The following sample image also describes Flex Alert. Similar to before, we want you to click or touch on the parts of the image that you **like, appeal to you, or are helpful**, and note them below. We'll focus on the parts of the image you may dislike on the next screen. *You can select up to 10 different areas of the image and don't mind the color of the circle that shows up where you click or touch the image.*



Sign up to receive Flex Alerts

What is a Flex Alert? | Ways to conserve | News

! **IN EFFECT: Statewide Flex Alert**
Tuesday, August 18 - Wednesday, August 19 from 3 p.m. - 9 p.m.
[read the news release >>](#)

FROM 3 p.m. - 9 p.m.



Set thermostat to 78° or higher, if health permits



Avoid using major appliances



Turn off all unnecessary lights



Use fans for cooling



Unplug unused items

[More energy saving tips](#)

Q67A. Please describe why the parts of the image were likeable, appealing, or helpful.

1. [OPEN END RESPONSE]

Q67B. This time, please click or touch on the parts of the image that you **dislike, don't appeal to you, or don't seem helpful**, and note them below. *You can select up to 10 different areas of the image and don't mind the color of the circle that shows up where you click or touch the image.*



Sign up to receive Flex Alerts

What is a Flex Alert? | Ways to conserve | News

! IN EFFECT: Statewide Flex Alert
Tuesday, August 18 - Wednesday, August 19 from 3 p.m. - 9 p.m.
[read the news release >>](#)

FROM 3 p.m. - 9 p.m.



Set thermostat to 78° or higher, if health permits



Avoid using major appliances



Turn off all unnecessary lights



Use fans for cooling



Unplug unused items

[More energy saving tips](#)

Q67C. Please describe why the parts of the image were **not** likeable, appealing, or helpful.

1. [OPEN END RESPONSE]

Q68. [I4] What benefits, if any, do you see resulting from taking action during a Flex Alert? Please write a few sentences.

1. [OPEN ENDED RESPONSE]

Q69. [I5] What barriers or challenges, if any, do you see that would make it hard to for you to reduce your electricity use during a Flex Alert? Please write a few sentences.

1. [OPEN ENDED RESPONSE]

[Q70 – Q72 ALL ON ONE PAGE]

Q70. Thinking about what you have heard about energy-related emergencies or times of crisis over the past two years, what are your thoughts on communicating in times of crisis? Please write at least a few sentences. [OPEN ENDED RESPONSE]

Q71. In your experience, how has California communicated well during an emergency or crisis? Please write a few sentences: [OPEN ENDED RESPONSE]

Q72. In your experience, how has California not communicated well during an emergency or crisis? Please write a few sentences: [OPEN ENDED RESPONSE]

- Q73. Imagine you have a houseguest visiting from a foreign country and you found out that there will be a heatwave over the next few days.
1. How would you explain to your houseguest the relationship between the heat wave and energy use at your house? Please write at least a paragraph [OPEN ENDED RESPONSE]
 2. How would you encourage them to save energy during the heat wave, if at all? Please write at least a few sentences. [OPEN ENDED RESPONSE]

Thank you for today's answers. Only two days left in the study! Please close your browser window.

Day 7: Interest in purchasing EE appliances

Welcome to Day 7 of the CPUC Energy Diary Study! We have just two more days left.

Today's activity is answering some questions about energy-using appliances and equipment.

- Q74. How familiar you are with the following household appliances and equipment?

[RANDOMIZE] [response options: Extremely familiar, Very familiar, Somewhat familiar, A little familiar, Not at all familiar]

1. Heat pump tanked water heaters
2. Natural gas tanked water heaters
3. Natural gas tankless water heaters
4. Electric tankless water heaters
5. Rooftop solar panels
6. Residential battery storage
7. Electric vehicles
8. Ductless mini-split heat pumps
9. Air-source heat pumps
10. ENERGY STAR refrigerators
11. Smart thermostats
12. Advanced power strips

[DISPLAY IF OUTAGE=1]

- Q75. When a household experiences a power outage, it can impact their decisions around buying energy efficient technology. Examples may include small things like buying a solar powered battery charger for your cell phone or larger things like installing heat-pump technologies or energy storage in the home. Conversely, a household may try to rely less on electricity and choose appliances powered by natural gas instead of electricity the next time they need to replace that appliance (natural gas water heater vs. electric heat pump water heater).

Please describe any considerations around your buying decisions that may have been impacted by your experience with power outages? Please write a few sentences. [OPEN ENDED RESPONSE]

Q76. Imagine your water heater, dryer, or other large appliance breaks down and you can choose whether to replace it with an energy efficient electric or energy efficient natural gas appliance. What would you consider when replacing this large appliance? *Please write a few sentences.*

1. [OPEN END RESPONSE]

Q77. To what extent do you agree or disagree with the following statements? Please give your honest answer.

[SINGLE RESPONSE: SCALE, RANDOMIZE]

| Items | 1. Strongly disagree | 2. Somewhat disagree | 3. Neither agree nor disagree | 4. Somewhat agree | 5. Strongly agree | 98 Don't know |
|---|----------------------|----------------------|-------------------------------|-------------------|-------------------|---------------|
| A. Most Californians take actions to save energy when there is a limited supply of electricity | | | | | | |
| B. Conserving energy when there is a limited supply of electricity is the right thing to do | | | | | | |
| C. It is possible for individual citizens to help prevent brownouts or blackouts by reducing their electricity use between 4pm to 9pm on hot days | | | | | | |
| D. I don't use enough electricity to make a difference by reducing my use during times when electricity is scarce | | | | | | |
| E. By saving electricity between 4pm and 9pm on hot days, I help ensure that electricity is available for those who really need it during that time | | | | | | |
| F. Californians have already experienced too much to be expected to save more electricity from 4pm to 9pm on hot days | | | | | | |

End of survey message: Diary Days 1-7

That's it for today, one more day to go! Thanks for your response!

We'll send you a link in the morning and look forward to hearing from you again tomorrow. Please close your browser.

Day 8: Energy conservation perceptions

Welcome to the Last Day of the CPUC Energy Diary Study. You're almost done! Today we'd like to wrap things up and ask a few more questions about energy use.

Q78. Look around your home. Find the thing in your home that you think uses *the most* energy. Tell us what it is and what about it causes it to use the most energy, compared to other items.? Please write at least a sentence or two.

1. [OPEN-ENDED RESPONSE]

Q78A. Please take a photo of that item and upload it.

2. [PHOTO UPLOAD]

Q79. What do you do to save energy, if anything? Tell us about what you do (or don't do!) that saves energy. Please write at least two sentences.

1. [OPEN-ENDED RESPONSE + PHOTO UPLOAD]

Q79A. Please upload a photo of the ways you try to reduce how much energy you use. For example, if you adjust your thermostat, take a photo of your hand on the thermostat. If you open windows, take a photo of an open window. If you turn off lights (or don't turn them on), take a photo of you hand on a light switch. If you unplug devices, take a photo of the plug out of the electric outlet. And so on.

2. [PHOTO UPLOAD]

Q80. Throughout the diary, we've discussed a few of the different types of events or issues can lead to power outages, as well as how some power outages may be preventable. Does the **cause** of the outage impact how you would feel about it? Please write a few sentences explaining your thoughts on this.

1. [OPEN-ENDED RESPONSE]

Q81. We've learned a lot from you over the past eight days. What have you learned? Please reflect back on the past eight days and tell us if you learned anything new or are thinking about things in a new way. *Please be honest, there are no right or wrong answers.*

2. [OPEN-ENDED RESPONSE]

Q82. Are there any new energy-saving actions you plan to take? If so, what are they? If you do not have any plans to change any of your actions, please let us know that too.

1. [OPEN-ENDED RESPONSE]

Q83. Is there any other feedback you would like to give us about your participation in this study?

1. [OPEN-ENDED RESPONSE]

End of survey message:

You are all done! Thank you so much for your participation 😊

Your answers will help decision-makers better communicate with Californians about energy and power outages.

Consumer Opinion Services, the company you first spoke to about this study, will be sending you the \$250 gift card as a token of our appreciation for your time, effort, and feedback. Please allow a few business days to receive it and let us know you if have any questions at jlloomis@opiniondynamics.com.

You can close your browser window.

CPUC Statewide Marketing Education and Outreach (ME&O): Monthly Residential Tracking Survey, August 2021

August 2, 2021

Instrument Information

Table 1. Overview of Data Collection Activity

| Descriptor | This Instrument |
|------------------------------|----------------------------|
| Instrument Type | Web survey |
| Estimated Time to Complete | 20 minutes |
| Population Description | California 18+ population |
| Sampling Strata Definitions | NA |
| Population Size | NA |
| Contact List Size | NA |
| Completion Goal(s) | 500 |
| Contact List Source and Date | YouGov |
| Type of Sampling | Other: YouGov panel sample |
| Fielding period | April 5 – April 16, 2021 |

Table 2. Research Objectives and Associated Questions (RED=key metric)

| Research Objective | Research Issue | Associated Questions |
|---|--|----------------------|
| Understanding the extent to which the campaign is reaching Californians | To what extent are the campaign’s slogan and logo (Keep it Golden, Energy Upgrade California) recognized? | Q2, Q8 |
| | Unaided EUC awareness | Q4 |
| | To what extent is the EUC brand recognized compared to other brands in the energy space? (Aided EUC awareness) | Q5 |
| | How familiar are Californians with EUC? | Q6 |
| Brand salience | What topics do Californians associate with the Keep It Golden slogan? | Q3 |
| Understanding how EUC brand is perceived | How relevant is the mission of EUC to Californians? | Q9 |
| | How much do Californians need EUC? | Q10 |
| | How much is EUC trusted by Californians? | Q11 |
| Social norms | To what extent do Californians believe that energy-management is valued and encouraged among Californians? (injunctive norm) To what extent do Californians believe that energy-management is practiced among Californians? (descriptive norm) | Q12-Q13 |

| Research Objective | Research Issue | Associated Questions |
|--|--|------------------------------------|
| Self-efficacy | To what extent do Californians believe that they personally have the ability to use less energy? | Q14, Q17, Q19-Q23 |
| Social diffusion | To what extent do Californians share energy management tips? | Q15, Q16 |
| Assessing Californians' energy-management perceptions, attitudes, intentions | How much more energy efficient can Californians make their home? | Q29, Q31 |
| | How concerned are Californians with managing their energy use? | Q26 |
| | How important is it to Californians to do their part to make California more energy efficient? | Q27 |
| | How often do Californians make efforts to live in ways to reduce energy use? | Q25 |
| | Are Californians taking EUC-targeted actions? | Q28 |
| | How likely are Californians to make energy efficiency changes in the next 12 months? | Q30, Q30a, Q32 |
| | How many day-to-day actions do Californians think they can change? | Q33 |
| | How likely are Californians to attempt to change their day-to-day actions in the next 12 months? | Q34, Q34a |
| Understanding barriers Californians have to make energy efficiency upgrades | How much can renters do to make their home more energy efficient? | Q31 |
| Demographics | Housing type, language spoken at home, disabled household members (deaf, blind, other physical, mental, emotion challenges), proportion of housing cost to household income, rent/own, pay electric bill (if renter), pay gas bill (if renter), electric utility, gas utility, California identity SUPPLIED BY YOU GOV: year born, education, employment status, affiliated political party, political leaning, ethnicity, race, household income | Q39-Q48 |
| Rotating Question Block | COVID-19 impacts, media consumption, grid issues | RQB7, RQB10a, RQB10b, RQB11, RQB12 |

Instrument

Introduction (Landing Page)

Q1. [SL] What is your preferred language to take this survey?

¿Cuál es su idioma preferido para realizar esta encuesta?

1. English
2. Spanish (Español)

Slogan Awareness

[ASK ALL]

Q2. [SAW1] Do you recognize the advertising slogan *Keep It Golden*?



[SINGLE RESPONSE]

1. Yes
2. No

KIG Salience

[ASK ALL]

Q3. [KIGS1] [IF Q2=1: To the best of your knowledge] [IF Q2=2: If you had to guess], what is the mission of this slogan?



[SINGLE RESPONSE; RANDOMIZE]

1. California tourism
2. Water conservation
3. Forest fire prevention
4. Energy conservation
5. Maintenance of California shorelines
6. Sunscreen use
7. California milk
96. Other, please specify: [OPEN-ENDED RESPONSE]

98. Don't know

[IF Q2=1 & Q3=1 (California tourism)]

Q3a. Why did you select California tourism?

[OPEN-ENDED RESPONSE]

Brand Awareness

[ASK ALL]

Q4. [BAW1] When you think of brands, campaigns, or initiatives that encourage Californians to save energy, which ones come to mind? *Please provide up to 5 responses.* [DO NOT FORCE A RESPONSE]

1. [OPEN-ENDED RESPONSE]

[ASK ALL]

Q5. [BAW2] Below is a list of several brands, organizations, or campaigns. For each one, please tell us if you have heard of it before today.

[DISPLAY AS A MATRIX, RANDOMIZE ALL ITEMS]

| [LOGIC] | Response Text | 1 Yes | 2 No |
|---------|------------------------------|-----------------------|-----------------------|
| | A. Energy Upgrade California | <input type="radio"/> | <input type="radio"/> |
| | B. Go Solar California | <input type="radio"/> | <input type="radio"/> |
| | C. ENERGY STAR | <input type="radio"/> | <input type="radio"/> |
| | D. Save Our Water | <input type="radio"/> | <input type="radio"/> |
| | E. Flex Your Power | <input type="radio"/> | <input type="radio"/> |
| | F. Green Deal California | <input type="radio"/> | <input type="radio"/> |
| | G. Flex Alert | <input type="radio"/> | <input type="radio"/> |

[ASK IF Q5A=1]

Q6. [BAW3] How familiar are you with **Energy Upgrade California**?

[SINGLE RESPONSE]

1. Extremely familiar
2. Very familiar
3. Somewhat familiar
4. A little familiar
5. I have only heard the name

Q7. [BAW4] [REMOVED DURING MONTH 6 EDITS]

[ASK ALL]

Q8. [BAW5] Have you ever seen this logo?



[SINGLE RESPONSE]

1. Yes
2. No
98. Don't recall

Brand Attitudes

The following is the mission statement for Energy Upgrade California:

Energy Upgrade California is committed to empowering and inspiring Californians to save energy to help fight climate change, save money and protect the state for future generations. We're asking you Californians across the state to join together to Keep it Golden by using energy better. We'll provide you with the tools, knowledge and inspiration to Keep it Golden, as it takes every one of us to keep moving California forward as a smart energy leader. We can't succeed without you.

Now that you know more about Energy Upgrade California, we would like your opinion about the campaign and its mission.

[ASK ALL]

Q9. [BAT1] How relevant is the mission of Energy Upgrade California for you?

[SINGLE RESPONSE]

1. A great deal
2. Quite a bit
3. Somewhat
4. A little
5. Not at all

[ASK ALL]

Q10. [BAT2] How much do you think the people of California need a campaign like Energy Upgrade California?

[SINGLE RESPONSE]

1. A great deal
2. Quite a bit
3. Somewhat
4. A little
5. Not at all

[ASK ALL]

Q11. [BAT3] How much do you think you can trust Energy Upgrade California to do the right thing for the people of California?

[SINGLE RESPONSE]

1. A great deal
2. Quite a bit
3. Somewhat
4. A little
5. Not at all

Norms and Self Efficacy

Please indicate the extent to which you agree or disagree with the following statements.

[RANDOMIZE ORDER OF Q12-Q13]

[ASK ALL]

Q12. [NORM_IN] Conserving energy is the right thing to do.

[SINGLE RESPONSE]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree

[ASK ALL]

Q13. [NORM_DE] Most Californians take actions to save energy.

[SINGLE RESPONSE]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree

[ASK IF (Q12=1 OR 2) AND (Q13=4 OR 5)]

Q13a. Why did you disagree with the following statement?

Most Californians take actions to save energy.

[SINGLE RESPONSE]

0. [OPEN-ENDED RESPONSE]
98. Don't know [EXCLUSIVE]

[ASK ALL]

Q14. [SE_CAP] I am already doing all that I can do to conserve energy.

[SINGLE RESPONSE]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree

Social Diffusion

[ASK ALL]

Q15. [SD1] How frequently do you share energy-saving actions or tips with friends or family?

[SINGLE RESPONSE]

1. Often
2. Sometimes
3. Rarely
4. Never

[ASK ALL]

Q16. [SD2] How likely are you to discuss energy-saving actions or tips with friends or family in the future?

[SINGLE RESPONSE]

1. Extremely likely
2. Very likely
3. Somewhat likely
4. A little likely
5. Not at all likely

Self-Efficacy [SECTION REMOVED DURING MONTH 6 EDITS]

[ASK ALL]

Q17. [EF1] It is possible for individual citizens to help address climate change by reducing their energy use.

[SINGLE RESPONSE]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree

Q18. [EF2] REMOVED

[ASK ALL]

Q19. [EF3] I feel a responsibility to manage my energy use.

[SINGLE RESPONSE]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree

[ASK ALL]

Q20. [EF4] I do not feel responsible for conserving energy because my personal contribution is small.

[SINGLE RESPONSE]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree

[ASK ALL]

Q21. [EF5] I am more informed about ways I can save energy than most people in California.

[SINGLE RESPONSE]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree

[ASK ALL]

Q22. [EF6] I have a good understanding of the important energy issues facing California.

[SINGLE RESPONSE]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree

[ASK ALL]

Q23. [EF7] Compared to most people in California, I do a better job of saving energy.

[SINGLE RESPONSE]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree

Energy Management Mindset

[ASK ALL]

Q24. [D2] Do you rent or own your home?

1. Rent
2. Own
3. Other (specify)

[ASK ALL]

Q25. [EM2] How often, if ever, do you make an effort to live in ways that reduce your energy use?

[SINGLE RESPONSE]

1. All of the time
2. Some of the time
3. Rarely
4. Never

[ASK ALL]

Q26. [EM3] How concerned are you about managing your energy use as you go about your daily life?

[SINGLE RESPONSE]

1. Very concerned
2. Moderately concerned
3. Slightly concerned
4. Not at all concerned

[ASK ALL]

Q27. [EM5] How important is it for your household to do its part in making California more energy efficient?

[SINGLE RESPONSE]

1. Very important
2. Somewhat important
3. Slightly important
4. Not at all important

Q28. [EM9] How often do you take each of the following actions?

[DISPLAY EACH ITEM ON ITS OWN PAGE; RANDOMIZE]

| [LOGIC] Item | 1 Never | 2 Rarely | 3 Sometimes | 4 Often | 5 Almost always | 99 Not applicable |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A. Turning off lights when not used | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| B. Unplugging power cords or appliances when not being used | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| C. Adjusting the heat or AC a few degrees to save energy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| D. Washing laundry on cold water cycle | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| E. Setting electronic devices (desktop, mobile, tablet, TV) to energy-saving modes | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| F. Setting the AC to 78 degrees or higher on hot days | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

[ASK IF Q24=2]

Q29. [EM12] Next, think about how much more energy efficient you could make your home. *Please consider physical upgrades you could make to your home’s lighting, appliances, electronics, heating and cooling systems, and building shell items such as windows and insulation. Could you change...?*

[SINGLE RESPONSE]

1. A lot of things
2. Some things
3. A few things
4. My home is already as energy efficient as possible

[ASK IF Q24=2 AND Q29<>4]

Q30. [EM13] How likely or unlikely are you to make your home more energy efficient in the next 12 months?

[SINGLE RESPONSE]

1. Extremely likely
2. Somewhat likely
3. Somewhat unlikely
4. Extremely unlikely

[ASK IF Q24=2 AND Q30=3-4]

Q30a. Why are you unlikely to try to make your home more energy efficient? *Select all that apply.*

[MULTIPLE RESPONSE, RANDOMIZE ITEMS 1-5]

1. The upfront costs of the improvements would be too high
2. The energy savings are not big enough to justify the costs
3. Improvements to my home would not bring a return on investment
4. I plan to sell my home soon
5. I am waiting for appliances/equipment to fail before making changes
96. Other, please specify: [OPEN-ENDED RESPONSE]
98. Don't know [EXCLUSIVE]

[ASK IF Q24=1]

Q31. [EM15] Next, think about how much more energy efficient you and/or your landlord could make your home. *Please consider physical upgrades that could be made to your home’s lighting, appliances, electronics, heating and cooling systems, and building shell items such as windows and insulation. Could you and/or your landlord change...?*

[SINGLE RESPONSE]

1. A lot of things
2. Some things
3. A few things
4. My home is already as energy efficient as possible

[ASK IF Q24=1 AND Q31<>4]

Q32. [EM17] How likely or unlikely are you to make your home more energy efficient in the next 12 months?

[SINGLE RESPONSE]

1. Extremely likely
2. Somewhat likely
3. Somewhat unlikely
4. Extremely unlikely

[ASK ALL]

Q33. [EM19] Now, how many of your day-to-day actions could you change to save energy if you tried? *Please consider possible changes at home with how you use lighting, appliances, electronics, and heating and cooling systems.*

[SINGLE RESPONSE]

1. I have a lot that I could change
2. I have some things I could change
3. I have a few things I could change
4. I have already done all that I can do

[ASK IF Q33<>4]

Q34. [EM20] How likely or unlikely are you to attempt to change your day-to-day actions to save energy in the next 12 months?

[SINGLE RESPONSE]

1. Extremely likely
2. Somewhat likely
3. Somewhat unlikely
4. Extremely unlikely

[ASK IF Q34=3 OR 4]

Q34a. Why are you unlikely to change your actions to save energy? *Select all that apply.*

[MULTIPLE RESPONSE, RANDOMIZE ITEMS 1-6]

1. My energy bill is not high enough that I feel the need to make changes to my life
2. It's not convenient
3. I often forget even though I'd like to do more
4. My actions alone aren't enough to make a difference in the world
5. I can't control the actions of others in my household and/or don't have control over most things that use energy
6. I would be uncomfortable in my home if I made any more changes
96. Other, please specify: [OPEN-ENDED RESPONSE]

98. Don't know

Rotating Question Block

This section included a rotated battery that evolved for each monthly survey.

Social Identity

[ASK ALL]

Q35. [CAID1] How important is being a Californian to your identity?

[SINGLE RESPONSE]

1. Extremely important
2. Moderately important
3. Somewhat important
4. Slightly important
5. Not at all important

[ASK ALL]

Q36. [CAID2] How much do you feel strong ties to Californians as a group?

[SINGLE RESPONSE]

1. A great deal
2. Quite a bit
3. Somewhat
4. A little
5. Not at all

Electric and Gas Utilities

[ASK ALL]

Q37. [D5] Do you receive an electric bill from any of the following service providers?

1. Pacific Gas and Electric Company (PG&E)
2. Southern California Edison (Edison/SCE)
3. San Diego Gas & Electric (SDG&E)
96. Another provider, please specify: [OPEN-ENDED RESPONSE]
98. Don't know

[ASK ALL]

Q38. [D6] Who provides gas service to your home?

1. Pacific Gas and Electric Company (PG&E)
2. Southern California Gas (SoCalGas/SCG)
3. San Diego Gas & Electric (SDG&E)
4. Southern California Edison (Edison Catalina)
96. Another provider, please specify: [OPEN-ENDED RESPONSE]
97. None / don't have gas
98. Don't know

Rotating Question Block

[RQB5] [REMOVED]

[RBQ6] [REMOVED]

[RBQ7] [ASK ALL]

The COVID-19 coronavirus situation can affect households in multiple ways. For each of the following ways, please indicate whether it has already happened for your household, if you expect it to happen in the next few weeks or months, if you do not expect it to happen anytime soon, or if it is not applicable to your household.

[SINGLE RESPONSE]

- A. Tele-work from home instead of working at the employer's location
- B. Reduce weekly working hours
- C. Go on a furlough or temporary leave from a job
- D. Get laid-off from or lose a job
- E. Lose income, savings, or other financial support
- F. Lose or reduce health insurance benefits
- G. Miss or have difficulty paying monthly bills
- H. Have difficulty affording basic needs like food, medical care, cleaning products, etc.
- I. Need a COVID-19 coronavirus test
- J. Get sick from the COVID-19 coronavirus
- K. Take on additional responsibilities caring for child(ren), senior, or disabled or medically ill household members
- L. Apply for any type of financial assistance that you don't have to pay back from local, state, or federal governments, nonprofit organizations, family/friends, or others
- M. Apply or ask for loans or other types of financial support that you will have to pay back from banks, financial lenders, family or friends, or others

[RESPONSE OPTIONS]

- 1. Has already happened
- 2. Has not already happened but will likely happen soon during the next few weeks or months
- 3. Has not already happened and will not likely happen anytime soon
- 97. Not applicable to my household

[RBQ8] [REMOVED] [RQB9] [REMOVED]

[SPLIT SAMPLE: DISPLAY RQB10a OR RQB10b]

[RQB10a]

If the state of California asked you to temporarily reduce your electricity use to prevent power outages during times when Californians are using unusually high amounts of electricity, how likely would you be to reduce your electricity use?

1. Extremely likely
2. Very likely
3. Somewhat likely
4. A little likely
5. Not at all likely

[RQB10b]

If [IF Q41 = 1-3, PIPE IN RESPONSE FROM Q41; IF Q41=96 OR 98, PIPE IN: "Your electricity provider"] asked you to temporarily reduce your electricity use to prevent power outages during times when Californians are using unusually high amounts of electricity, how likely would you be to reduce your electricity use?

1. Extremely likely
2. Very likely
3. Somewhat likely
4. A little likely
5. Not at all likely

[RQB11]

To what extent are you concerns with California's fire season this year? [SINGLE RESPONSE]

1. A great deal
2. Quite a bit
3. Somewhat
4. A little
5. Not at all

[RQB12]

How important is energy efficiency in fighting the effects of climate change (e.g., fires, rising temperatures, droughts)? [SINGLE RESPONSE]

1. Extremely important
2. Moderately important
3. Somewhat important
4. Slightly important
5. Not at all important

Demographics

[ASK ALL]

Q39. [D8] Which of the following best describes your home/residence? [RESPONSE REQUIRED]

[SINGLE RESPONSE]

1. Single-family detached home (Not a duplex, townhome, or apartment; attached garage is OK)
2. Single family attached home (includes townhouse)
3. Mobile home
4. Apartment or condominium with 1 unit
5. Apartment or condominium with 2-3 units
6. Apartment or condominium with 4-9 units
7. Apartment or condominium with 10 or more units
96. Other, please specify: [OPEN-ENDED RESPONSE]
98. Don't know

[ASK ALL]

Q40. [D20] What is the primary language spoken in your home? [RESPONSE REQUIRED]

[SINGLE RESPONSE]

1. English
2. Spanish
3. Mandarin
4. Cantonese
5. Tagalog
6. Korean
7. Vietnamese
8. Russian
9. Japanese
96. Other, please specify: [OPEN-ENDED RESPONSE]

[ASK ALL]

Q41. [D21] Does anyone in your household have the following medical conditions? *Please select all that apply.* [RESPONSE REQUIRED]

[MULTIPLE RESPONSE]

1. Deaf or serious hearing issue
2. Blind or serious difficulty seeing even when wearing glasses
3. Serious difficulty concentrating, remembering, making decisions
4. Serious difficulty walking or climbing stairs
5. Serious difficulty dressing or bathing
6. 15 years or older who have serious difficulty doing errands alone such as visiting a doctor's office or shopping
7. None of the above [EXCLUSIVE]

[ASK ALL]

Q42. [D22] Do you spend more than half of your yearly income on housing costs? *Housing costs include rent payments, mortgage payments, utility bills, condominium fees, real estate taxes, and home insurance premiums.* [RESPONSE REQUIRED]

[SINGLE RESPONSE]

1. Yes
2. No
98. Don't know

[ASK IF Q24=1]

Q43. [D3] Do you pay your own electric bill or is it included in your rent?

1. Pay bill
2. Included in rent

[ASK IF Q24=1 AND Q42<>97]

Q44. [D4] Do you pay your own gas bill or is it included in your rent?

1. Pay bill
2. Included in rent
3. Don't have gas service to my home

CL1. Thank you for taking the time to complete this survey. We appreciate your responses.

CPUC ME&O Effectiveness Assessment: Web Usability Sessions Guide

June 2021

Instrument Information

Table 1 includes key characteristics about the instrument.

Table 1. Overview of Data Collection Activity

| Descriptor | This Instrument |
|------------------------------|--|
| Instrument Type | Other: Web Usability Study Guide |
| Estimated Time to Complete | 45 - 60 minutes |
| Population Description | California Residents |
| Completion Goal(s) | Recruit 12 for 10 Web Usability Session completes with one participant per session |
| Contact List Source and Date | Recruited by YouGov; Sessions from 6/7-6/25 |
| Incentive Types and Amounts | \$100 Amazon gift card |
| Fielding Firm | Opinion Dynamics |

Research Objectives Information

Table 2 maps the research objectives and questions to specific questions in the instrument.

Table 2. Research Objectives and Associated Questions

| Research Objective/Question | Associated Instrument Questions |
|---|---|
| How can the EUC website be further optimized to support customer usability? | Q3-Q4, Q6, Q8 -Q13, Q16, Q18-Q20, Q29, Q31-Q32, Q34-Q39 |
| To what extent are Californians aware of energy efficiency programs? | Q4, Q14, Q15, Q17-Q18, Q28 |
| How do Californians navigate the EUC website? | Q8, Q14, Q16, Q20, Q32 |
| How do Californians navigate from the EUC website to websites run by their local IOU, REN, or CCA where they can enroll in clean energy programs? | Q16-Q18 |
| Do Californians understand what the EUC website is trying to convey? | Q3-Q5, Q7, Q9, Q21-Q26, Q30, Q33, Q35 |

Web Usability Session Information

Program Description

The Energy Upgrade California (EUC) website plays a pivotal role in creating a strong EUC brand connection—educating and motivating customers to take energy-savings actions. It is the umbrella site where current and evergreen content is and will be housed including key content, materials, and tools. The EUC website also plays a critical role in recruitment for the Keep it Golden Movement and lead generation by referring Californians to program administrator (PA) sites. Significant investment in organic and paid social, and increased dynamic content continues to drive increased traffic and engagement with the brand through the website. As such, it is important to ensure the website design and navigation supports optimal customer engagement.

Instrument

Introduction

Hi, thanks for joining us today. I'm [insert name] and I'm a researcher with Opinion Dynamics. [IF NEEDED: I have my colleague [insert name] here today too, for notetaking purposes]. Trina is here from YouGov and she is the one you've been communicating with thus far for scheduling. She's going to stay on the call just till we make sure the Webex screensharing is working properly and we are all set to go.

I'm going to ask you to start sharing your screen with us using the Webex platform. Please note that at this time we are asking you to share your screen to ensure we don't have any technical difficulties before we start the session, but we are NOT yet recording the session.

[The Webex video conferencing platform and screen sharing feature will be implemented at this time. We will ask the participant to share their screen via the Webex application. If this works successfully, we will continue with the interview. If the participant is using a phone, as them what type of phone they have and take note.]

Computer users: First, if you are able with your computer, please set it to Do Not Disturb or Focus assist. This way, when you are sharing your screen, we won't see any emails or notifications pop up.

Ok, now you should see an icon near the bottom of your screen that says "Share" *[If needed: it has the image of a little box with an arrow pointing up]*. Please click on this icon and select the screen of your choice.

iPhone users: First, please set your phone to Do Not Disturb mode. This way, when you are sharing your screen, we won't see any of your texts or notifications pop up.

Ok, now to start the screenshare you should see four symbols on the bottom of your phone screen; please click on the icon with three dots (next to the red X). Once you click the three dots, select "Share Content" (beneath Audio Devices and Settings options). This will bring you to a new screen. Ensure that the blue check box at the top of the screen is set to "optimize for images" (this seems to be the default setting). Next, click "Share Screen" at the top of your screen. To officially start the screenshare, now select, "Start Broadcast." It

will first countdown to three, and then your entire phone screen will be shared. At any point, you may stop sharing your screen by clicking the red circle around the time in the top left of your screen.

Android/Non-iPhone Users: First, please turn notifications off on your phone, because when the screensharing starts, you will need to share your entire screen with us, including anything that may pop up on your screen during our session.

Ok, now to start the screenshare you should see four symbols on the bottom of your phone screen; please click on the icon with three dots (next to the red X). Once you click that icon, select “Share Content” (the icon looks like a square with an arrow going through it). This will bring you to a new screen. Ensure that the blue circle at the top of the screen is set to “optimize for images.” Next, click “Share screen.” At this point, you may receive a pop-up notification asking to allow WebEx Meet to access photos and media on your device. Please click “Allow” to set up the screenshare, however we will not be asking you to share anything on your personal device. To officially start the screenshare, select “start now.” Remember that your entire phone screen will be shared on my screen. At any point, you may stop sharing your screen if needed.

ALL: I will now read you our introductory information. This is long, but all of the information is important.

As a reminder, we are testing a website to see what it's like for people to use it and to hear what they think about it in real time.

I want to make it clear right away that we're testing the site, not you. You can't do anything wrong here. In fact, we are interested in difficulties that anyone might experience in trying to use the site, so if something doesn't seem right, please tell us.

We want to hear exactly what you think, so please don't worry about offending us. We want to improve it, so we need honest feedback.

The most important thing to remember is that we need you to explain what you are thinking. Try to think out loud and talk about the various options you are considering. Before you click on any link explain what other options you considered and why you picked the one you did.

If you have questions, just ask. I may not be able to answer them right away, since we're interested in how people do when they don't have help with the site, but I will try to answer any questions you still have when we're done.

And again, as much as possible, **it will help us if you can try to think out loud, so we know what you're thinking as you use the site.**

Do you have any questions so far?

As we discussed when you signed up, we are going to record our screen sharing session today, so that we can go back and look at your navigation patterns through the website and hear your voice as you think out loud. Clips of this video will be shared with the research team and our client, but they will not include a video of you—only screen clicks and audio. Furthermore, no identifying characteristic will be in the video other than the sound of your voice. We will not share your name, address, or other identifying information. The clips will not be used in any public forum—for example, they will not be posted to YouTube. They are solely to demonstrate to the California Public Utilities Commission how people use the website.

Is it alright with you if we begin recording the session now?

[If client agrees to recording, turn on screen recording in the Webex Platform. If not terminate. When terminating the session, you can explain that unfortunately we can't properly conduct our full study without recording the screensharing and thus we cannot continue the session without permission.]

- Q1. Before we take a look at the site, I'd like to hear a little bit about you – how do you typically spend your time throughout the day? [Response](#)
- Q2. How much time do you estimate spending on the web for work? In your spare time? [Response](#)

Task Questions [ASK ALL]

Now that we have gotten to know you a little bit, we would like to start the usability exercise. Please navigate to the www.energyupgradeca.org site. **Throughout our session, we will also refer to this as the EUC homepage.** Please take note of this as the home page, as we will ask you to return to the home page several times throughout the duration of our session. If needed, I can share the web address in our chat box.

Task 1. Home Page

For the first few questions, please do not navigate off of the home page and focus only on what you can see by scrolling through the front page of the site.

- Q3. Your friend has recommended this website to learn more about how to save energy. What is your first impression of the site? What do you think that it is trying to communicate to you? [Response](#)
- Q4. From what you can tell from the home page, what services does the website offer? [Response](#)
- Q5. Who do you think is the sponsor of this site? [PROBE: In other words, what organization created the website?] [Response](#)
- Q6. So far, what are your thoughts on the visual design and layout of the website? [Response](#)
- Q7. What on the site, if anything, compels you to keep exploring this site based on what you've seen on the home page so far? [Response](#)

Task 2. Climate Change

For the following questions, feel free to click around and navigate to other pages within the site as you see fit to answer my questions. Please remember to think out loud as you do this.

- Q8. Let's say you were interested in learning about the effect of climate change on the state of California. Where would you go on the site? [Prompt, specifically the effect of climate change on CA (not signing up for KIG)] [Response](#)

- Q9. [Ensure participant finds <https://www.energyupgradeca.org/climate-change/>] Take a moment to review this page. What do you think this page is trying to communicate to you? [Response](#)
- Q10. Are you familiar with CA climate credits?
[If yes, immediately proceed to next question]
[If no] The “California Climate Credit” is an electric and natural gas credit given to Californian residents to help California fight climate change. These credits are from a state program that requires power plants, natural gas distributors and other large industries that emit greenhouse gases to buy carbon pollution permits. The credits represent residential utility ratepayers’ share of the payments from the state’s program. The credit program was created by the California Public Utilities Commission (CPUC), which also oversees the program’s implementation.
- Q11. Suppose you wanted to figure out the climate credit you are eligible to receive through your service provider. Where would you go next? [Response](#)
- Q12. How much in climate credit did your service provider offer in April? [Response](#)
- Q13. Go back to the main Climate Change page. Now that you have spent some time on this webpage, how do you feel about the layout of the content related to Climate Change? [PROBE: Was it easy or difficult to find information about things you would be interested in if you wanted to learn more about climate change in California?] [Response](#)

Task 3. Home Energy Efficiency

Now I would like you to navigate back to the home page for a new task. [Ensure participant makes it back to home page, note if there are difficulties to get back.]

- Q14. Imagine you are interested in learning more about energy efficiency for your home. Where would you go on this site to find this information? [Response](#)
- Q15. [Make sure they navigate to <https://www.energyupgradeca.org/home-energy-efficiency/> (the Home Energy Efficiency home page)]. Which of the topics on this page are you most interested in learning more about? [Response](#)
- Q16. Let’s say from here you wanted to find more information about getting an energy-efficient appliance, like a washing machine, for your home. Where would you go next? [Response](#)
- Q17. [Ensure participant ultimately navigates to <https://www.energyupgradeca.org/home-energy-efficiency/upgrading-your-home/appliances/>, which you can get to by either selecting “Energy Efficiency” in the top toolbar or “Make your Home Energy Efficient image”] Is there any additional information that you think would be helpful to include on this page? [Response](#)
- Q18. Now go back to the main Home Energy Efficiency page. Let’s say you were interested in learning about what rebates are available for energy efficient appliances through your electric service provider. Where would you go from here? Specifically, I’d like you to navigate to their website from

this Energy Upgrade California site. *[Ensure participant enters their zip code, briefly leaves the EUC website, and immediately returns to EUC.]*

- Q19. If I hadn't prompted you to look for home energy efficiency opportunities, would you have noticed that this information was available on the EUC website? [Response](#)

Task 4. Keep It Golden

Next, I'd like you to navigate to the home page again for a different task.

- Q20. Let's say you wanted to sign up to receive weekly messaging on how to save energy to fight climate change. Where would you go? [Response](#)
- Q21. *[If the participant is unable to find the page, point out the link in the top left navigation bar or the "learn more button" which ever seems like it is easiest]* Thinking about the name "Keep it Golden Movement" what do you expect to find on this page. Would you be prompted to navigate to it yourself? [Response](#)
- Q22. Take a minute to scroll through the page on the Keep It Golden Movement. Do you have any remaining questions about what it is? If you found the page on your own, would you opt to sign up for the Keep it Golden Movement? [Response](#)
- Q23. I'd like for you to go through the process of signing-up. We'll use a fake email and zip code – unless you would like to use your own information and actually sign-up. *[Give fake info or confirm they will use their own]*. Ok, go ahead and sign-up and remember to think out loud. What are your thoughts on the sign-up process? [Response](#) *[TEST PHONE – LAURA OR STACIA ODC #; TEST EMAIL: test@gmail.com]*
- Q24. Was there anything that was difficult about this sign-up process? Would you change anything about the process if you could? [Response](#)
- Q25. *[If used own information]* Now that you've signed up to receive weekly texts from the Keep it Golden campaign do you think you'll read the future texts they send you? [Response](#)
- Q26. *[If did not use own information]* Let's say that you did decide to sign up. Would you be interested in receiving weekly texts to help you save energy in your home? [Response](#)
- Q27. Now, take a moment to read the tips on How to Save Energy. Do you currently do any of these in your home? Would you be willing to implement any of these actions in your home? Are there any you definitely would not do? [Response](#)
- Q28. Are there any tips listed that are confusing to you? Are any of these energy savings tips new to you? *[IF YES]*, which ones? [Response](#)

Q29. If I hadn't prompted you to look for the Keep It Golden Movement, would you have noticed it on the website? [Response](#)

Overarching Questions [ASK ALL]

I just have a few remaining questions to ask you about the Energy Upgrade California website overall. You can navigate back to the homepage now if you'd like, but it is not necessary.

Q30. How would you define the overall purpose of the Energy Upgrade California website? [Response](#)

Q31. Now that you've spent a bit of time exploring, what are your thoughts on the visual design and layout of the website overall?

Q32. *[If not discussed in previous question]* How have you found the navigation of the website overall? By navigation, I mean clicking from one page to the next and finding what you need. [Response](#)

Q33. While exploring the website today, what prompted you, if anything, to become more interested in saving energy in your home? [Response](#)

Q34. Would you recommend this website to your friends? [Response](#)

Q35. What would prompt you to want to revisit the EUC website, if anything? [Response](#)

Q36. Overall, what grade would you give this website compared to other websites you visit? *[If needed (unfamiliar with US grade system A, B, C, D, and F) Where an A is the top grade, C is average, and F is a fail.]* [Response](#)

Q37. What would you change about this website to make it more effective? [Response](#)

Q38. Is there anything else you'd like to add about your experience using this website today before we wrap up? [Response](#)

Q39. What do you think about this research process we just walked through? [Response](#)

Demographic Questions [ASK ALL]

Ok, we are almost done. I'd just like to ask you some additional questions about yourself and your home.

Q40. To confirm, what county in CA do you live? What part of California is that? (City, area, landmarks) [Response](#)

[The map below outlines five regions of California, interviewer to indicate region in guide based on above answer].

1. Northern California

2. Greater Sacramento
3. San Joaquin
4. Bay Area
5. Southern California



- Q41. For how many years have you lived there? [Response](#)
- Q42. What is your age in years?? [Response](#)
- Q43. What is the highest level of education you have completed? [Response](#)
- Q44. What is your race/ethnicity? [Response](#)
- Q45. Do you own or rent your home? [Response](#)
- Q46. Have you ever visited the Energy Upgrade California website before? If so, how many times? [Response](#)
- [ASK IF Q46= Yes]
- Q47. How did you learn about the EUC website? [Response](#)

Closing

Those are all the questions I have for you today. Thanks for your time. As we noted at the outset of this, you will receive \$100 Visa gift card as a thank you for your time. YouGov will be handling these gift cards, so if you have any questions about it, you can reach out to Trina. Do you have any last questions for me?

Thanks again for your time!

APPENDIX B. DIARY STUDY REPORT



Opinion **Dynamics**

ENERGY UPGRADE CALIFORNIA (EUC): EFFECTIVENESS ASSESSMENT

Deliverable 23a, Task 7:
Diary Study

September 21, 2021

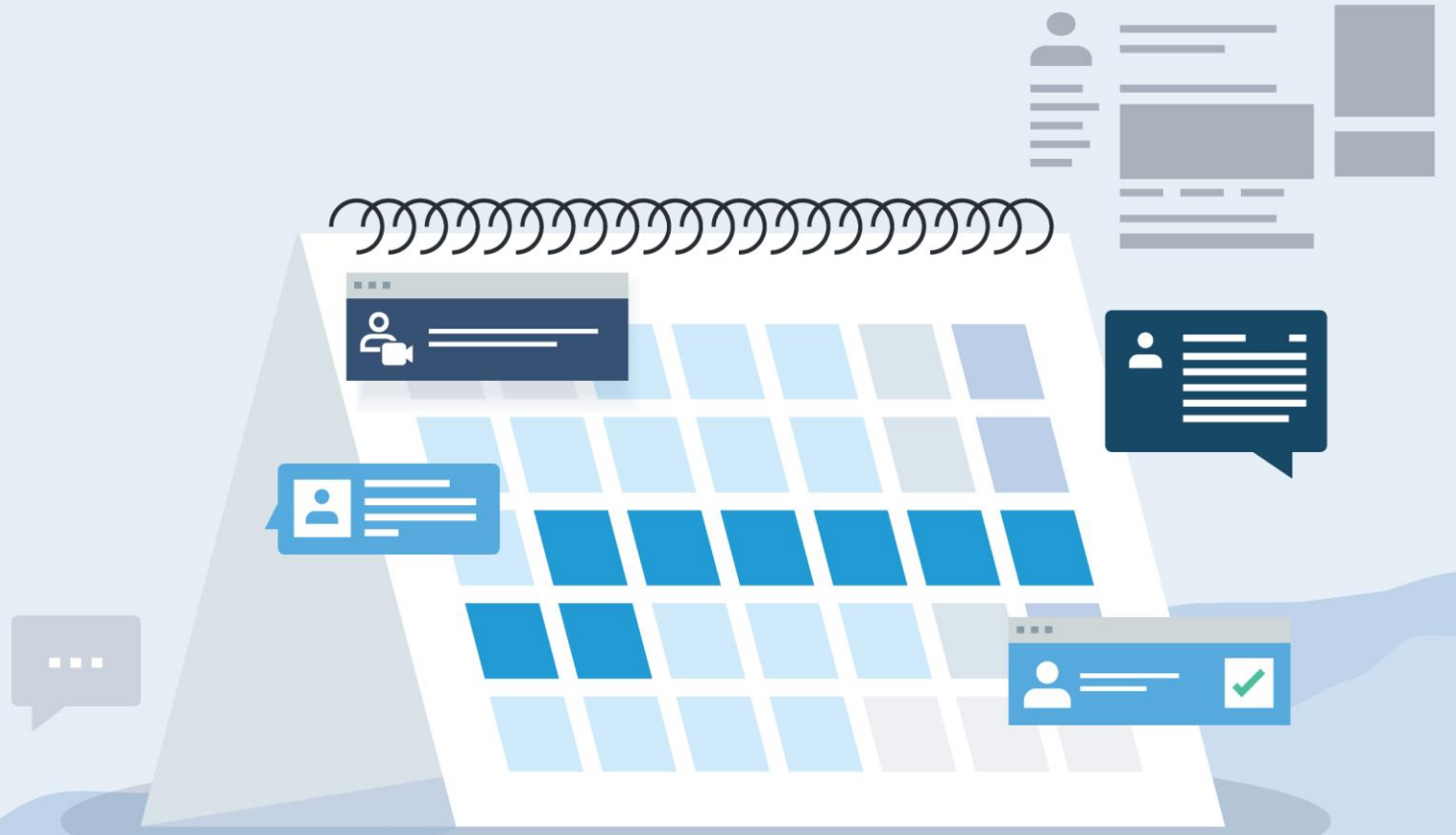


Table of Contents

- Background
- Abbreviated Key Takeaways
- Methods
- Results
- Key Takeaways and Recommendations

Background

- Energy Upgrade California
 - Established in 2012 by CPUC
 - Brand for Statewide Marketing, Education, and Outreach activities
- Campaign implementer, DDB
 - Developed a 5-year ME&O strategic roadmap for 2017 -2021
 - Defined campaign objectives and metrics to track progress over time
 - “Keep California Golden”
- Opinion Dynamics’ role
 - EUC campaign evaluator
- Diary Study (Task 7)
 - Conducted in June 2021
 - Diary study instrument theoretically based on the Health-Belief-Model with additions from other theories/models of behavior
 - Results can help inform messaging efforts and add context and nuance to existing ME&O efforts
 - In general, qualitative data are not intended to be generalized to the population level

Research Questions

1. What prompts Californians to think about energy in their daily lives? In times of crisis?
2. How do customers think about the need to save energy in their daily lives and how does it differ in times of crisis?
3. Where are Californians seeing or hearing energy messaging during times of crisis?
4. What motivates Californians to take energy savings actions and how does that differ in times of crisis?
5. How do Californians prioritize energy conservation with other needs in times of crisis?
6. How do experiences with energy emergencies impact Californians' decisions to purchase energy-saving appliances and equipment, especially heat pump technologies?
7. How do we effectively communicate to Californians about energy every day? What needs to change when communicating in times of crisis? How do Californians differentiate these messages, if at all?

Key Takeaways - Abbreviated

- Routines and demand response
 - Routines and habits make it hard to shift use during peak periods and/or during Flex Alerts.
 - Respondents were more willing to have their water heater remotely adjusted by the utility than their air conditioner.
- Specifics for communication
 - Respondents check their phones and news daily for weather updates.
 - Text messages are preferred for emergency notifications.
 - Local communication sources were most trusted during a crisis: local utility, local government, local news.
 - Participants overwhelmingly liked the graphics for Flex Alerts as they were simple and easy to understand.
 - When communicating outages, participants want to know when and where the outage is occurring especially as some reporting wanting to leave their homes.
 - In daily life, financial considerations were top of mind and during crises, family and community considerations were top of mind.
- Purchasing preferences and emergency preparedness
 - Those who experienced outages relatively frequently purchased items or made behavioral changes to prepare for and reduce the impact of the next outage.
 - In terms of future energy saving actions, some participants were interested in purchases or upgrades, such as solar panels or energy efficient appliances and lower-cost items such as smart switches or better window shades.
 - Misperceptions around natural gas appliance use and efficiency may exist.
 - Some participants wanted relevant information to prepare for outages or emergencies (such as wildfires) but described needing to go to multiple websites to find information, only receiving vague information about the length and timing, or not receiving any notification.

Methods

Eight-day online diary study

- Ran from June 8th - 17th 2021 (weekend excluded).
- About 20 minutes of activity a day.
- Participants completed an activity or responded to a series of prompts.

24 participants started and completed the study

Received \$250 incentive for completing all eight days



General Daily Activity Themes

- Day 1: Get to know you survey
- Day 2: Energy on my mind
- Day 3: What energy messaging have you seen
- Day 4: Power outages
- Day 5: Energy-saving actions
- Day 6: Flex Alerts
- Day 7: Energy efficient appliances
- Day 8: Energy conservation perceptions

Participant Overview (n=24)

All geographic regions of California represented

- Northern California (n=3), Greater Sacramento (n=5), Bay Area (n=5), San Joaquin Valley (n=5), and Southern California (n = 6).

Majority live in single-family homes (n=15)

- Apartment (n=3), townhome or condo (n=2); duplex, triplex, or quadplex (n=2); and a mobile home (n=2).

Majority had natural gas and electricity (n=16)

- Six were all electric.
- Some also used propane (n=4) or wood pellets and/or fireplace (n=5).

Participants were more aware of Flex Alerts than general CA population

- 71% of participants recognized the Flex Alert campaign, compared to 53% of general population.*



* Result from August 2021 Flex Alert Tracking Survey



Opinion **Dynamics**

Results





Opinion **Dynamics**



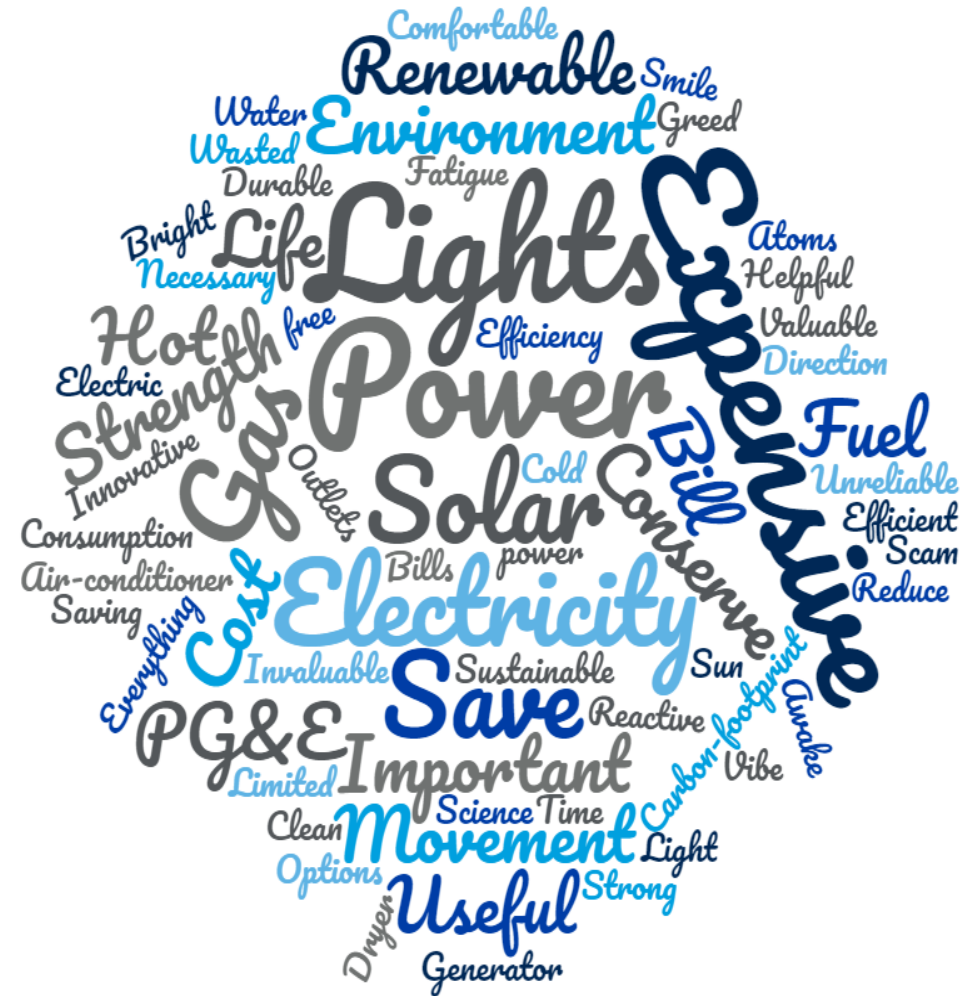
What prompts Californians
to think about energy?



Words associated with “energy”

Common themes:

- Items in home
- Temperature in home
- Environment
- Financial
- Beneficial or essential for life



What did they think, hear, or see about energy?



Question prompt: “Describe what you saw, read, heard, or thought about energy from <SPECIFY TIME>.”

Day 2 of diary study.

Four distinct time entries (Awake – noon; noon – 4pm; 4pm – 9pm; 9 pm – bed).

Many described habits/routines that aligned with California load curves where activity spikes in evening. Habits can be hard to change.



Despite daily energy use, are not thinking about energy daily

- A few called out that it is not top of mind (n=3).
 - “Most the time we just go [about] doing life's demands and *don't even think about energy* and usage at all.”
 - “*I did not actively think about* or read anything about energy after 9pm, but I did use energy. I ran the dishwasher, which I typically will do before bed, charged my phone and watched some television.”
- Being in the study prompted some to think about energy (n=10).
 - “Energy likely would not have specifically crossed my mind today *if it were not for this study*, to be honest.”
 - “I was definitely more aware of my energy use *because of this study* I am enrolled in today.”

But a few do think about it often (n=3)

- When plugging appliances back in.
 - “I usually unplug all non-essential appliances (Keurig, electric kettle, toaster oven) to save electricity *so every time I plug them in to use them, I think about energy.*”
- When planning each day around TOU rates.
 - “I thought about emptying and reloading/running the dishwasher later today...However, I opted to stay inside and do the kitchen work first because *3 pm is the energy "witching hour,"* ... I try to get all laundry, dishwasher running, etc. done BEFORE that time, so we're staying at the lowest rate possible. *This is top of mind for me each day,* when I plan my schedule for work around the house. I even ran a load of laundry at midnight, last night, and got up early to throw it in the dryer, because I knew we had several loads to get done BEFORE 3pm.”

Morning Routines

AWAKE
TO
NOON



Participants are waking up, turning on lights, turning off night lights, checking the weather, and/or determining if AC is needed as part of their routine.



In doing so, they are wondering what the cost of energy will be for the day if the AC is on, what their monthly bill will be, and/or when to plan their household activities per peak hours/TOU rates.



The weather played a large role in their explanations around energy use – how hot or cold it is outside can determine whether they open windows, turn on fans, keep the house dark with shades drawn, turn the AC on, or even turn the heat on during cold mornings.

Afternoon

NOON
TO
4 PM



Not many routines are mentioned in the afternoon hours.



Participants wrote about work and school and the electricity that they use for those activities.



Computers, appliances, and general electronics are widely used during this time.



Participants talked about how changes in the weather impacted their decisions around heating and cooling (Ex: Got hotter so turned fan on).



A quarter of participants discussed thoughts and concerns about wasting energy in this time frame. This was mainly about how other Californians, people in general, or sometimes themselves were wasting energy and how this needed to change.

Evening Routines

4 PM
TO
9 PM



Participants adjust lights and AC or heat as needed.



Making and eating dinner is consistent topic. (How hot is it, can we use our oven?)



Some are thinking of laundry and dishes that need to be done but waiting till past 9pm to begin or handwashing/air-drying.



Some are relaxing and enjoying entertainment. (TV, streaming services, music and one participant mentioned watching a HTGV show that mentioned insulation and energy efficiency.)

Night Routines

9 PM
TO
BED



Participants are winding down for the night and getting ready for bed.



They are watching TV or streaming shows, turning off lights, unplugging or powering down appliances and electronics, and adjusting the AC/fans/or heat.



For those concerned about TOU, they may be starting their dishwasher or laundry.



Thoughts around energy conservation were highest from 9 p.m.- bedtime with five people sharing thoughts about conservation in their household.

Positive & Negative Sentiments



POSITIVE

- 17 participants shared positive feelings regarding what they saw, heard, or thought about energy use.
- Highest in the morning and evening (n=8 and 9, respectively)

“I was happy to be able to open the windows and blinds today. The sun just adds that extra cheerfulness.”



NEGATIVE

- 13 participants shared negative feelings regarding what they saw, heard, or thought about energy use.
- Highest in the afternoon and evening (n=9 and 7, respectively)

“I also thought about how energy affects my work. I’m currently working from home and my computer needs to be plugged into an outlet, otherwise it will just shut off. I thought about a power outage making it impossible for me to finish my work. I felt a bit hesitant/ anxious that a loss of energy could affect my work.”



Sentiments

- Thoughts on energy conservation and wasting energy were in relation to positive and negative feelings.
 - Four participants shared positive feelings regarding energy conservation, while three shared negative feelings regarding energy conservation.
 - Feeling empowered or good about doing their part (+).
 - Feeling sad, mad not conserving more, everyone not doing their part (-).
 - Five participants shared negative feelings regarding wasting energy.
 - Guilt, anger, worry about wasted energy.

There is no need for the thermostat to be set that low. Again, wasting energy. Not meaning to, but definitely wasting. After noticing how low the thermostat was set at, I immediately changed the setting to 78 degrees. ...This definitely made me feel angry [at my wife].

Sentiments

- A couple participants shared negative sentiments towards utilities (energy/power companies):
 - “I'm extremely mad at power companies to have not developed a safe, dependable, infrastructure that has grown with increasing populations and to have the power when it is needed most. Lastly, energy companies have been paralyzingly slow at finding alternatives to fossil fuels.”
 - “Why do I have to conserve energy when energy companies should not have let us become so dependent on something that they can't keep up with demand. I'm old and tired of trying to be conservative with energy. How did it take so long to make conservation so seriously relevant?”



How do Californians think about the need to save energy?



Activities during 4:00 p.m. to 9:00 p.m.

- To understand what participants thought about saving energy from 4 – 9 p.m. and related barriers, we first asked what they were typically doing during this time frame.
 - Majority are cooking or recreating.
 - Only 6 reported using AC or fans for cooling, but presumably more have it running.
- We also asked what used the most energy during that time.
 - 5 of the 6 reported cooling (AC or fans) uses the most energy.
 - 7 thought cooking used most energy.
 - 2 each thought their TV, their fridge, or their chargers used the most energy.

| Items or Activities | n |
|--|----|
| Cooking dinner | 17 |
| Recreation (TV, radio/music, video games, exercise machine, sewing machine, electric guitar, electric drill, swimming pool w/pump) | 17 |
| Using portable devices (cell phone, laptop computer, tablet, iPod) | 13 |
| Lights | 7 |
| Charging devices | 6 |
| Cooling (AC or fans) | 6 |
| Laundry | 3 |
| Dishwashing | 3 |
| Bathing/showering | 2 |
| Other plug loads (alarm clock, cordless phone, power strips, coffee maker, fridge) | 2 |

Note: This was an open-ended question and participants listed multiple activities which were coded into the above categories, n=24.

Challenges shifting energy use away from peak hours

Opportunity

Three voluntarily noted laundry would be easy for them to shift.

Limitations

One mentioned they already reduce as much as they could.



Fixed Schedules or Routines

- Work schedule inflexible (n=5).
- Need to cook/eat dinner (n=5).
- Need to relax and/or exercise (n=4).

Safety and Comfortability

Three mentioned they needed HVAC to be safe and/or comfortable.



Two with EVs faced **no challenges** to avoid charging from 4-9pm. One did not charge at home and the other already has it set up to charge overnight to keep costs low.

Challenges shifting energy use away from peak hours

“I have a small child and need to have dinner ready at an appropriate time. I could probably charge my phone at other times but mostly need to keep the laptop plugged in.”

“The only issue would be working out for me. I can't do this before 4pm since I am at work. After 9pm would be hard too because I go to bed at 10 and it would hard to sleep after a workout.”

“I can shift any other thing but cannot shift watching television or news because I use this every day to relax myself from work stress.”



Flex Alerts

- The majority of participants had heard of Flex Alerts (17 of 24).
 - This was higher than the general population.
- All but one respondent was willing to receive Flex Alert notifications, and two already get them.
- More generally, most (19 of 24; 79%) wanted to be notified of an expected power outage via a text message. Email was preferred by 5 (21%). (This includes a power outages related to electricity supply issues.)
- There was some confusion as to how a Flex Alert specifically differed from a PSPS.
 - Most respondents knew or were able to guess what a PSPS was (20 of 24). However, when it came to contrasting a PSPS from a Flex Alert, just more than half (14 of 24) were able to accurately describe these two alerts in a way that demonstrated they understand how a PSPS differs from a Flex Alert and the other half did not characterize the two completely correctly or guessed incorrectly.
 - Most described PSPS events as outages planned by the utility company during times of extreme weather to prevent wildfires.

Perceived Benefits of Flex Alerts

CONSISTENT FEEDBACK

- Preventing outages (n=12)
 - Keeping power on longer, keeping food cold, able to still use some power while reducing overall consumption, medical equipment would still work
- Energy conservation/savings (n=5)
- Financial savings (n=5)
- Information provision (n=4)
- Preventing wildfires/hazards (n=2)*

** This is a misperception/confusion with PSPS.*

ONE-OFF MENTIONS

- Being a “good neighbor”
- Feeling empowered
- Helping the environment
- Families might spend more time together

Perceived Challenges of Flex Alerts

ONE-OFF MENTIONS

- Timing
- Laundry
- Remembering when it is in effect
- Children remembering what actions to take
- Refraining from appliance use for extended time period

CONSISTENT FEEDBACK

- Need electricity for the following reasons:
 - To keep AC running (n=10)
 - Need AC generally, need to keep pets cool, need AC for health issues, deserve AC after long workday
 - Open to running AC at higher temp but not turning off completely (aligns with 78-degree recommendation)
 - Heating up food, prepping food (n=2)
 - To complete schoolwork or work if working from home (n=2)
- Several challenges listed were conflated with power outages (needing electricity for medical equipment, needing light for pets, needing hot water, keeping fridge cold)
- Seven participants said they personally had no barriers or challenges

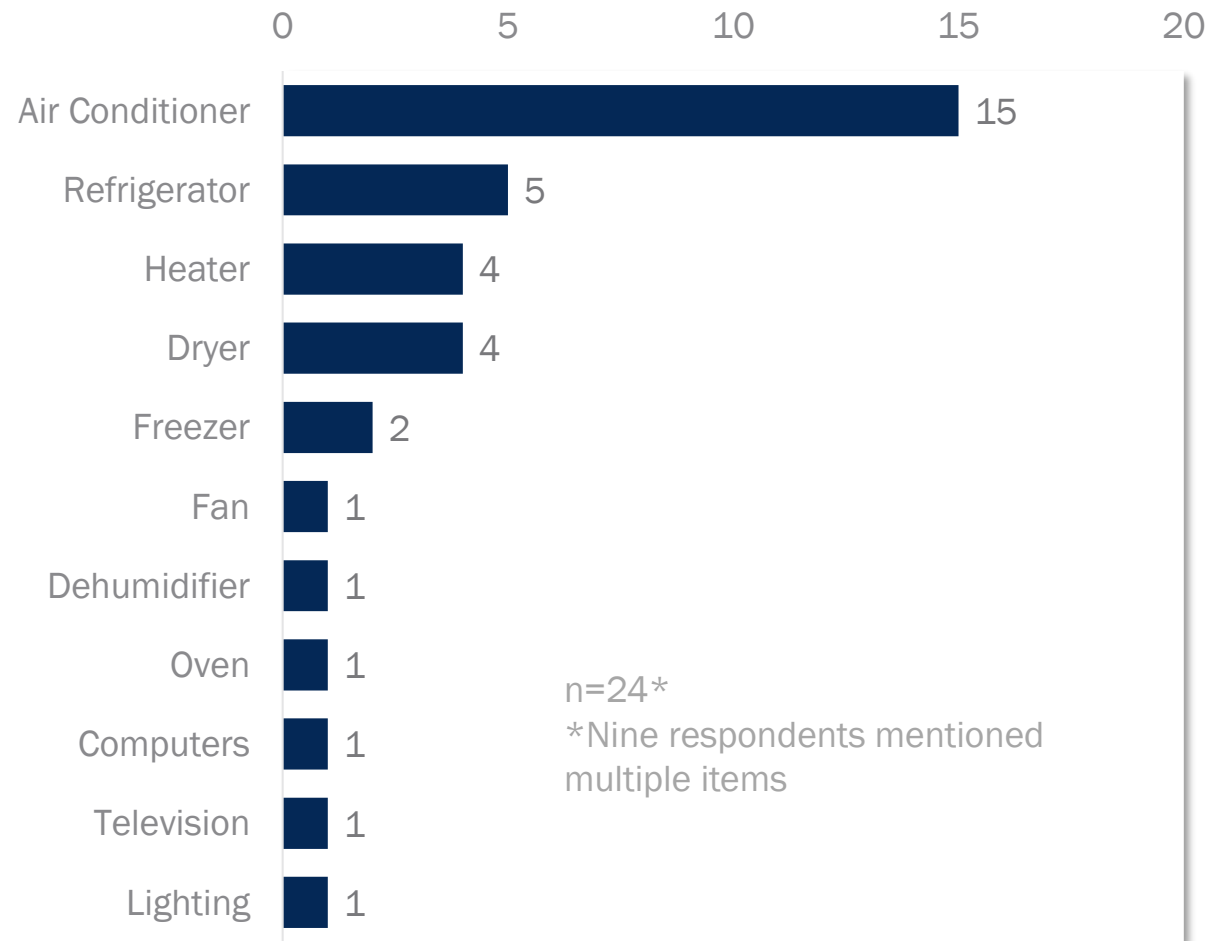


What motivates Californians to take energy saving actions?

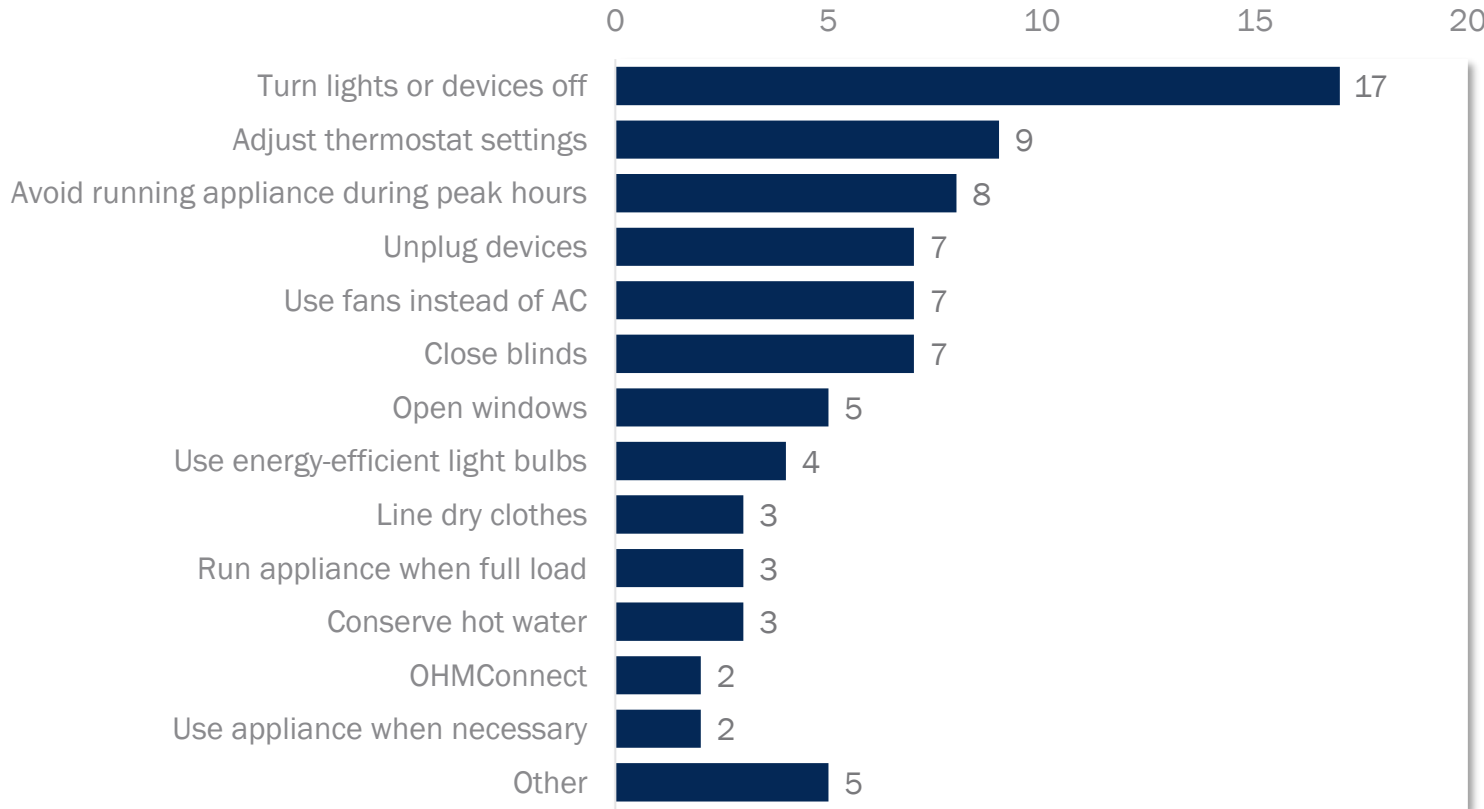


What uses the most energy in your home?

- To understand motivation for actions, we asked about what used energy in their homes.
- AC was identified as #1.
- Participants identified refrigerator as #2 because it runs all the time.



Energy Conservation Activities They Already Do



- We also asked what activities they are already doing.
- Participants mostly take low-effort actions.
 - Turning off unused items is most common.
 - Cooling-related items are also common.

Participants were interested in incentives and utility programs

- When asked about *reducing energy use to receive a utility incentive*:
 - 42% said they already did this and 54% said they might do it.
 - 4% said they'd do it if there was a threat of an outage and no participants said they would never do it.
- When asked about *enrolling in a local utility energy efficiency program*:
 - 41% said they already did this and 55% said they might do it.
 - 5% said they'd do it if there was a threat of an outage and no participant said they would never do it.
- When asked about *getting a home energy assessment* to identify opportunities to save energy:
 - 23% said they already did this and 68% said they might do it.
 - 5% said they'd do it if there was a threat of an outage and 5% said they would never do it.

AC is seen as a big energy user and some DR barriers exist

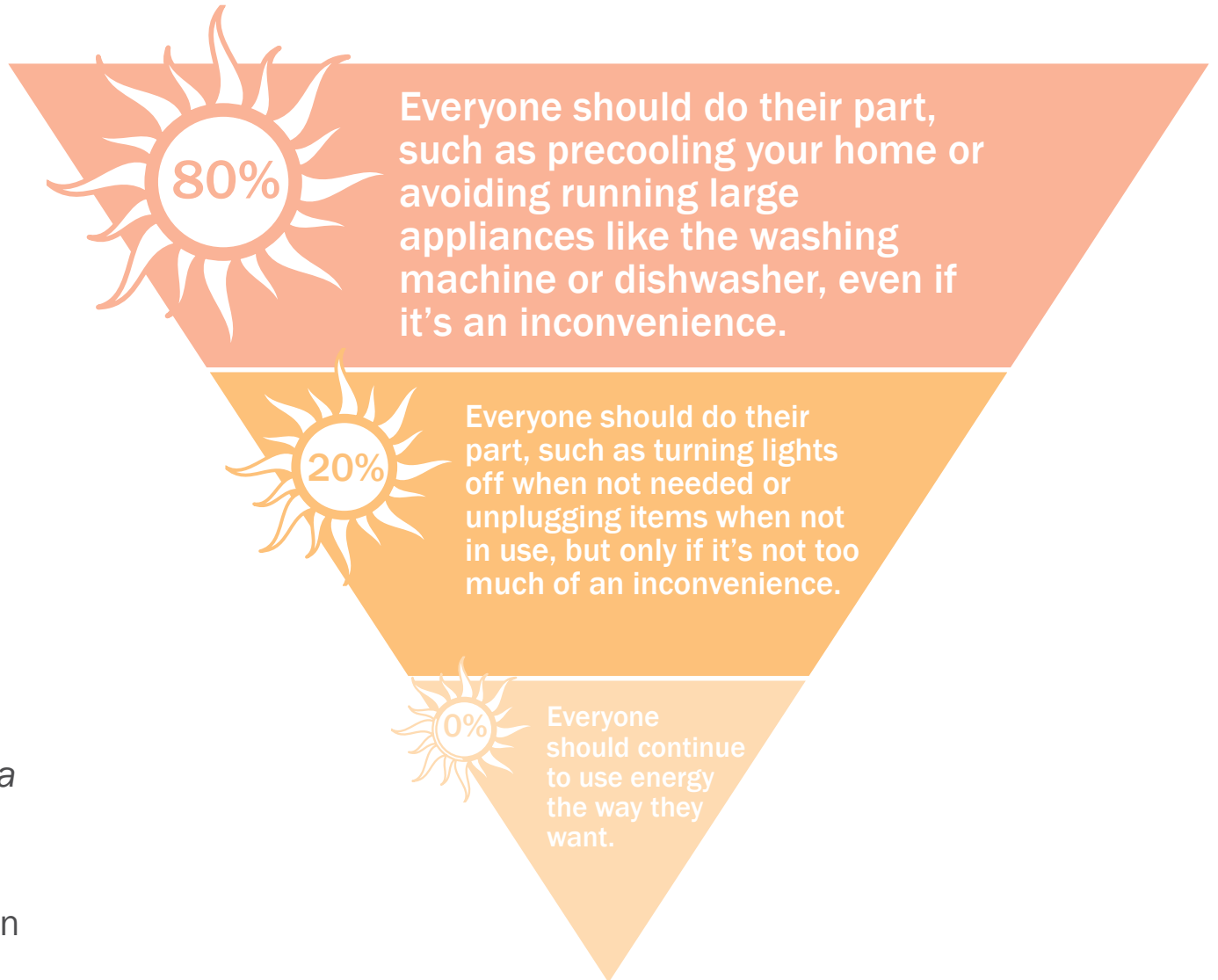
- Majority of participants (65%) identified their AC as the biggest energy user in their home.
- When asked about turning their AC to 78 degrees on hot days:
 - 55% said they already did this and 17% said they might do it.
 - 11% said they'd do it if there was a threat of an outage and 17% said they would never do it.
- When asked about letting their utility remotely adjust their AC temperature:
 - 5% said they already did this and 16% said they might do it.
 - 21% said they'd do it if there was a threat of an outage and 58% said they would never do it.
 - Interestingly, more participants would consider letting their utility remotely adjust their hot water heater, as compared to adjusting their AC.
 - Only 38% said they would never let their utility adjust their hot water heater, compared to 58% for AC.



Motivated to “do their part” on hot days

- Everyone thought Californians should do their part to reduce energy use on hot days when demand is predicted to exceed supply and potentially cause an outage.
- Level of effort differed
 - Majority (80%) agreed everyone should take larger effort actions even if it is an inconvenience.

“I think inconveniences such as doing laundry at a different time are not much of an inconvenience. It would be more of an inconvenience to have a power outage, so the collective effort people make can have a greater reward.”
 - 20% agreed everyone should take smaller effort actions but only if it’s not too much of an inconvenience.



What did you learn from the study?

“I have learned more about the hours that I should conserve on energy usage the most. I have learned about flex alerts messages.”

“I've learned that individuals can help avoid power outages through energy conservation efforts. In my household, we use a 5-8pm energy rate plan, and I did not know that this had other significant benefits besides economic benefits. Lastly, I've learned about new tools like Flex Alerts, which I might use in the future.”

| What they learned about | Frequency |
|--|-----------|
| There is more they can do to save energy | 14 |
| Flex Alerts | 7 |
| High demand can cause power outages | 5 |
| Peak times (in the afternoon) | 3 |
| Now motivated to get others to save energy | 2 |
| Nothing | 2 |

- 22 of 24 reported learning something when we asked them to reflect on the past 8 days and tell us if they learned anything new or were thinking about things in a new way.
- Mostly learned new ways to save energy (appliances and devices).
- Also, participants learned about Flex Alerts, peak times, and peak demand.



New energy saving actions planned by most

Majority of participants (19 of 24) were planning to take new actions, as reported on the last day of the diary.

| Any additional energy saving actions planned? | Frequency | Examples |
|---|-----------|--|
| Investigate an expensive upgrade | 6 | "I want to look into solar energy and using more ENERGY STAR appliances. And we are hopefully getting an induction oven/ range very soon." |
| Buy a low-cost product | 4 | "I am going to look into smart switches to time the lights. I am going to ask my landlord if I can get a smart thermostat." "I plan to get more fans and black out curtains." |
| Unplug unused items | 4 | "I think we do pretty good saving at home, but I plan to start unplugging the TVs and video game systems when they are not being used." |
| Take action during peak times | 4 | "I think changing the time of day I do laundry and run the dishwasher is something I will try to implement. These are easy steps that I can start taking right away." |
| Other action planned | 2 | Limit fridge/freezer use, put on warmer clothes |
| No, already doing all they can | 5 | "Because my household already takes steps to minimize energy consumption, I don't plan to change any of my actions. However, this survey has been helpful to reinforce existing habits that my household already takes such as setting the air conditioner to 78 degrees." |

Note: Total does not equal 24 because one participant described multiple actions to take.

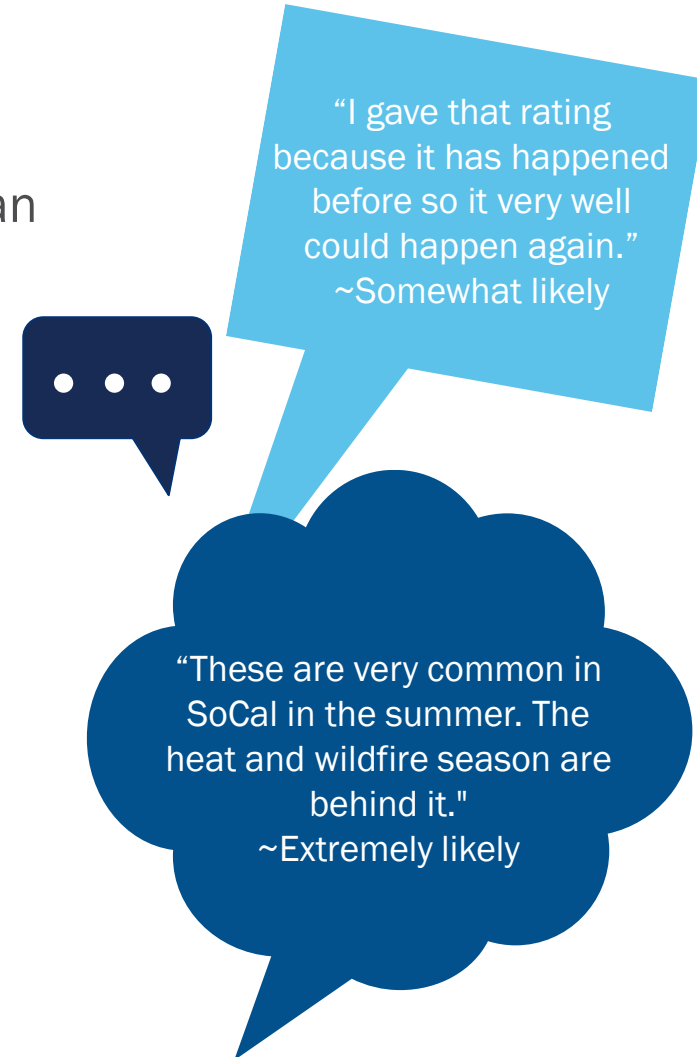
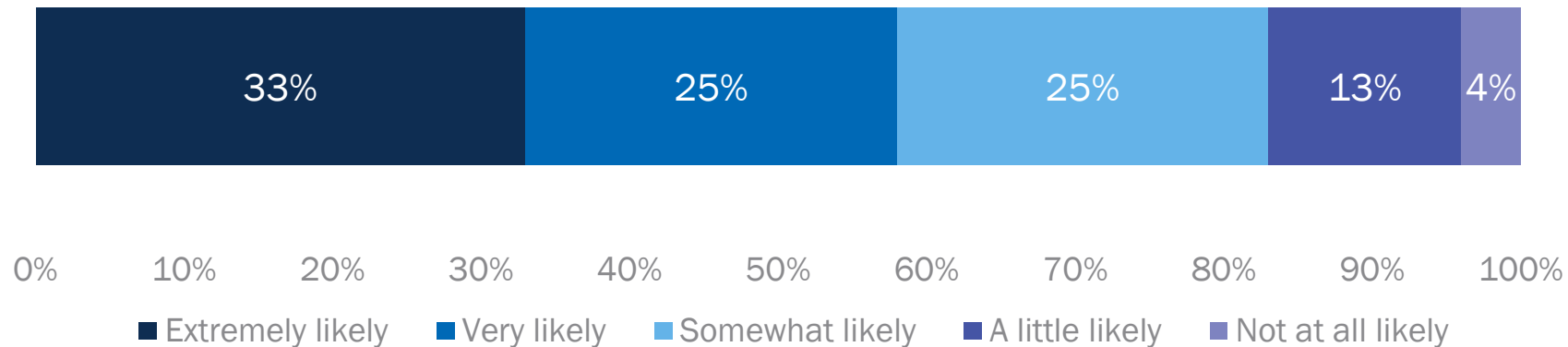


How do experiences with energy emergencies impact decision-making?



Power outages were familiar and expected

- All 24 had experienced an outage in California.
- More than half (14 of 24) believe there is a strong likelihood of a power outage occurring in their area in the next six months; one-third predicted an outage to be extremely likely.



Inconvenience or Emergency?

When asked if it felt like an inconvenience or an emergency, the majority (22 of 24) described their experiences with a real power outage as an inconvenience.

“An inconvenience, unless my son needed emergency relief, then it became an emergency. There have been a few trips to urgent care because of power outages due to not being able to use the nebulizer or because of anxiety.”

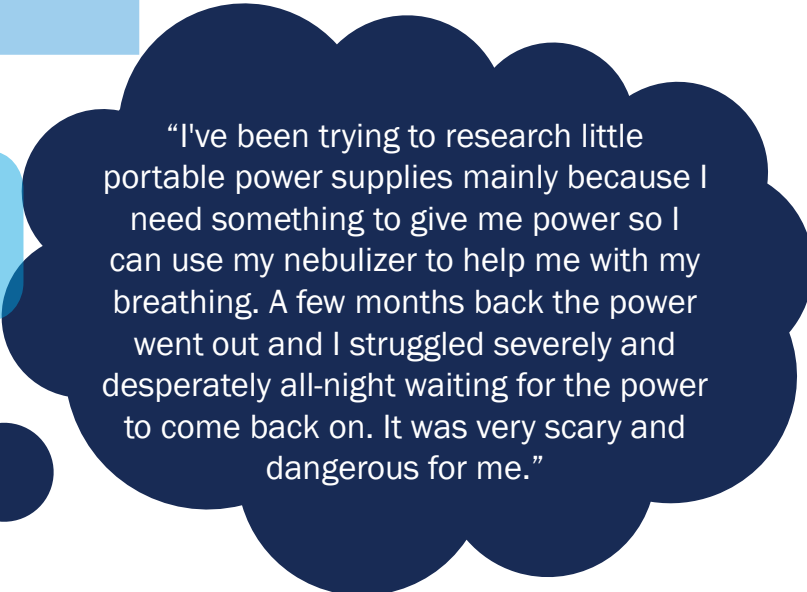
“[It was an] inconvenience for myself; no internet or TV, no microwave. An emergency for my friends and the elderly—I was scared for them and scared for those that didn't have someone to help them, or a place to go. People that need their oxygen or other medical devices.”

“It was an inconvenience. We couldn't use the things we wanted to—watch tv, turn on the lights, we were worried about our food spoiling!”

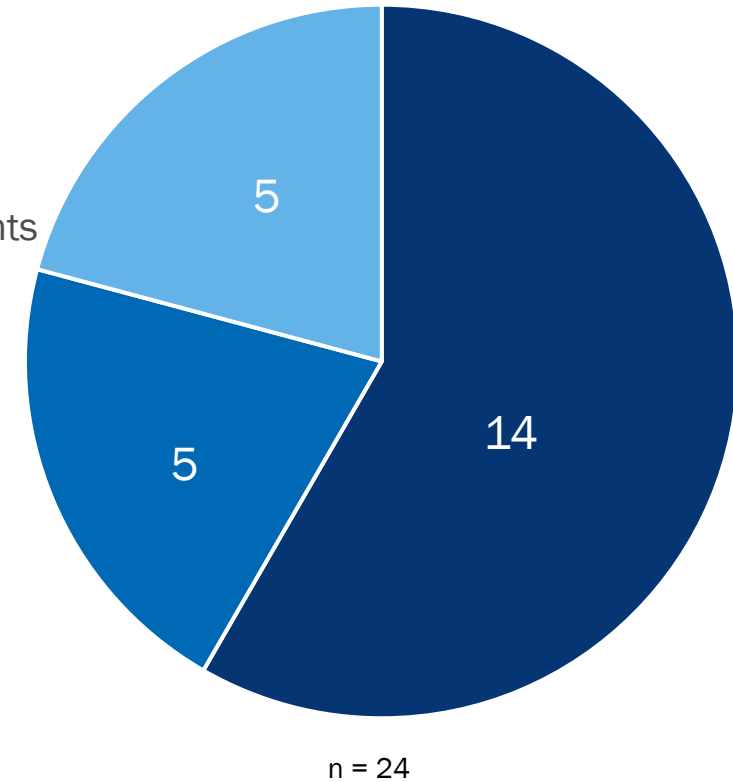


Actions Taken as a Result of Outage Experience

- Most (19 of 24) made a change.
 - Purchased solar-powered items (lights, chargers/generators), power banks, and/or gas generators.
 - Behavioral changes included having candles & flashlights ready, extra batteries and water on hand, aligns with emergency preparedness.



“I’ve been trying to research little portable power supplies mainly because I need something to give me power so I can use my nebulizer to help me with my breathing. A few months back the power went out and I struggled severely and desperately all-night waiting for the power to come back on. It was very scary and dangerous for me.”



- Purchased outage mitigating item
- Made behavioral changes, but did not purchase outage mitigating item
- No action taken



What appliance type would they purchase next?

Participants were presented with a hypothetical situation where their water heater, dryer, or other large appliance broke down and they could choose to replace it with an energy efficient *electric* or energy efficient *natural gas* appliance.

- For those in dual-fuel homes (n=18), if a major appliance needed to be replaced, most would either be indifferent as to the fuel type (n=7) and/or they would prefer a natural gas appliance (n=7).
- Those who were indifferent about fuel type valued characteristics such as the upfront cost, longevity, and “smart” features.
- Those who preferred natural gas cited ability to use during power outage, cheaper cost of operation, and energy savings.
 - Although we did not ask them to specifically state appliance type, most natural gas appliances do not work during an outage, except for a gas cooktop ranges.
- Those who preferred electric (n=4) viewed it as using cleaner energy.

Differing thoughts on appliance upgrades

“I would opt for electric because in California it is cleaner energy at the moment with more renewables. Then in the future, it will be for sure as the state cuts the last of natural gas power plants.”

“This question seems like an absolute no brainer. Why would you not go with gas when this decision saves energy and when there are no advantages to staying with an electric appliance?”

- Experiences with outages does not seem to impact whether our participants would go with natural gas or electric appliances in a future upgrade.
- However, if participants inaccurately believe their natural gas appliances will work in an outage (other than a cooktop), then this is an important misperception to correct.



Communication:

Where are Californians seeing or hearing energy messaging?

How can we effectively communicate about energy day to day and in times of crisis?



Californians are most likely to receive energy information from utilities

Participants listed up to 10 organizations/groups that provide them with energy information, (total mentions = 139). Utilities were most frequently listed, but utilities were also suggested as an option in question stem. Respondents were also aware of federal, state, and local groups.

| Organization Type | # of Times Mentioned | Examples |
|-------------------------|----------------------|---|
| Utility | 44 | PG&E, SCE, SoCalGas, SMUD, SDG&E |
| Federal agency | 21 | DOE, EPA, Energy Information Administration |
| Private company | 14 | BP, Chevron, Tesla |
| Sustainability NGO | 8 | Global Green USA, Green-e, Need.org, Openei.org |
| Energy initiative | 7 | Ohm Connect, RE100 |
| Solar provider | 7 | Complete Solar, Sun Run, Sun Solar, Sunpower |
| EE brand | 5 | ENERGY STAR |
| State government | 5 | California Energy Commission, California state government |
| Nonprofit | 4 | Greenpeace, Sierra Club |
| Weatherization provider | 4 | LIHEAP, Redwood Community Action |
| Media company | 3 | News, NPR |

Out of all energy information mentions (n=139), only 8 pertained to times of crisis, outages, or peak demand.

- After asking participants to list up to 10 organizations that provide them with energy information, we asked participants what the groups they listed “say or do about energy.”
- We analyzed these answers to better understand if participants associated energy emergencies/outages with “energy information.”
 - Participants are not typically associating emergencies, outages, or crises with energy information.


| Organization Type - Specific | # of Times Mentioned | Examples |
|-------------------------------|----------------------|--|
| Northern California Utilities | 4 | Talk about outages, preventing wildfires, and how to conserve during times of high usage |
| Ohm Connect | 2 | Encourages energy reductions at peak times |
| News Media | 1 | Shares information about outages |
| California State Government | 1 | Works to decrease chances of wildfires by encouraging smart energy use |

What information do they want to know about outages and from whom?




- If an energy emergency were to occur, respondents want to hear from local sources:
 - their utility (n=15)
 - news stations (n=6)
 - first responders (n=5)
 - state government agencies (n=4)
- Top informational needs for an outage include:
 - length of outage
 - start and stop times
 - location/spread of outage
 - cause of outage
 - available support


Source preference quotes



“I would like to hear from government agencies because I think they are best equipped to help consumers during emergencies.”



“The power companies send out emergency information usually so that's who I want to hear from.”



“I want to hear from news agencies. I want local media to be on top of the situation.”



Thoughts upon hearing of a hypothetical outage on a hot day

We asked participants to imagine they heard from family or a friend that a power outage might occur on Monday, which would be a very hot day. We then asked a series of questions about that hypothetical outage.

“What do you think about?”

- Half think about leaving their home.
- Others think about taking mitigation strategies.
- Many are concerned about food and cooking.

| What do you think about? | Frequency |
|--|-----------|
| Where to go away from home | 12 |
| How hot will it be at home/how to stay cool at home | 11 |
| Worry about food in fridge/freezer | 9 |
| What can't be done at home with power out | 7 |
| Planning what needs to be done before outage | 6 |
| Considering buying a generator/solar | 5 |
| The cause of the outage and what important information to know | 4 |

“How would you prepare for the power outage?”

- Food-related prep most reported activity
- Seven would attempt to cool the house before the outage.
- Five concerned about how the outage would affect drinking water.

| Activity to Prepare | Frequency |
|--|-----------|
| Finish perishable food/buy food that doesn't need to be cooked | 14 |
| Charge devices or generator; buy gas for generator | 12 |
| Get candles/lanterns/flashlight batteries | 9 |
| Make plans to be elsewhere | 9 |
| Make or buy ice | 8 |
| Try to keep house cool (open windows at night, close in the day; close blinds; general cooling beforehand) | 7 |
| Buy a backup charger, power bank | 5 |
| Stock up on water | 5 |
| Make plan for medication | 2 |

“I would make sure the kids were not at home that day. It would be too hot with no power. Then I would make sure I had coolers filled with ice to keep the perishable food from being ruined. I probably wouldn't shop for groceries the weekend before the outage because that would be less food to have to place under ice.”



“What would you do differently on Monday because of the power outage?”

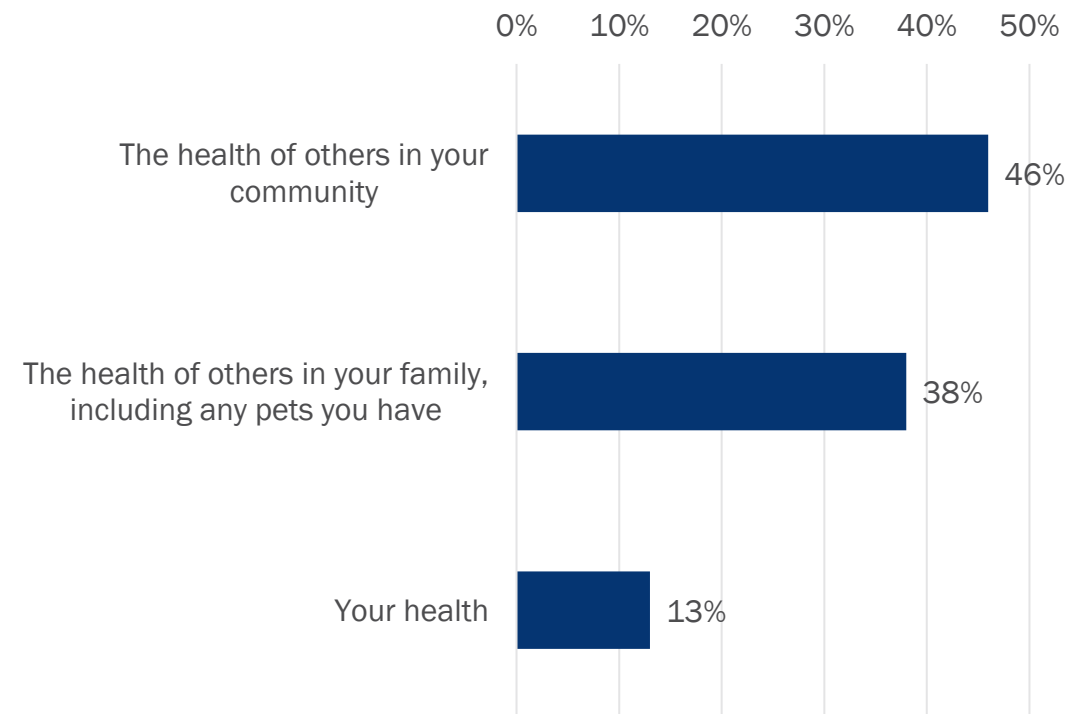
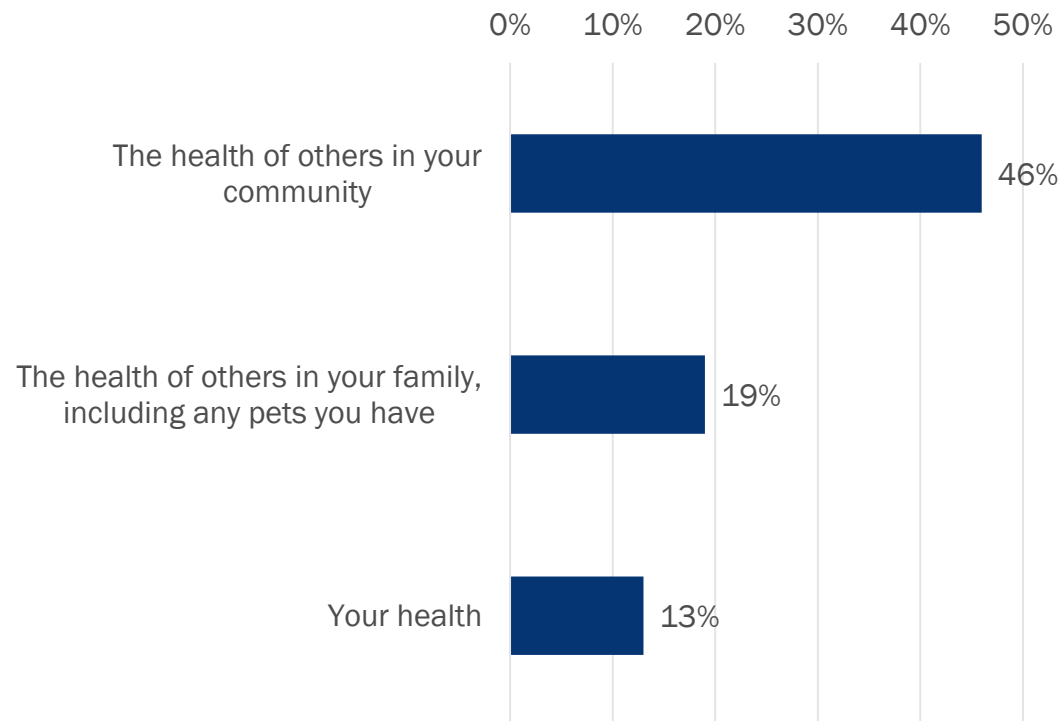
- Overall, things would be more difficult as many respondents would need to make arrangements for paid work or schoolwork.
 - This might involve leaving the home.
- Some participants would also try to relax and/or keep cool at home.

| How their day would be different without power | Frequency |
|--|-----------|
| Work would become more difficult | 7 |
| Leave the house | 7 |
| Relax at home | 5 |
| Try to keep cool at home | 5 |
| Eat cold food | 4 |
| Listen to the news while at home | 3 |
| Nothing too different | 3 |

Participants expect more harm to come to others and are more worried about others during a power outage

If a power outage due to a heat wave were to occur in your local area, how much, if at all, do you think it would harm the following?

How worried, if at all, are you about the effects a power outage due to a heat wave on the following?



Percentage of respondents that rated level of harm or worry at 60 or more on a scale of 0 (“not harmful at all”/“not worried at all”) to 100 (“extremely harmful”/“extremely worried”).

n = 24 for health of others in community and your health, n = 21 for health of others in family due to individuals living alone without pets.

Flex Alert Messaging Activities

To better understand messaging around Flex Alerts, we created two activities that allowed participants to indicate what they liked and disliked about Flex Alert content.

I. TEXT HIGHLIGHTING

- Diary participants read a Flex Alert press release from 2020.
- Asked to highlight words/phrases they liked and disliked.



2. GRAPHIC HEATMAP

- Diary participants viewed screenshot from CAISO's webpage.
- Image of actual Flex Alert messaging.
- Asked to click on areas they liked and disliked.

Messaging Results

- Participants liked most of the graphics from the webpage screenshot.
- Certain phrases from the press release resonated well.

I. TEXT HIGHLIGHTING

+

“Voluntary electricity conservation,”
“avoid power interruptions,”
“prevent emergency measures”
because these phrases underscored
the positive outcomes and voluntary
nature.

“Capacity gaps” because some
participants did not know what this
meant.

Two graphics with plugs were
disliked by some due to perception
that the savings would be negligible.
Others mentioned they did not
dislike anything on the page.

+

Most activity graphics were liked
and described as simple, easy to
understand. The inclusion of the
date and time were also liked.

Note: Heatmap graphics are available in the Appendix, along with additional text highlighting results

2. GRAPHIC HEATMAP

Communicating in time of crisis

- Thoughts on communicating during times of crisis varied across participants.
- Texts and email notifications were listed as preferred ways to communicate emergencies.
 - “It’s incredibly essential to communicate [during times of] crisis. Text messages are most efficient since everyone has their phone. Also giving examples of how we can help and what we can do is very helpful!”
 - Aligns with previous finding most (19 of 24; 79%) wanted to be notified of an expected power outage via a text message followed by emails (21%).
 - One person mentioned preferring text messages, recorded phone alerts, or social media because they felt the emergency information from “the website is usually behind in the information and often crashes anyway.”
 - One person also mentioned phone alerts, such as a weather app-based notification
- Friends, families, neighbors were mentioned as a network for communication and support.
 - “We have a neighborhood group that puts out texts, emails and phone calls to all of the members in case of emergency and also to notify about things like power outages. There were a couple of nearby fires in the past couple of years that it was very helpful to hear about through these messages.”

“What has CA communicated well during an emergency or crisis?”

- Participants noted that CA is doing well in sending alerts via text messages, social media, emails and/or generally notifying the public.
 - “I think California has been very good about sending out warning during a crisis. I also have seen communities come together in California and help each other during crisis.”
 - CA as a “state” was interpreted broadly to include state government, utility, press conferences, local news, etc.
- Additionally, some participants highlighted how CA was putting more effort into communication and education.
- Eight participants reported CA had not been doing things well in this question prompt, even though this question prompt was designed to elicit the positive side of communication efforts.

“What has CA not communicated well during an emergency or crisis?”

- Emergency warnings/dangers due to wildfires.
 - “People died due to fires caused by power companies. I guess they didn’t get the message.”
- Power Outages.
 - “California has not informed citizens of upcoming power outages. They are vague about when, where and how long. *This makes it difficult for a family to prepare* to be without energy for a period of time.”
- Some participants described needing to do an online search for relevant information.
 - *“Information is usually available if you know where to look, although it is annoying to have to go to different websites and comb through their information to find what you want.* For power outages, you have to go to the utility website, log on, find the "report an outage" section, then they will sometimes have your power outage and estimate on there, sometimes not. Cal fire does not cover all fires, so you have to first check their site and then go on to others.”
- Five participants reported they did not have anything negative to say for this prompt.

In general, respondents understand the connection between heat waves and energy use



Imagine you have a houseguest visiting from a foreign country and you found out that there will be a heatwave over the next few days. How would you explain to your houseguest the relationship between the heat wave and energy use at your house?

Many participants discussed solely in terms of grid stress resulting from the heatwave leading to a potential outage.

Some also discussed the heat wave creating fires, which could also lead to potential outages.

One participant mentioned power usage starting or at least contributing to wildfires. It was not clear if they were referring to their specific use of energy contributing to the wildfire or lack of de-energization of power lines (PSPS being called) and continued energy use.



How participants describe the connection between heatwaves and energy use to a hypothetical houseguest



“I would say that the more energy we use, the more the power grid has to work. When it's very hot, we all use more electricity to power fans and AC, which can overwhelm the grid. We need to save energy however we can to help lighten the load.”



“I would let them know that everything runs off power and when the heat goes up that the demand for power is greater.”



“I think I would tell them that during heat waves, the power companies sometimes turn power off to everyone if the overall usage in town is really high, or if they suspect a wildfire may start. Because of this, we ALL need to try and use a lot less power so turn the darn lights off!”



Key Takeaways and Recommendations



Key Takeaways – Routines and Demand Response

- Routines and habits make it hard to shift use during peak periods and/or during Flex Alerts.
 - Kids, pets, and inflexible schedules constrain shifting ability. For example, people still need to eat dinner between 4 - 9 p.m. and want to be comfortable in their homes.
 - Some tasks/actions are perceived to be easier to shift to off-peak such as laundry, dishes.
- Respondents were more willing to have their water heater remotely adjusted by the utility than their air conditioning.
 - 58% said they would never allow their utility to remotely adjust their AC, even if there was a threat of a power outage, indicating an outreach opportunity.
 - A large majority (19 of 24) said Californians should reduce energy *use during peak times* to prevent an outage *even if it's an inconvenience* and 100% thought Californians should do their part to reduce energy use *on hot days when demand is predicted to exceed supply* and potentially cause an outage, although the level of effort differed.

Recommendation #1: Use a three-pronged strategy for non-emergency communication

Consider the following strategies for non-emergency communication:

- 1) Promote the actions and items that are not perceived as difficult to change – laundry, dishwasher, power strips and devices.
- 2) Promote automated Demand Response – Set it and forget it.
 - Due to challenges with changing habitual or routine behavior, automated demand response capabilities could have potential.
 - Consider focusing future messaging on increasing familiarity and acceptance with automated control technologies for AC. Previous research has shown high satisfaction of people who are on AC cycling programs, which could be highlighted in these efforts.
 - Conduct additional research to understand value differences between remote operation of AC vs water heater and how those values align with Californians believing they should reduce their energy to prevent an outage.
 - Highlight capabilities for pre-cooling to increase comfort.
- 3) To reduce customer burden and fatigue, consider minimizing requests for demand reduction activities that are part of common evening routines – watching TV, cooking, exercise equipment etc.

Key Takeaways – Specifics for communication

- Participants are waking up and checking the weather on their phones and on the news.
- Participants prefer to be notified via text message if a power outage was to occur (79%).
 - For non-emergency related issues, utility bills are the preferred way to receive energy saving information.
- Local communication sources were most trusted during a crisis: local utility, local government, local news.
- Participants overwhelmingly liked the graphics for Flex Alerts as they were simple and easy to understand.
 - Participants also liked the dates and times but disliked too much text and unfamiliar words.
- When communicating outages, participants want to know when and where the outage is occurring, especially as some may want to leave their homes.
 - Early communication of the outage will help households plan ahead to mitigate impacts.

Key Takeaways – Specifics for communication

- In daily life, financial considerations were top of mind.
 - Participants mostly thought about their financial situations when reducing energy use in daily life.
 - Unplugging things, turning lights off, and running full loads of laundry and dishes were common behaviors.
- During crises, family and community considerations were top of mind.
 - Participant thoughts largely turned to others when thinking about saving energy during times of crisis—their kids, their pets, their neighbors.
 - They perceived negative impacts of power outages to be more harmful to their community members than to themselves.
 - Many saw how small actions among many people could result in a large enough effect to avoid an outage.

Recommendation #2 – Capitalize on Californians’ use of cell phones and existing partnerships

Emergency Messaging:

- Use text messaging, when possible, for emergency energy communication.
- Explore potential to partner with local governments in the Local Government Partnership program for emergency messaging.
- Emphasize community considerations such as vulnerable populations segments within content for emergency messaging.

Non-emergency Messaging:

- Use a weather-app based approach as one method communication around energy conservation on hot days.
 - Can also use this approach to communicate emergency situations but should not be a primary channel.
- Continue to explore Nextdoor.com avenues for messaging and consider expanding into topic area of pets (dogs or cats) and/or explore apps such as Chewy and Rover.
- Continue to explore partnerships with local news organizations.
- If possible, emphasize financial considerations, such as how energy conservation can help lower bills, in daily messaging.

Key Findings: Purchasing preferences and emergency preparedness

- Those who experienced outages relatively frequently purchased items or made behavioral changes to prepare for and reduce the impact of the next outage.
 - Many bought power banks, small solar powered items, and/or generators.
- In terms of future energy saving actions, ten participants were interested in purchases or upgrades, such as solar panels or energy efficient appliances and lower-cost items such as smart switches or better window shades.
 - Solar panels would need storage, however, to help mitigate household impacts of outages.
- Misperceptions around natural gas appliance use and efficiency may exist.
 - Some believed natural gas appliances used less energy and could be used during outages.
- Some participants wanted relevant information to prepare for outages or emergencies (such as wildfires) but described needing to visit multiple websites to find information, only receiving vague information about the length and timing, or not receiving any notification.

Recommendation #3: Continue to use different message content depending on context

- Preparing for a Flex Alert requires different actions than preparing for a PSPS or outage, thus the messaging should reflect this.
 - Demand shifting energy conservation messaging (like Flex Alerts) should address the perceived barrier of need for AC through clear communication around pre-cooling for comfort, in addition to consistent messages around conserving energy during 4 p.m. – 9 p.m. on hot days. (Grid resilience, statewide or regional)
 - Emergency messaging for PSPS should address the need to prepare for an imminent outage with clear communication around length, timing, and location of outage. (Emergency preparedness, more localized)

Recommendation #4: Messaging for mitigating impacts and safety

- In the future, the CPUC may want to consider messaging to help inform participants how to deal with future climate and outage impacts to build resilient households. This might entail:
 - Communication around solar panels with storage that can provide electricity during outages.
 - Communication around operating limitations for electric and natural gas appliances during outages.
 - Communication around emergency preparedness.
 - Creating a centralized website that describes outage and wildfire risks, searchable by zip code or region, so that Californians can obtain the information they need to prepare for outages or periods of energy conservation and sign up for alerts.
 - Central website would need to be optimized for high traffic, given potential for website crashing, and consistently updated.
 - Central website could also link to relevant external websites, such as utility's PSPS page, CAISO or EUC's Flex Alert webpages, Cal Fire's website etc.



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Appendix





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Who are the participants?



Demographics

- Household size ranged from 1 to 7, with an average of 3. Six households were a single person.
- 18 had pets; all cats and dogs.
- 9 have all household members home all day; 4 have all members out of the home all day, and the remaining 11 have some people home and some people out on a typical day.
- 15 had a two-year college degree or more advanced education, while nine had not completed college.
- 15 were in single-family homes, 3 in apartments. Two each were in a townhome or condo; duplex, triplex, or quadplex; and a mobile home.
- Two-thirds (n=16) had electricity and natural gas, while one-quarter (n=6) were in all-electric homes. Five also used wood for a fireplace or wood pellets for a pellet stove. Four also used propane at home.
- Everyone paid their electric bill except for one student whose parents pay the bill.

Where they live



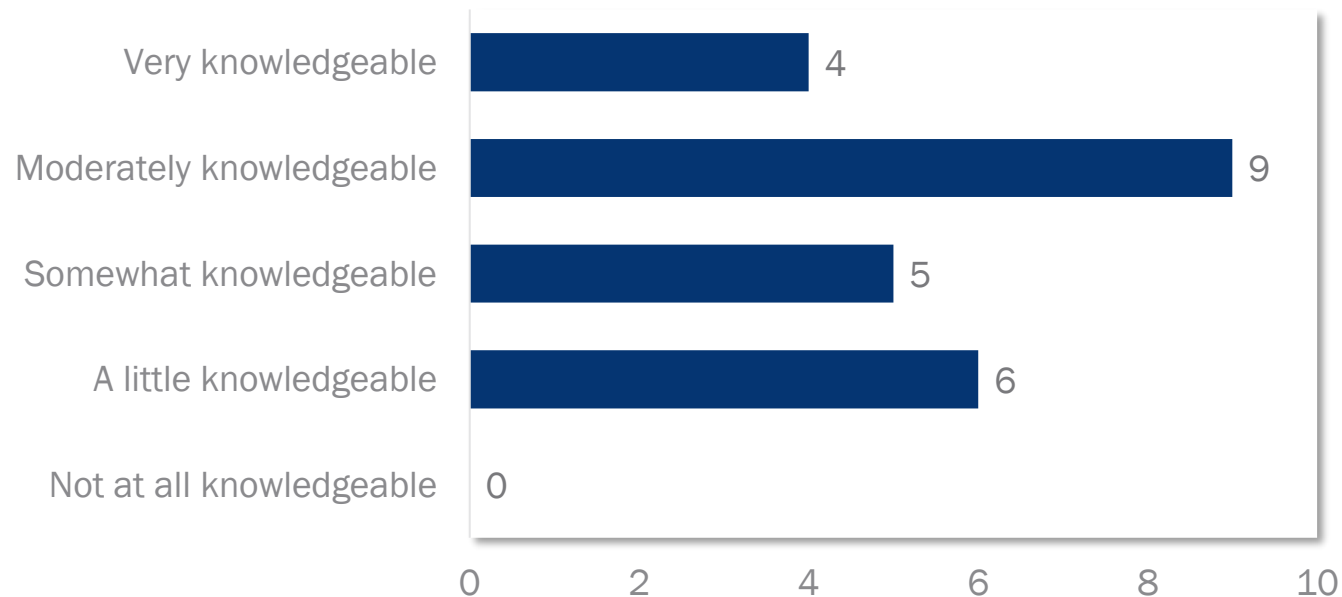


Psychographics: energy
knowledge, preferences,
concern, and actions



Participants vary in levels of knowledge about how to save energy

- Majority of respondents were somewhat, moderately, or very knowledgeable about how to save energy (n=18).
 - Four of those reported themselves to be “very knowledgeable.”
- Six respondents reported being “a little knowledgeable” but none reported being “not at all knowledgeable.”

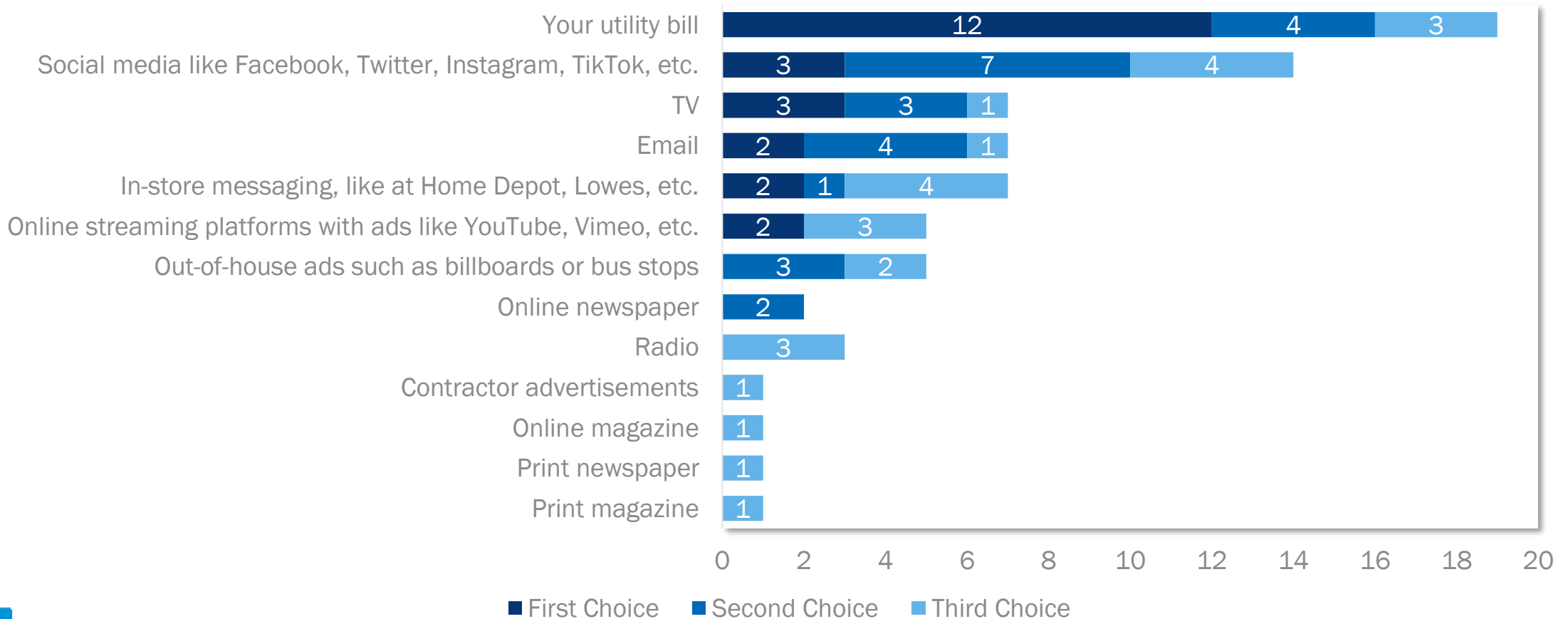


What will save the most energy?

| How much energy do you think the following activities will save? Please provide your best estimate, even for any activities that do not apply to your household or home. | A lot of energy | Some energy | A little to no energy |
|--|-----------------|-------------|-----------------------|
| Buy an energy efficient air conditioner. | 22 | 1 | 1 |
| Use a fans rather than an air conditioner on hot days. | 20 | 3 | 1 |
| Keep windows and doors closed when heating or cooling your home | 20 | 4 | 0 |
| Turn your thermostat to 78 degrees on hot days. | 19 | 4 | 1 |
| Only use my air conditioner before 4pm. | 15 | 8 | 1 |
| Do my laundry before 4pm or after 9pm. | 14 | 9 | 1 |
| Get a home energy assessment to identify opportunities to save energy | 12 | 10 | 2 |
| Turn off all unnecessary lights | 11 | 10 | 3 |
| Reduce my energy use when asked by my utility, to receive an incentive. | 11 | 9 | 4 |
| Adjust blinds, drapes, and/or shades on windows to block out sunlight on hot days. | 10 | 12 | 2 |
| Wash clothes in cold water | 10 | 11 | 3 |
| Allow my utility company to remotely adjust my air conditioner temperature. | 8 | 11 | 5 |
| Reduce the temperature on your water heater | 7 | 14 | 3 |
| Sign up for a Time-of-Use electricity rate. | 4 | 18 | 2 |
| Allow my utility company to remotely adjust my water heater temperature. | 0 | 12 | 4 |

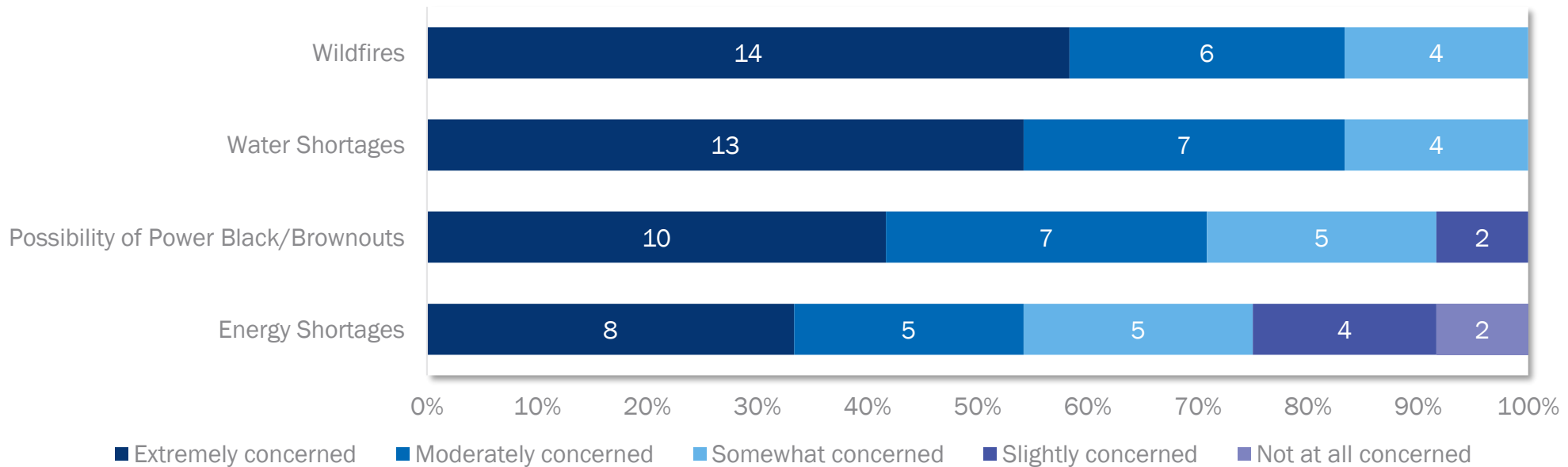
Channel preference for receiving info on ways to save energy

Strong preference for utility bill inserts.



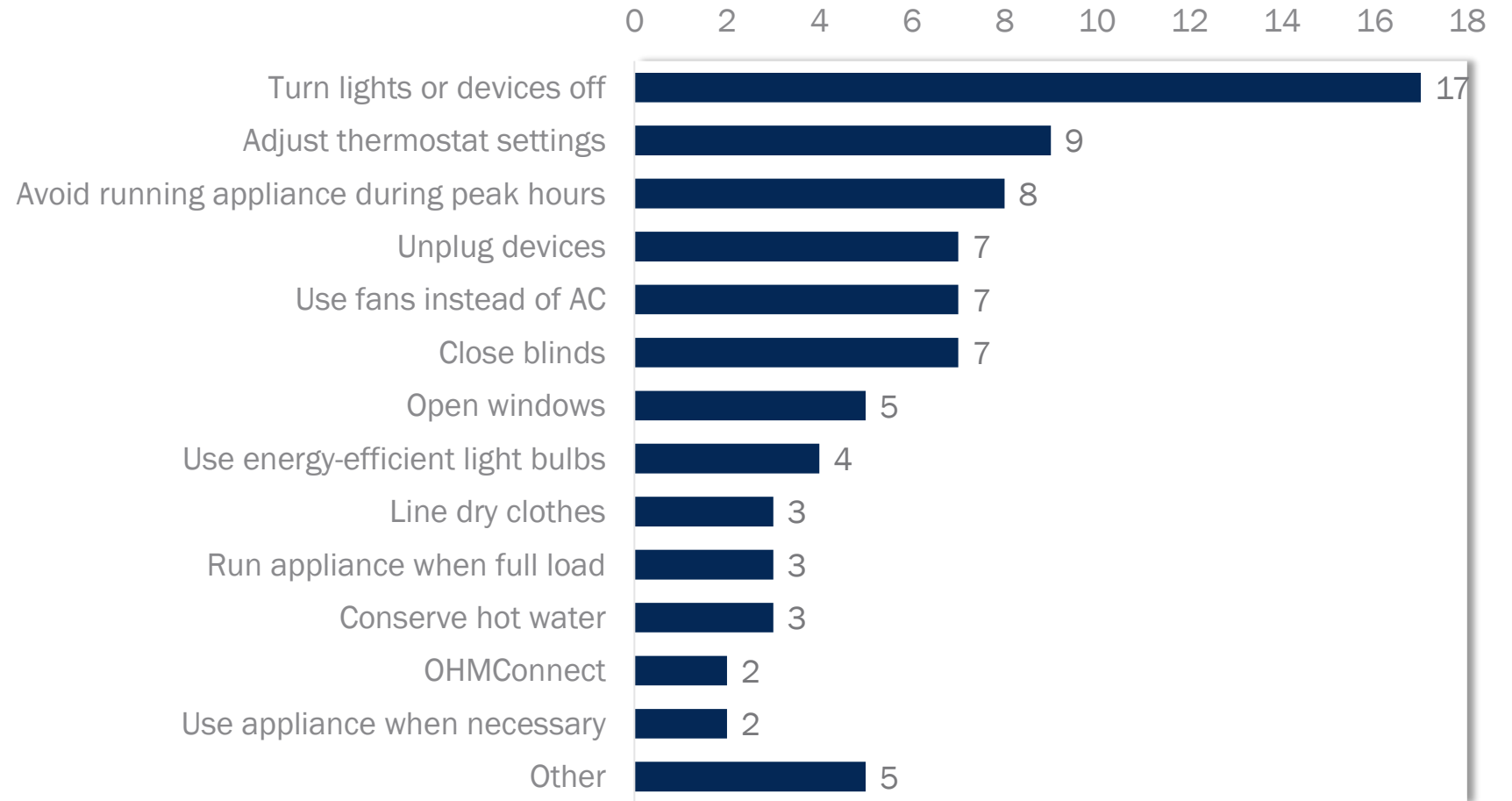
Relative Concern

- About 70% are at least moderately concerned about the possibility of blackouts or brownouts and more than half (13 of 24, 54%) at least moderately concerned about energy shortages.
- Concerns about energy shortages and blackouts in California this summer were not as strong as the concerns for wildfires and water shortages.



Energy Conservation Activities They Already Do

- Turning off unused items most common.
- Indoor comfort activities related to cooling also very common.
- Some conserve hot water.



Overall, participants do not want AC adjusted by utility but are willing to consider other utility programs and take select actions

| Do you already do, or to what extent would you do, each of the activities listed below? Please take your time and think about each activity. | I do this already | I might do this | I'd only do this if outage threat | I'd never do this | Not applicable |
|--|-------------------|-----------------|-----------------------------------|-------------------|----------------|
| Do my laundry before 4pm or after 9pm. | 18 | 4 | 2 | 0 | 0 |
| Wash clothes in cold water | 18 | 6 | 0 | 0 | 0 |
| Use a fans rather than an air conditioner on hot days. | 11 | 5 | 6 | 1 | 1 |
| Turn your thermostat to 78 degrees on hot days. | 10 | 3 | 3 | 2 | 6 |
| Reduce my energy use when asked by my utility, to receive an incentive. | 10 | 13 | 1 | 0 | 0 |
| Enroll in an energy efficiency program through your local utility | 9 | 12 | 1 | 0 | 2 |
| Only use my air conditioner before 4pm. | 7 | 5 | 5 | 2 | 5 |
| Sign up for a Time-of-Use electricity rate. | 5 | 15 | 2 | 1 | 1 |
| Get a home energy assessment to identify opportunities to save energy | 5 | 15 | 1 | 1 | 2 |
| Allow my utility company to remotely adjust my water heater temperature. | 1 | 6 | 3 | 6 | 8 |
| Allow my utility company to remotely adjust my air conditioner temperature. | 1 | 3 | 4 | 11 | 5 |



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Additional detailed data:
From results presented in earlier slides
about power outage information needs,
Flex Alerts, and PSPS



Outage Informational Needs

“I want to know why the power is going to be out, if we are in any danger (perhaps wildfires?), and of course, how long will it last and how widespread is the outage itself.”

| Questions/Information Desired | Frequency |
|---|-----------|
| For how long will it be out? | 15 |
| What is the reason for the outage? | 13 |
| When exactly will it be out? (start and stop times) | 9 |
| Exactly what area is affected? | 8 |
| What support is available? | 7 |
| How hot/humid will it be? | 4 |
| Is there danger? (such as wildfires) | 3 |
| What are utilities doing to prevent this? | 3 |

Respondent Priorities:

- Length of outage
- Start & stop times
- Location
- Cause
- Support

Flex Alert Text Highlighting Activity

Like:

- “Voluntary electricity conservation”
- “Avoid power interruptions”
- “Prevent emergency measures”

Reasons for liking these:

- “I highlighted words that emphasized what the Flex Alert means and how it benefits all of us. I like the fact they tell us this is voluntary.”
- “I highlighted two phrases in green because they are good outcomes that can arise from the Flex Alerts.”

Flex Alert Text Highlighting Activity

Dislike:

- “Capacity gaps” (in the system)
- “Temperatures statewide...15-25 degrees above normal”
- “Today and tomorrow”

Reasons for disliking these:

- Some unsure what capacity gaps in the system means – one person commented that if its for an emergency, they don’t want to stop and look something up, another person thinks capacity gaps should have been anticipated and addressed decades ago.
- Wanting to know more about who was calling the alert (CAISO) – wanted contact info, website, etc.
- Two commented that they don’t like the rising temperatures.

Overall:

- “I think overall it needs to be way shorter! People do not read that much information or they skim it. I didn't like the red because it's not necessary and too much fluff.”
- Two participants did not like the whole idea of Flex Alerts.

Flex Alert Heat Map Graphic Activity (Like)

- The activity graphics were most liked.
 - Described as simple, easy to understand.
- Date and time were also liked.



Flex Alert Heat Map Graphic Activity (Dislike)



- In general, people disliked things to a lesser degree than they liked (indicated by less intense red spots).
- The two images regarding plugs were most disliked.
 - “Unplugged items power savings are negligible.”
- Blank area is also most disliked as a few people said they didn’t dislike anything (but they had to indicate at least one thing).

Understanding of PSPS & Flex Alert

| Characterization | Frequency | Examples |
|-----------------------|-----------|--|
| True statements | 14 | <p>“Flex Alert seems to be an alert to notify the public that energy use needs to be conserved, whereas a PSPS seems to be an actual shot off, a planned outage.”</p> <p>“The difference is flex alert is helping consumer to cut back electricity during peak hours until after 9 pm. whereas PSPS is an emergency preparedness by cutting off electricity during severe weather to prevent wildfire.”</p> <p>“I would imagine a "flex alert" somehow means being flexible about when and how a household consumes energy in different conditions?”</p> <p>“Flex alerts are just advisories?”</p> |
| Some misunderstanding | 6 | <p>“I would guess that Flex Alerts are alerts to the public when there is a possibility of an oncoming PSPS.”</p> <p>“Flex alerts are rolling and always temporary. They ask people to participate. Shut offs come from the electric company and affect everyone.”</p> |
| Not true | 3 | <p>“I think flex alerts are just messages to let the public know that power will be affected and peak hours may be implemented whereby they will be charged more during certain times of day.”</p> <p>“They are power outages without notice.”</p> |
| Don't know | 1 | <p>“I never heard of either of them.”</p> |

Causes of Outages

| Who or What Could be at Fault for an Unplanned Outage | Frequency |
|---|-----------|
| Car crash into utility pole | 15 |
| Utility company | 12 |
| Weather, heat wave, wind, storms | 7 |
| High electricity demand | 6 |
| Tree limbs sagging | 4 |
| Wildfires | 3 |
| Animal chews wires in transformer | 2 |
| People tampering, stealing electricity | 2 |

Respondents understood a variety of factors can cause an outage.

Feelings about Causes of Outages

When the outage is conducted to prevent fires, it becomes frustrating because there should be a better solution.

Respondents had mixed feelings: Eleven thought people should conserve to avoid an outage, but four said excess demand was acceptable because people are trying to stay comfortable, and the blame should be on heat waves and frail infrastructure.

Four were frustrated with shutoffs to prevent wildfires, but five were okay with a shutoff if it meant avoiding a wildfire.

| Acceptable Reasons | Frequency | Unacceptable Reasons | Frequency |
|---|-----------|--|-----------|
| Extreme weather or to avoid wildfire understandable | 5 | Excess demand can be prevented | 11 |
| Accidents can happen | 4 | Utility's delayed infrastructure upgrades unacceptable | 6 |
| Excess demand understandable | 4 | Wildfire risks and climate change upsetting | 4 |
| Maintenance is necessary | 1 | Worker mistakes upsetting | 2 |
| All reasons understandable | 1 | | |

APPENDIX C. WEB USABILITY STUDY REPORT



Opinion **Dynamics**



ME&O

ENERGY UPGRADE CALIFORNIA (EUC): EFFECTIVENESS ASSESSMENT

Deliverable 23a, Task 4a:
Web Usability Study

August 26, 2021



Table of Contents

- Background
- Campaign Objectives Research Goals
- Methodology
- Findings
 - Web Usability Participants
 - First Impressions of Website
 - Climate Change Page
 - Home Energy Efficiency Page
 - Keep It Golden Page
 - Overarching Perspectives
- Key Takeaways and Recommendations



Background

- The CPUC established the Energy Upgrade California (EUC) brand for Statewide Marketing, Education, and Outreach (SW ME&O) activities in 2012.
- DDB, the campaign implementer, developed a 5-year ME&O strategic roadmap for 2018 - 2022, which defined campaign objectives and metrics to track progress over time. In Years 4 and 5, DDB is focusing on inspiring and empowering communities to “Keep California Golden” through collective energy conservation action.
- Opinion Dynamics is evaluating the performance of the EUC campaign in meeting its stated objectives and program performance metrics through a multi-pronged approach, which includes assessing the EUC website performance towards the following key objectives:
 - Increasing awareness of EUC and Keep It Golden;
 - Increasing awareness of energy efficiency programs; and
 - Increasing participation in energy efficiency programs.
- This report provides findings from the Web Usability Study (Task 4a) conducted in June 2021.



The EUC website plays a pivotal role in:

- Creating strong brand connection through educating and motivating customers to take energy-savings actions;
- Housing current and evergreen content including educational materials and tools; and
- Lead generation referring interested Californians to program administrator (PA) sites.

Campaign Objectives and Web Usability Research Goals

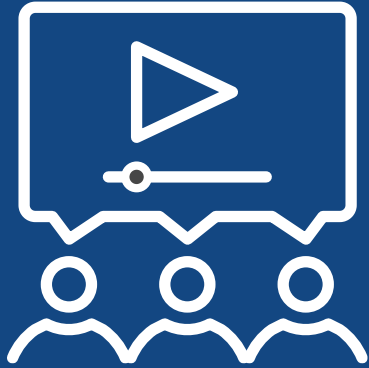
| Campaign Objectives | Research Objectives | Research Questions |
|---|--|---|
| Increase awareness of SW brand (EUC and Keep It Golden) | <ul style="list-style-type: none"> Assess the overall performance of the SW ME&O campaign | <ul style="list-style-type: none"> How can the EUC website be further optimized to support customer usability? How do Californians navigate the EUC website? Do Californians understand what the EUC website is trying to convey? |
| Increase awareness of EE programs | <ul style="list-style-type: none"> Assess awareness and participation in energy efficiency programs | <ul style="list-style-type: none"> To what extent are Californians aware of energy efficiency programs? How do Californians navigate from the EUC website to websites run by their local IOU, REN, or CCA where they can enroll in clean energy programs? |
| Increase participation in EE programs | | |

Research Methodology

- Opinion Dynamics conducted a web usability study with 10 Californians, which included moderated, remote think-aloud sessions with recorded screen capture using WebEx.
- Recruitment drawn from YouGov's non-probability opt-in panel, from which Opinion Dynamics developed a purposive sample using several demographic parameters
- Session Content:
 - Worked with key stakeholders to determine the goals of the website
 - Based on website goals, developed open-ended exploratory tasks, which may or may not have a correct answer and specific closed-ended tasks that are focused and have a correct answer
- Field dates: June 9th to June 24th
- Incentives: \$100 gift card upon session completion



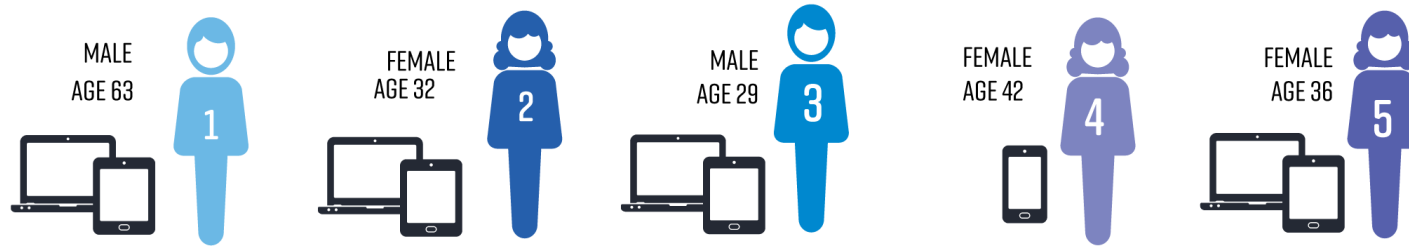
Opinion **Dynamics**



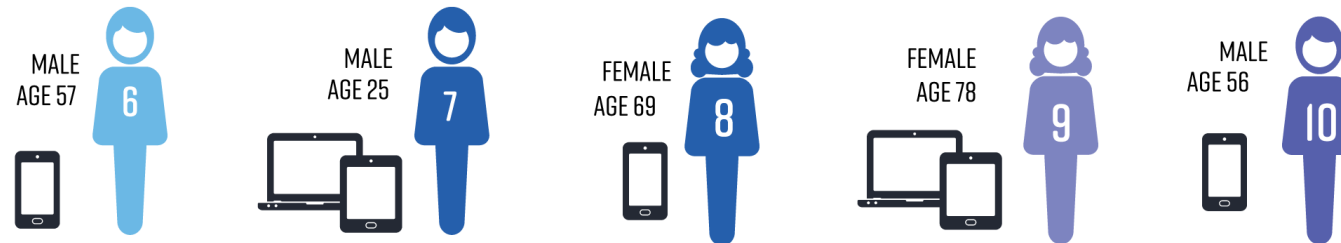
WEB USABILITY PARTICIPANTS



Respondents varied by age, race, family income, education, and region



| | | | | | |
|-------------------|---------------------|---------------------|---------------------|-----------------------|---------------------|
| Race | Other | Hispanic | White | Black | Hispanic |
| Family Income | \$70,000 - \$79,999 | \$30,000 - \$39,999 | \$80,000 - \$99,999 | \$150,000 - \$199,999 | \$80,000 - \$99,999 |
| Region | Greater Sacramento | San Joaquin | Southern California | Bay Area | Bay Area |
| Highest Education | Some Postgraduate | Postgraduate Degree | Bachelor's Degree | Postgraduate Degree | Bachelor's Degree |
| Own/Rent | Own | Rent | Rent | Own | Rent |



| | | | | | |
|-------------------|---------------------|-----------------------|-----------------------|---------------------|---------------------|
| Race | White | Asian | White | Two or more races | White |
| Family Income | \$20,000 - \$29,999 | \$100,000 - \$119,999 | \$100,000 - \$119,999 | \$10,000 - \$19,999 | \$70,000 - \$79,999 |
| Region | Southern California | Southern California | Southern California | Greater Sacramento | Southern California |
| Highest Education | Some College | Bachelor's Degree | Some College | Bachelor's Degree | Some College |
| Own/Rent | Rent | Rent | Own | Rent | Own |

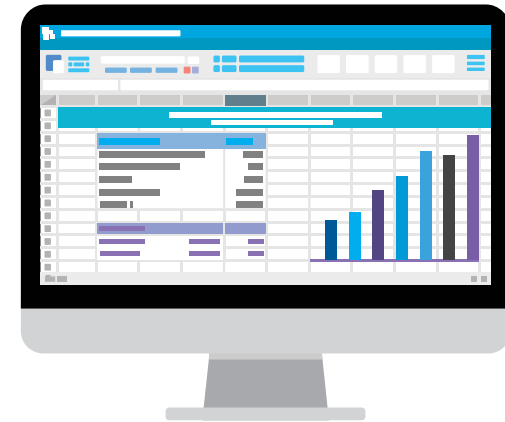
Respondents' web use varied, but none visited the EUC website previously



None of the 10 participants had previously visited the EUC website.



Respondents' daily web usage ranged from 1-10 hours per day.



Five participants reported using the web frequently for work.



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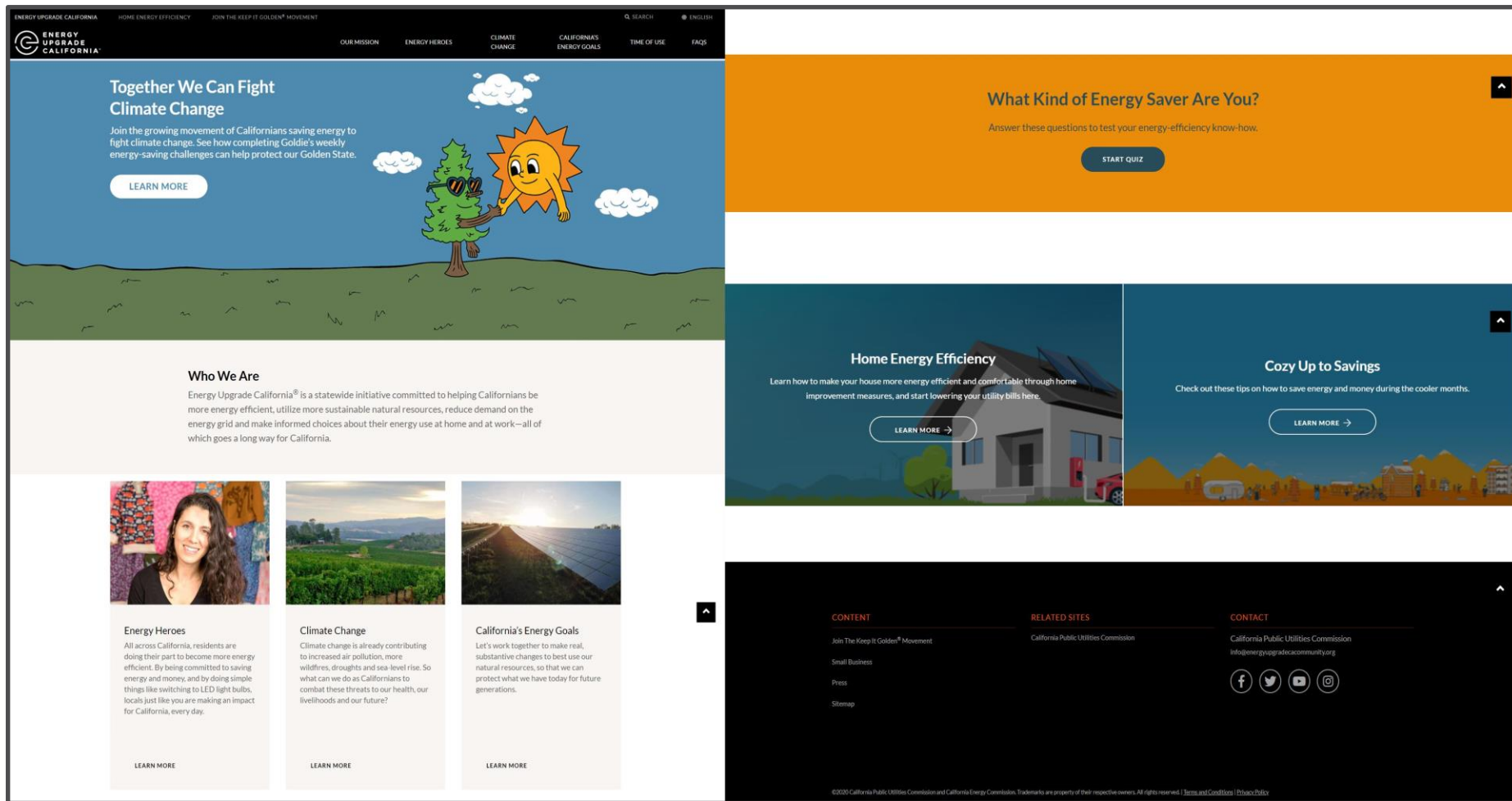


FIRST IMPRESSIONS



EUC's home page display as of July 28, 2021

Appearance of the home page at the time of participant feedback



Overall participants had positive first impressions and found the home page visually appealing

- Eight out of 10 participants reported they liked the visual design and layout of the home page.
 - Four respondents indicated they liked the color scheme.
 - Two respondents included that they like the font.
 - Two respondents added they appreciated the language options.



There were mixed views on the Goldie graphic

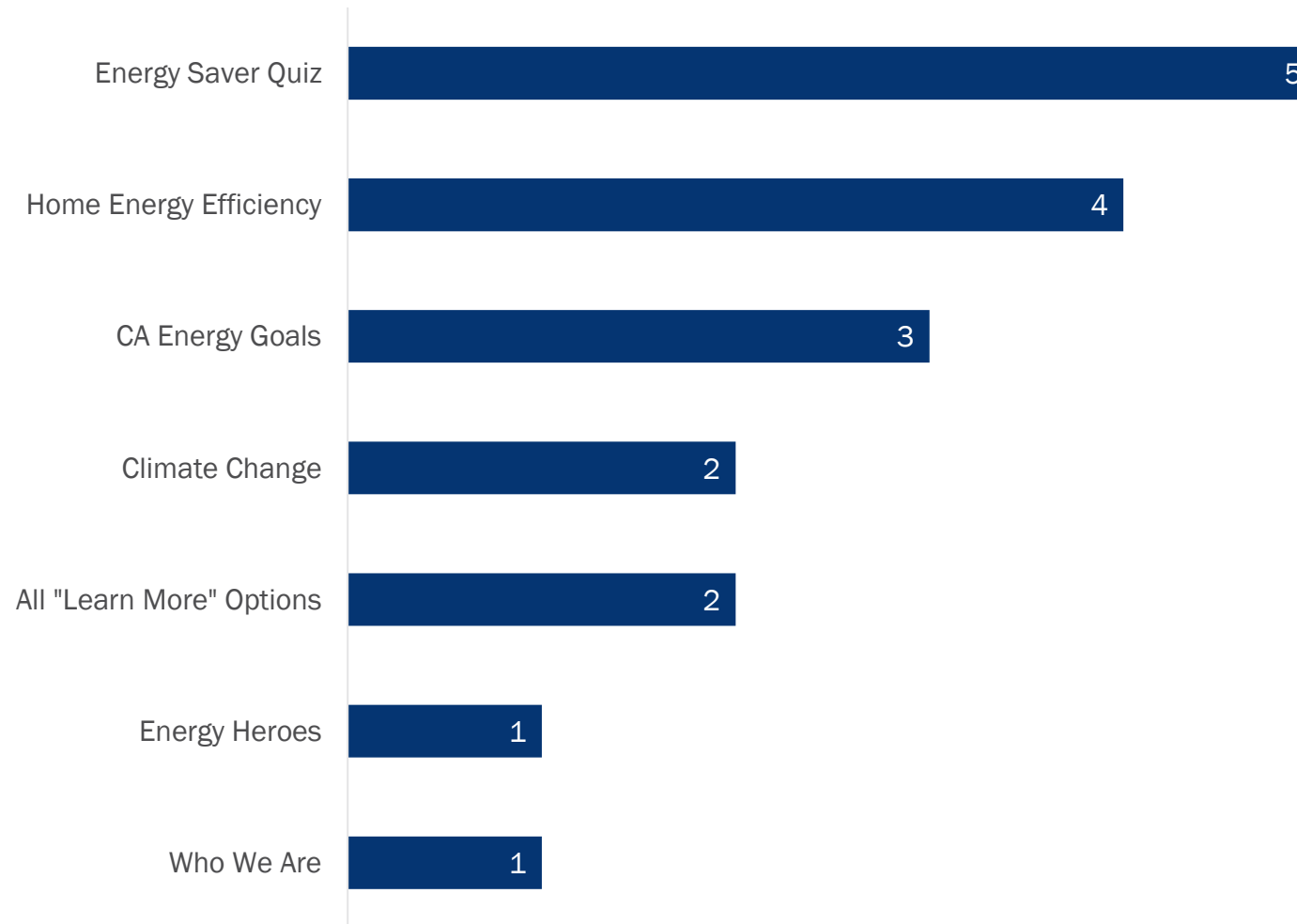
Without specific prompt, multiple participants commented on the Goldie graphic on the home page. Four participants liked the graphic, while another 4 did not.

- Those who liked the graphic found it to be cute, friendly, and/or inviting.
 - My first impression is, I always like a good cartoon or animation on the front page. The artwork is a friendly, inviting environment I feel.”
 - “Well, I like the little cartoon. I think it's really cute.”
- Those who did not like the graphic found it to be mismatched with the home page, and/or believed it to be juvenile or simple.
 - “[Goldie’s design] seems very simple, like it was made by a child that's learning visual art for the first time. It's not really that appealing, and it comes off as cheap. That's the first thing that comes to mind.”
 - “I don't know about the cartoons...I mean, I get Goldie, Golden State, but I don't know who Goldie is without probably hitting learn more. Yeah. I feel like it's just kind of basic.”



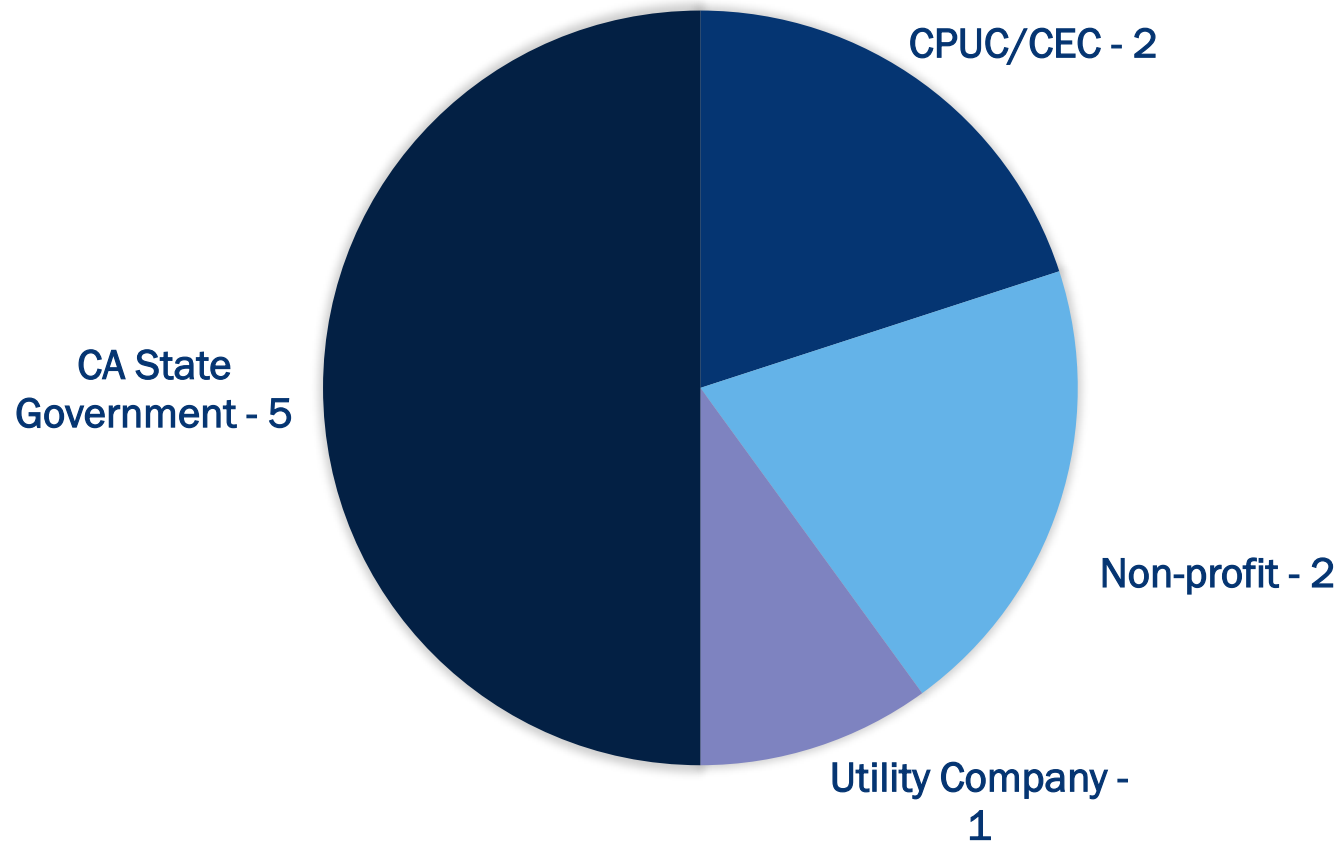
Respondents were most interested in the quiz and the Home Energy Efficiency content

Q: What motivates you to keep exploring this site based on what you've seen on the home page so far?



Half of respondents said the California government was the site sponsor

Q: Who do you think is the sponsor of this site?





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CLIMATE CHANGE PAGE



Most respondents found resources on climate change and credits but demonstrated little familiarity with climate credit concept prior to visiting the site

Let's say you were interested in learning about the effect of Climate Change on the state of California. Where would you go to learn more?

- Eight out of 10 participants could find the main Climate Change webpage.

Are you familiar with California climate credits?

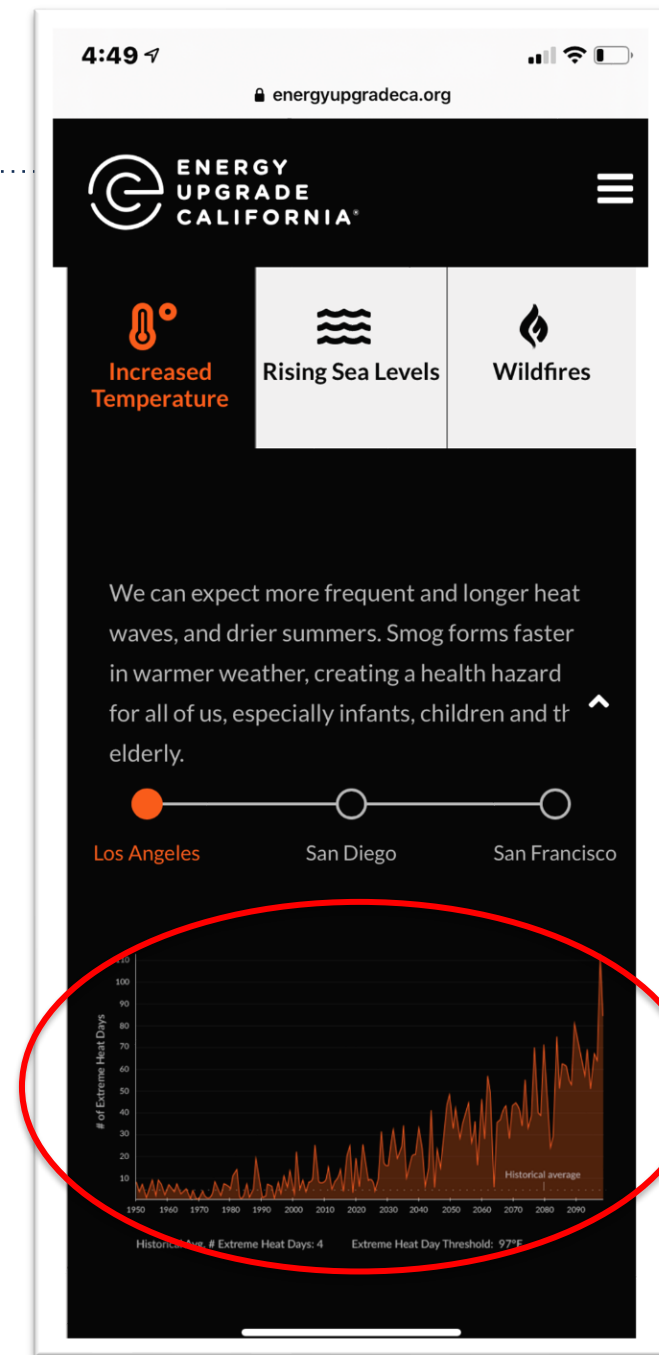
- None of the 10 respondents could provide a definition prior to reviewing the site content, but six reported a familiarity with the terminology.
- All 10 respondents understood what climate credits were after reviewing the available description on the page.

Suppose you wanted to figure out the climate credit you are eligible to receive through your service provider. Where would you go next?

- Eight out of 9 participants could find the information on climate credit eligibility, and one participant did not answer the question.

Respondents had positive impressions of climate change content overall

- All participants had an overall positive reaction to the climate change layout and content.
- Seven people noted they liked the interactive graphics on increased temperature, rising sea levels, and wildfires.
 - Emerging opportunities to improve the graphics included:
 - Graphics appear small and difficult to read on smartphone view without zoom (2);
 - Include data specific to the Central Valley region in increasing temperatures (1); and
 - Increase size and adjust color of graphic tab titles (1).





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HOME ENERGY EFFICIENCY PAGE



All but one respondent found the main Home Energy Efficiency webpage when prompted and respondents were most interested in rebates

Q: Which of the topics on this page are you most interested in learning more about?



Participants could navigate through Home Energy Efficiency content but took longer to find information on energy efficient appliances

Imagine you are interested in learning more about energy efficiency in your home. Where you go on this site to find the information?

- Nine out of 10 participants could find the answer.

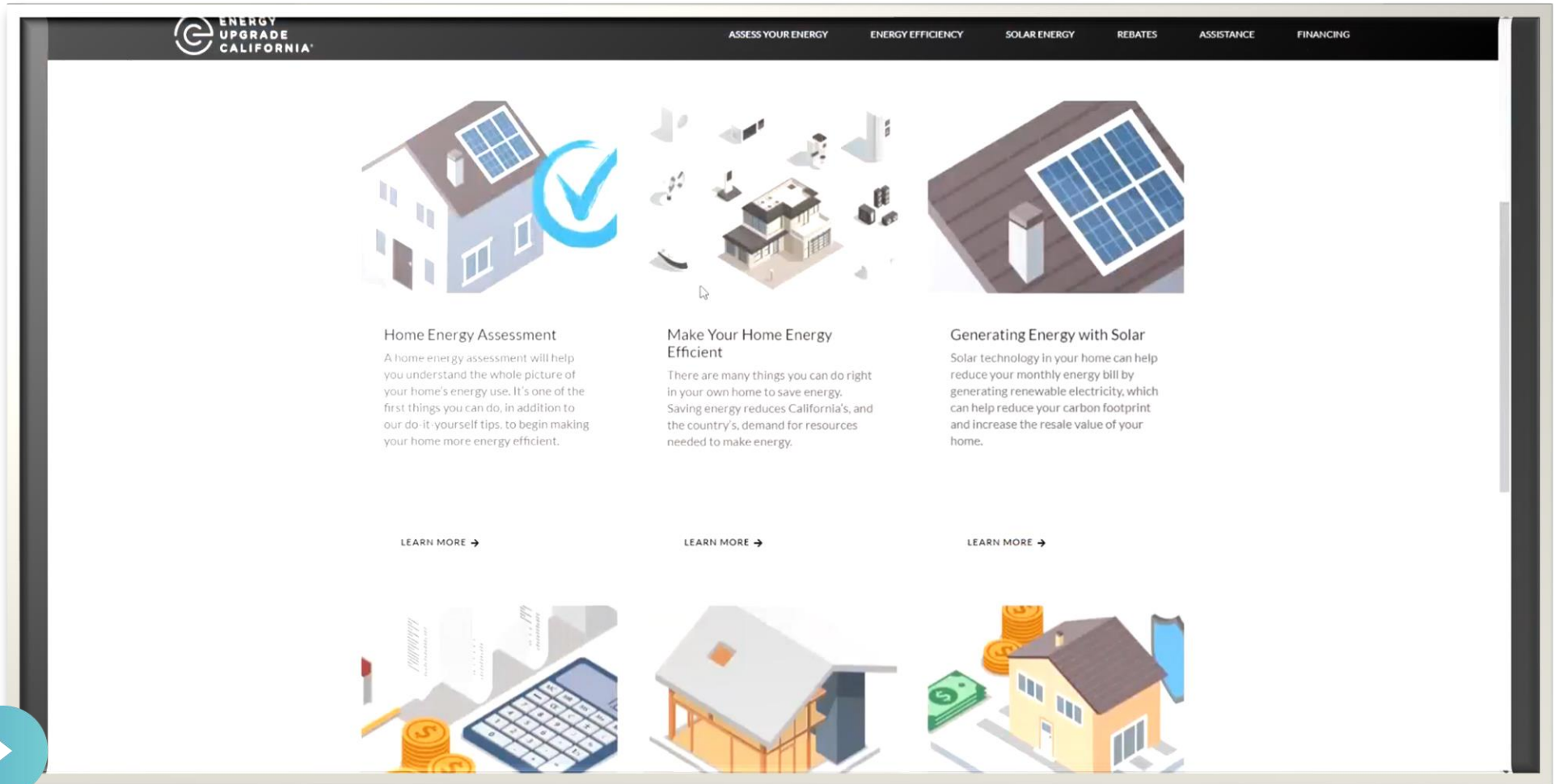
Let's say you wanted to find more information about getting an energy-efficient appliance, like a washing machine, for your home. Where would you go next?

- Eight out of 9 participants could find the answer but required several attempts before selecting the “Make Your Home Energy Efficient” option. Respondents first selected “Rebates,” “Home Improvements,” and/or “Home Energy Assessment”.

Let's say you were interested in learning about what rebates are available for energy efficient appliances through your electric service provider. Where would you go from here?

- Six out of 7 participants could find the answer immediately.

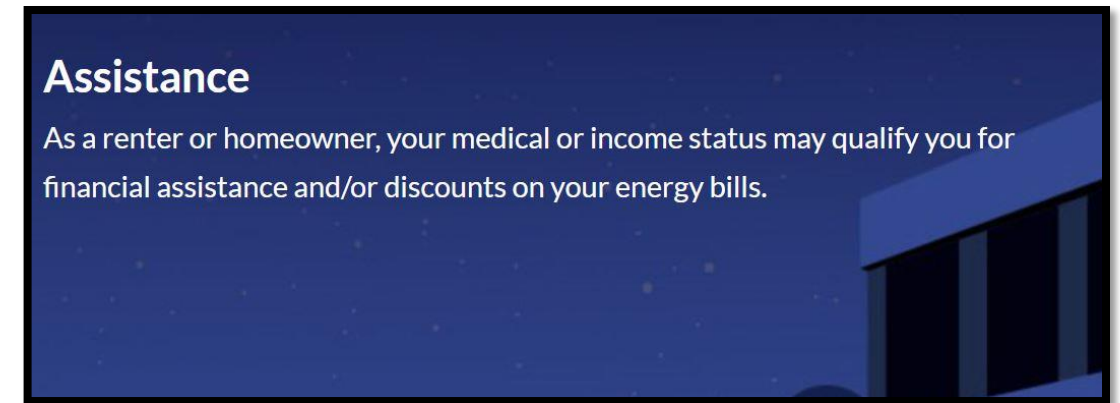
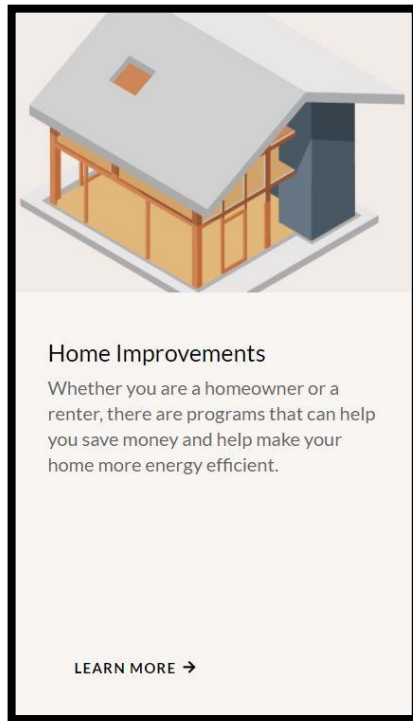
Respondents expressed confusion with the Home Improvements section



CLICK TO PLAY ▶

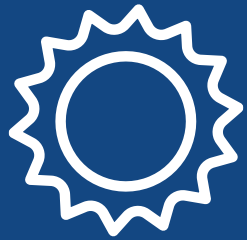
Respondents expressed confusion with the Home Improvements section

Respondents expected “Home Improvements” to lead to information on home energy efficiency upgrades or DIY options, but instead it brought them to information on financial assistance programs.





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KEEP IT GOLDEN (KIG)
MOVEMENT PAGE



Participants who opted to sign up for KIG would read future messaging



Eight out of 9 respondents described the sign-up process as overall straightforward and easy.



Four out of 9 respondents opted to sign up for weekly messaging.



Four out of 4 respondents who signed up said they would read future Goldie messages.

Among the five who did not sign up, they chose not to do so either because they were not interested in the content or did not want to receive more marketing messaging than they already do.

Computer participants had little difficulty with the sign-up process, though experienced some confusion

Two participants indicated confusion with the “challenges” terminology, as it reference “tips” in other places.

One participant noted they did not understand why they had to provide both email address and phone number for a text-only service.

Three participants did not initially check the box, because they thought they were agreeing to further messaging beyond the weekly tips.

Two participants misinterpreted the process as signing up for weekly emails at first and reported they would rather receive emails.

The image shows a desktop sign-up form for 'Join the Keep It Golden Movement' and a mobile app interface. The desktop form has a title, a description, two input fields for 'Mobile Number' and 'Email Address', a checkbox for 'I agree to receive energy-saving tips via SMS.', and a 'SIGN UP' button. Below the button is a small disclaimer. The mobile app interface shows the 'Goldie' logo, a cartoon sun and tree, a challenge description, and a 'Ready to save some energy?' section with 'Reply' options for YES and NO.

Join the Keep It Golden Movement

Sign up for Goldie's weekly text challenges and join the thousands of Californians fighting climate change by saving energy.

Mobile Number

Email Address

I agree to receive energy-saving tips via SMS.

SIGN UP

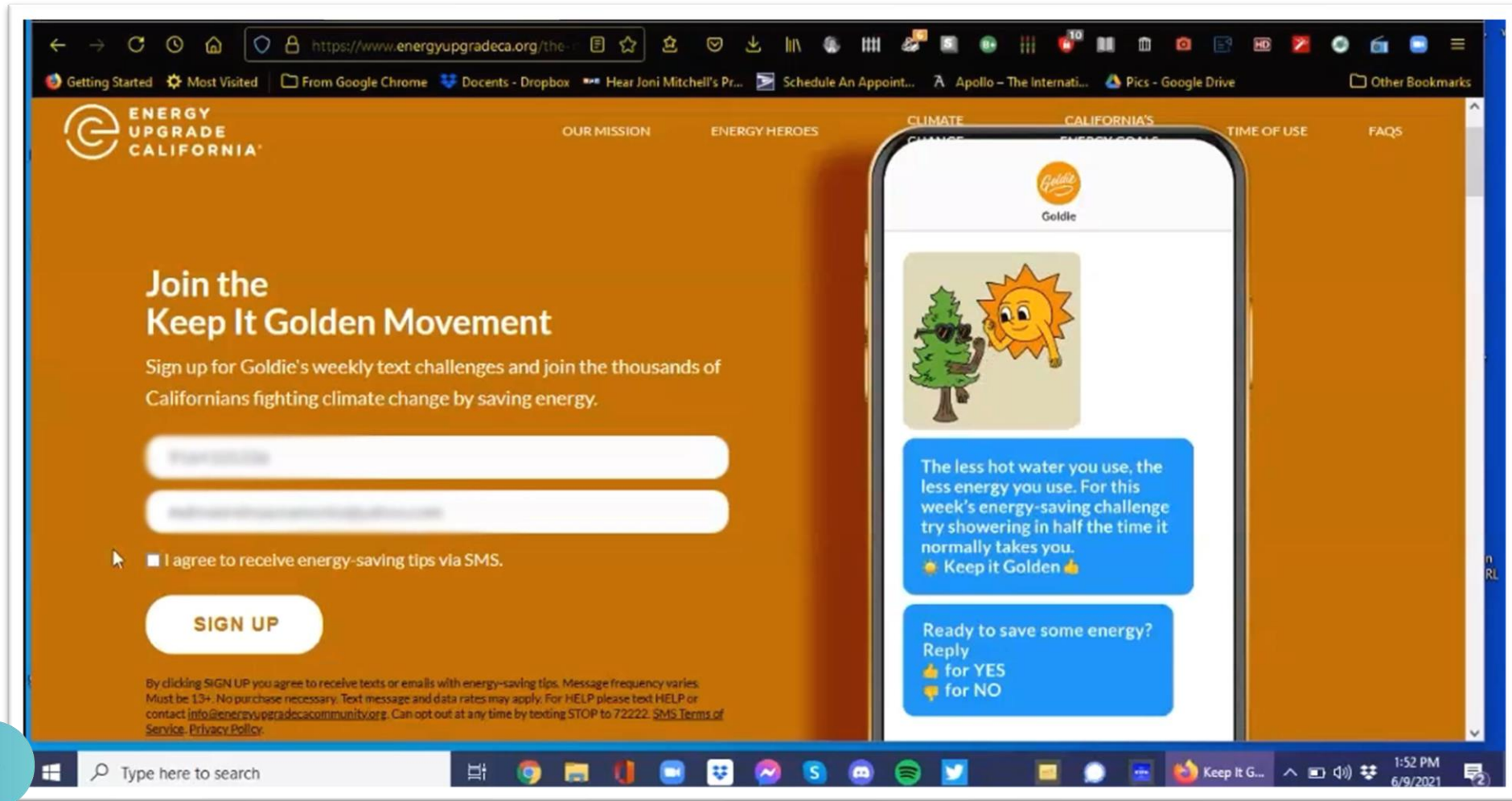
By clicking SIGN UP you agree to receive texts or emails with energy-saving tips. Messages vary based on participation. Must be 13+. No purchase necessary. Text message and data rates may apply. For HELP please text HELP or contact info@energyupgradecalifornia.org. Can opt out at any time by texting STOP to 72222. [SMS Terms of Service](#), [Privacy Policy](#).

Goldie

The less hot water you use, the less energy you use. For this week's energy-saving challenge try showering in half the time it normally takes you. 🌞 Keep it Golden 🙌

Ready to save some energy?
Reply
👍 for YES
🙌 for NO

Participants experienced confusion with the sign-up checkbox and the mode of delivery for weekly tips



CLICK TO PLAY ▶



Respondents demonstrated familiarity with energy-savings tips, but experienced confusion with Lower the Heat description

- The most used energy-saving tip among participants was covering the floor (5 out of 8 respondents).
- Water heater adjustment, space to vent, and cover the floor were most frequently reported as new energy-savings tips (3 out of 8 respondents each).
- Respondents expressed confusion with the “Lower the Heat” tip (6 out of 8 respondents).
 - Confusion about whether this was a tip for heat or air conditioning
 - Participants reported they don’t use regularly or keep even lower than 68 degrees.

“I’m kind of confused with ‘Lower the Heat’, because I don’t know if that refers to the air conditioning or heater. I’ll be honest, I kind of avoid turning either on until it gets to either 90 plus [degrees], or below 40.”





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OVERARCHING PERSPECTIVES



Participants liked the design and navigation overall and would recommend to others



Nine out of 10 respondents overall liked the visual design and layout of the site.



Nine out of 10 respondents reported they overall liked the navigation of the site.



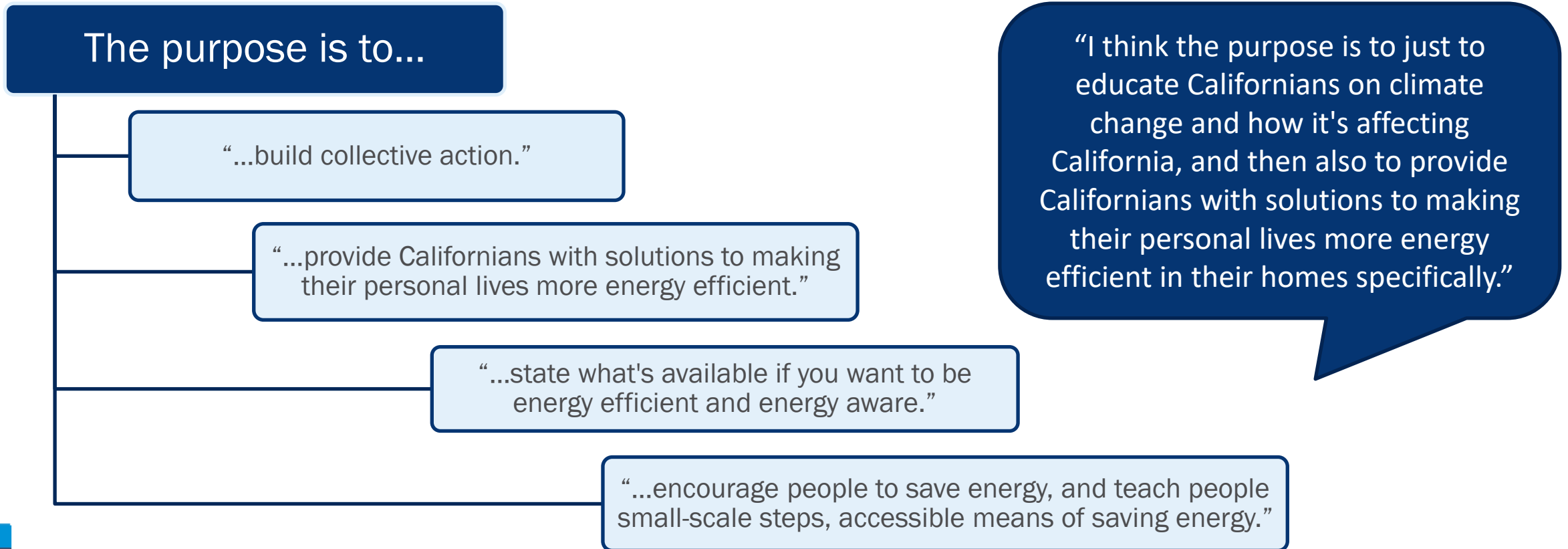
Eight out of 9 respondents indicated they would recommend the site to others.



Six out of 7 respondents reported they would revisit the site.

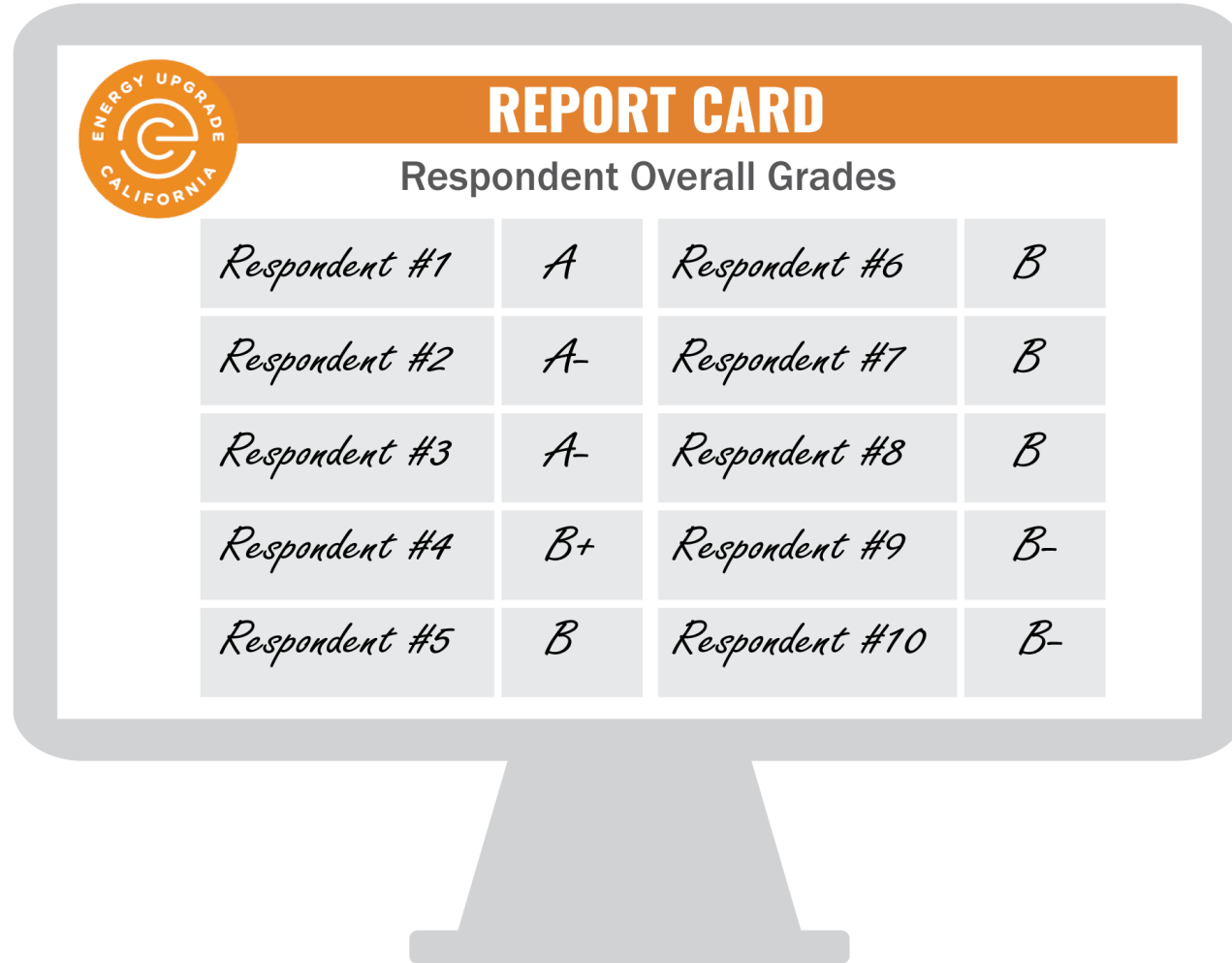
Participant definitions of website purpose aligned with its primary objective

- One of the primary goals of the EUC website is, “creating strong brand connection through educating and motivating customers to take energy-savings actions.”



EUC Report Card

Q: Overall, what grade would you give this website compared to other websites you visit?





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KEY TAKEAWAYS AND RECOMMENDATIONS



Considerations for findings and recommendations

- Web usability studies are a snapshot in time; websites are designed and expected to be dynamic.
- The direction of the EUC website is under discussion so recommendations may or may not be applicable once final decisions are made.

1. Key Takeaways

- Participants were able to adequately identify the purpose of the EUC website, including describing the site as an educational resource for climate change and opportunities to improve energy efficient behavior.
- Overall, the design and layout of the EUC website is visually appealing and easy to navigate with a few opportunities for improvement.
- Participants reported the home page was inviting and motivated them to continue exploring the site, though there were mixed views on the Goldie graphic.

Recommendation #1: Make mild adjustments to home page

- Consider adding a one-sentence description of the Energy Upgrade California initiative and its partners on the home page to indicate who the sponsor of the information is.
 - This could either be placed within the “Who We Are” section or further towards the bottom of the home page.

2. Key Takeaways

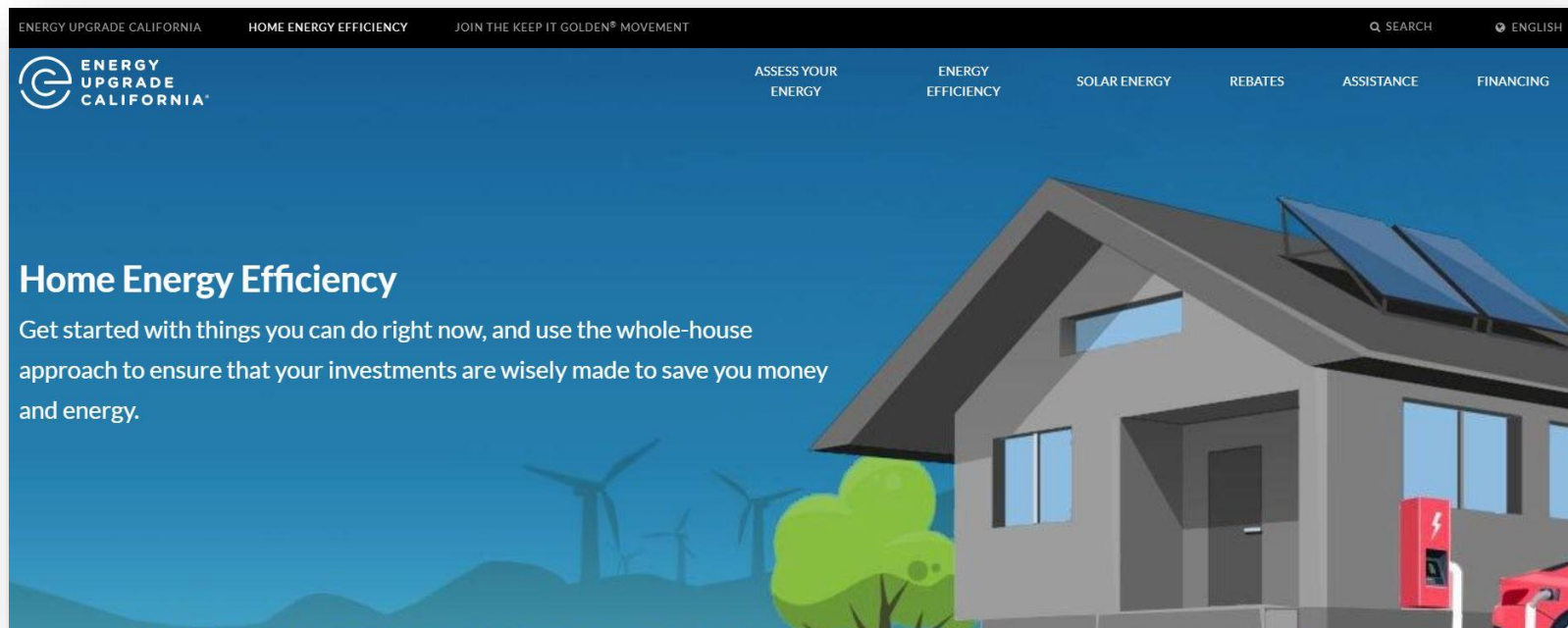
- Participants overall liked the visual design and content of the Climate Change section.
 - In particular, they appreciated the graphics on the Climate Change home page, with a few minor suggestions for improvement.
- Prior to reviewing the Climate Change page, participants expressed little familiarity with climate credits and benefited from the available content on how climate credits work.

Recommendation #2: Maintain Climate Change section as evergreen content, and make minor edits on Climate Change home page

- In the event of a website redesign, maintain Climate Change section as evergreen content, including information on climate credits.
- Update climate change graphics to be more user-friendly on a smartphone by putting them on a white background, increase font size, and allowing users to click on the graphs to be reloaded on a new page for larger appearance.
- Due to unfamiliarity with climate credits, include reference on main Climate Change page of the payments that ratepayers are entitled to receive through climate credits in order to incentivize users to click “Learn More”.

3. Key Takeaways

- Respondents want resources on Home Energy Efficiency opportunities and although they are available on the EUC website, respondents found them challenging to find and thus, are likely underutilized.



Recommendation #3: Promote Home Energy Efficiency content by updating headings and descriptions

- To improve the process of finding available content related to Home Energy Efficiency:
 - Update the headings on the main Home Energy Efficiency page to match the existing headings of each “Learn More” page.
 - Home Energy Assessment → Home Energy Efficiency – Assess Your Energy
 - Make Your Home Energy Efficient → Energy Efficient Home: Guide & Benefits
 - Generating Energy With Solar → Solar Panels & Energy Systems: Benefits & How They Work
 - Rebates → Rebates for Home Energy Efficiency Improvements
 - Home Improvements → Assistance Programs for Energy Efficiency
 - Financing → Financial Assistance Programs & Discounts for Energy Efficiency
 - Limit descriptions associated with each heading on the main Home Energy Efficiency page to one sentence.

4. Key Takeaways

- The sign-up process for Keep It Golden was straightforward for participants, however, some vocabulary could be refined to improve clarity.
- The energy savings tips were well understood by most, except for “Lower the Heat”.

Recommendation #4: Make minor adjustments to KIG sign-up and energy-saving tip descriptions

- Keep It Golden Sign-Up
 - Modify the phrasing of “weekly text challenges” to “weekly text tips”.
 - Update the “Join Now” button to instead read “Send Me Texts”.
 - Consider either removing the requirement to provide an email address, or provide an explanation for the need to provide an email address.
 - Adjust the phrasing for the checked box to “I agree to sign up for the Keep It Golden movement and receive weekly energy-saving tips via SMS.”
- Energy-Savings Tips
 - Modify the phrasing of the “Lower the Heat” tip to communicate only using both heating and cooling when necessary and specific suggestions for summer and winter seasons.
 - Apply lesson learned from “Lower the Heat” tip to any other marketing materials or evergreen content in which energy-savings tips are referenced.



Opinion **Dynamics**

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APPENDIX D. FLEX ALERT TRACKING SURVEY REPORTS



Opinion **Dynamics**



ME&O

FLEX ALERTS BASELINE SURVEY

Deliverable 25:
Flex Alert Tracking Survey
Wave 1 (Baseline), June Results



Flex
our power.
Save
our power.

BEFORE
4PM



Pre-Cool

Run your AC cooler during the day
to enjoy a cool evening.



July 30, 2021

Table of Contents

- Background [\(3\)](#)
- Campaign Objectives, Key Metrics, and Research Objectives [\(4\)](#)
- Survey Methodology [\(5\)](#)
- Findings
 - Flex Alert awareness and familiarity [\(6-13\)](#)
 - Flex Alert understanding [\(14-19\)](#)
 - Impacts of heat waves and power outages [\(20-24\)](#)
 - Flex Alert benefits and barriers [\(25-30\)](#)
 - Flex Alert intent [\(31-33\)](#)
 - Psychographics [\(34-35\)](#)
 - Key Findings and Recommendations [\(36-44\)](#)
 - Appendix [\(46-48\)](#)

Background

- Flex Alert is a call to consumers to voluntarily cut back on electricity and shift electricity use to off-peak hours (i.e., before 4 p.m. or after 9 p.m.).
- In the Summer of 2021, DDB, the campaign implementer, developed a media campaign to educate customers about Flex Alerts and associated energy saving actions.
- Opinion Dynamics is evaluating the performance of the Flex Alert campaign in meeting its stated objectives and program performance metrics.
- This report provides findings from a baseline residential customer survey conducted in June 2021, the first of six monthly tracking surveys.

| CAMPAIGN OBJECTIVES | KEY METRICS | RESEARCH OBJECTIVES |
|---|---|--|
| <p>Increase Flex Alert recognition through awareness and familiarity</p> | <p>Unaided Awareness</p> | <ul style="list-style-type: none"> ▪ Understand Californians’ awareness of Flex Alerts and how they became aware of it ▪ Understand Californians’ awareness that a Flex Alert has been called ▪ Understand Californians’ familiarity with the goal of Flex Alert and the times during which they should delay their energy use |
| | <p>Aided Awareness</p> | |
| | <p>Flex Alert Familiarity</p> | |
| <p>Increase understanding of the reason behind the need to act during Flex Alerts and what actions to take</p> | <p>Understanding of the connections between grid conditions and Flex</p> | <ul style="list-style-type: none"> ▪ Understand Californians’ understanding of the relationship between heatwaves, electricity supply, and power outages ▪ Understand Californians’ awareness of the actions they can take to save energy during a Flex Alert ▪ Understand the extent to which Californians are sharing and will share energy-saving tips with their friends and family ▪ Understand the extent to which Californians believe energy conservation is something that other Californians are doing and that they should do too |
| | <p>Understanding what actions can be taken</p> | |
| <p>Increase intent to sign up for Flex Alerts and take action during a Flex Alert</p> | <p>Likelihood to reduce usage during a Flex Alert</p> | <ul style="list-style-type: none"> ▪ Understand Californians’ likelihood of signing up for Flex Alerts and taking actions to delay their energy use during peak hours ▪ Understand the extent to which Californians are taking actions during a Flex Alert |
| | <p>Likelihood to sign up</p> | |
| | <p>Action</p> | |

Survey Methodology

- Opinion Dynamics conducted a bilingual online survey of 469 Californians
- Sample drawn from YouGov's non-probability opt-in panel. Results are weighted to be representative of the state of CA population based on gender, age, race, home-ownership, education, whether the respondent is Spanish-speaking, and income using propensity score matching and post-stratification
- Respondents could complete the survey in either English or Spanish
 - English: 420 (90%)
 - Spanish: 49 (10%)
- Field dates: June 3rd to June 21st



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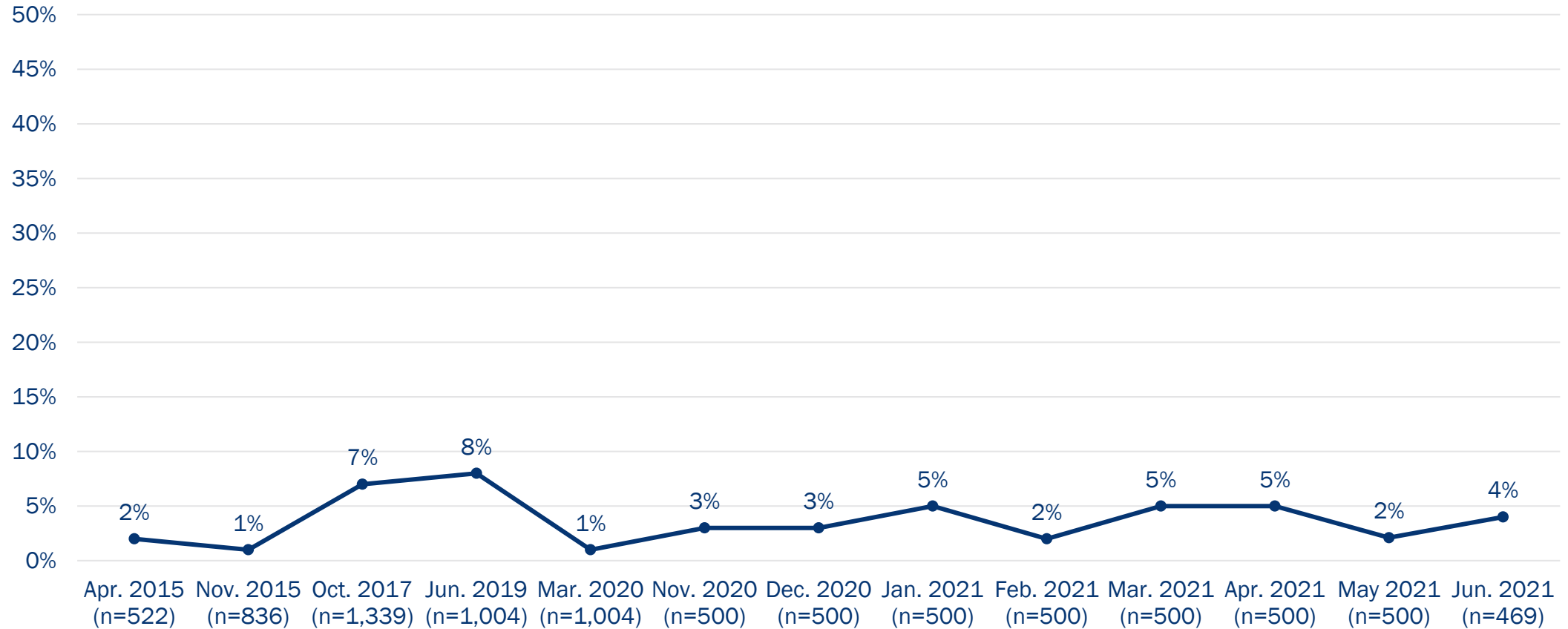


FLEX ALERT AWARENESS & FAMILIARITY



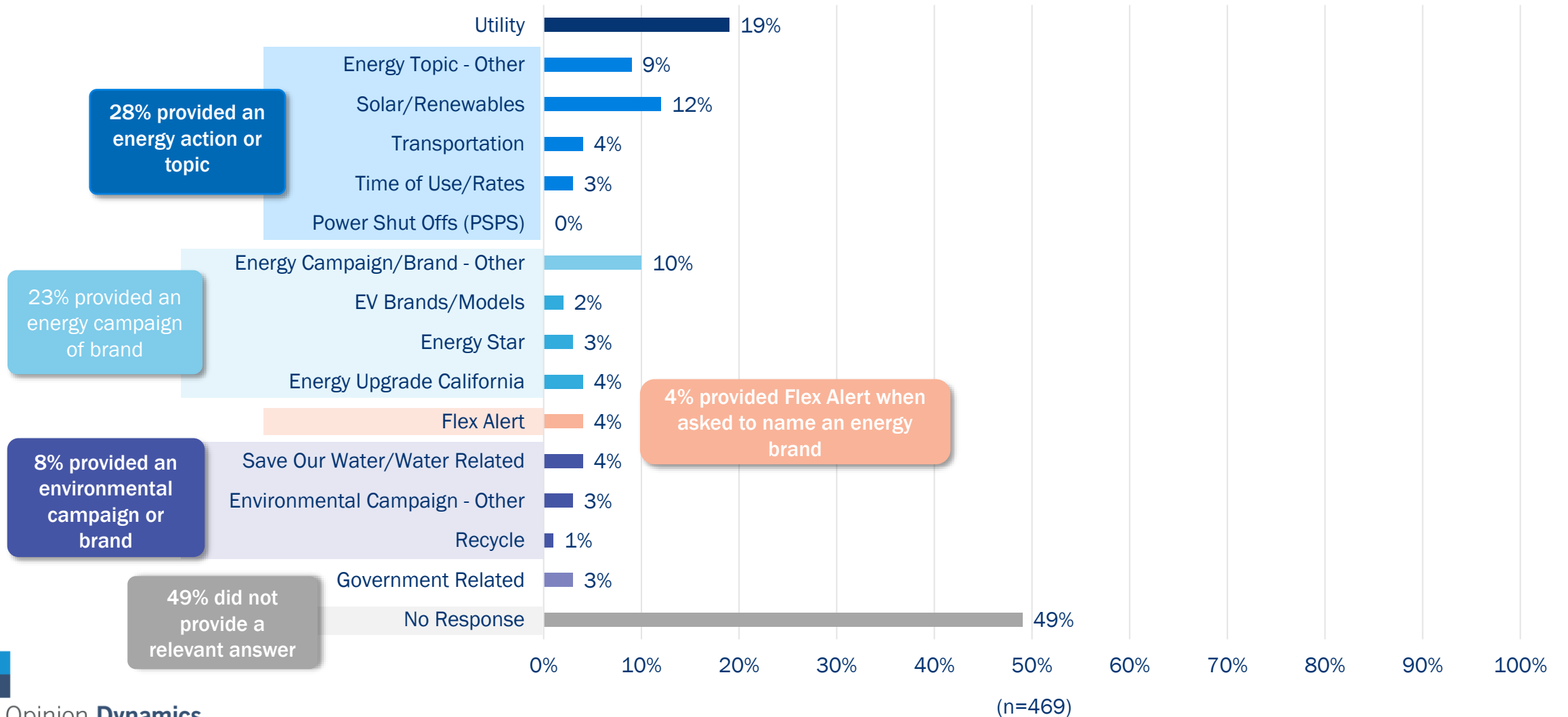
Californians' unaided awareness of Flex Alerts has been consistent over the years, on average

When you think of brands, campaigns, or initiatives that encourage Californians to save energy, which ones come to mind? (open end)



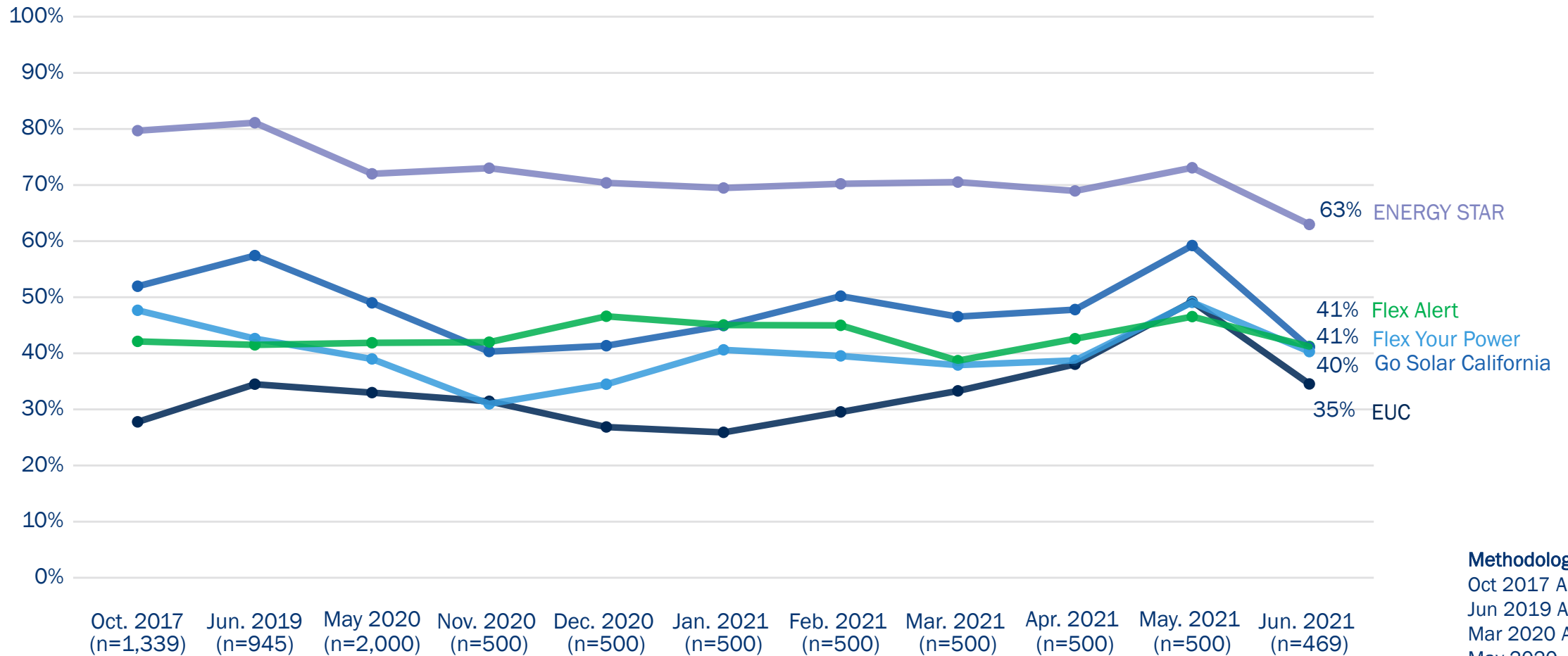
Respondents' unaided awareness of Flex Alerts is similar to other energy topics and brands

When you think of brands, campaigns, or initiatives that encourage Californians to save energy, which ones come to mind? (open end)



Californians' aided awareness of Flex Alerts has been consistently moderate over the years

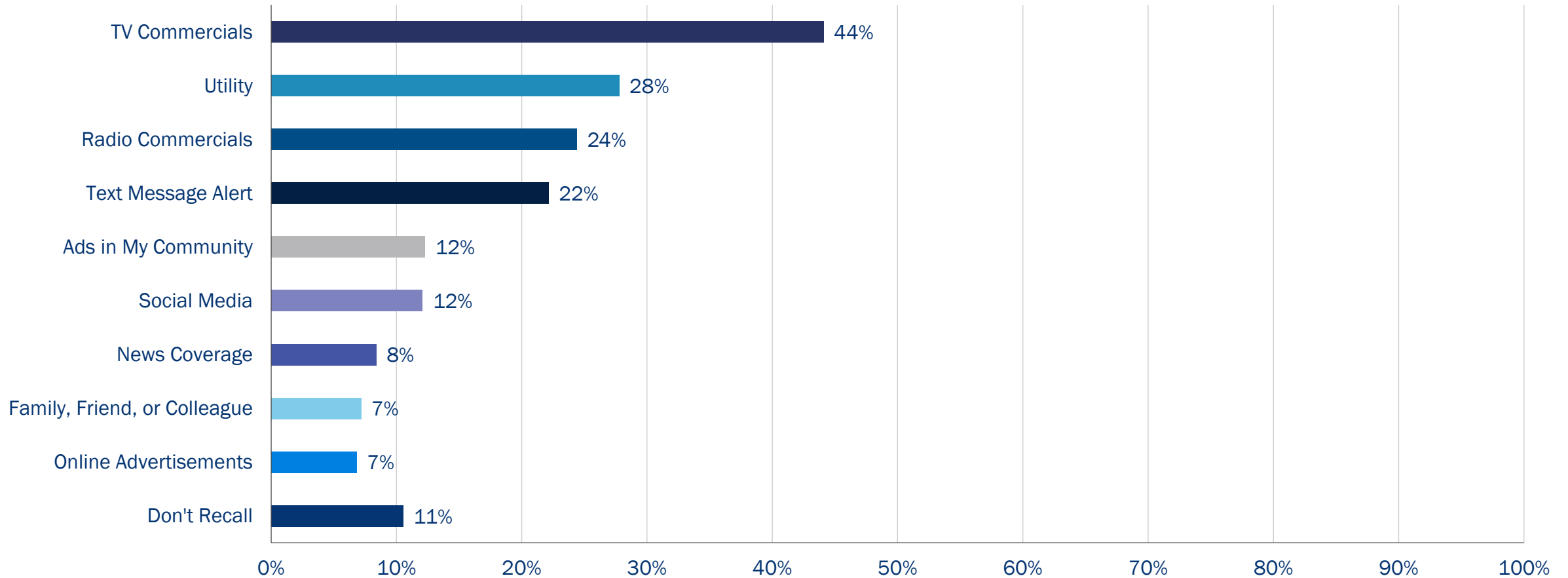
For each one, please tell us if you have heard of it before today.



Methodologies
 Oct 2017 ABS web
 Jun 2019 ABS web
 Mar 2020 ABS web
 May 2020 - Present
 YouGov web panel

Respondents most commonly reported hearing about Flex Alerts from TV or radio commercials, or their utility

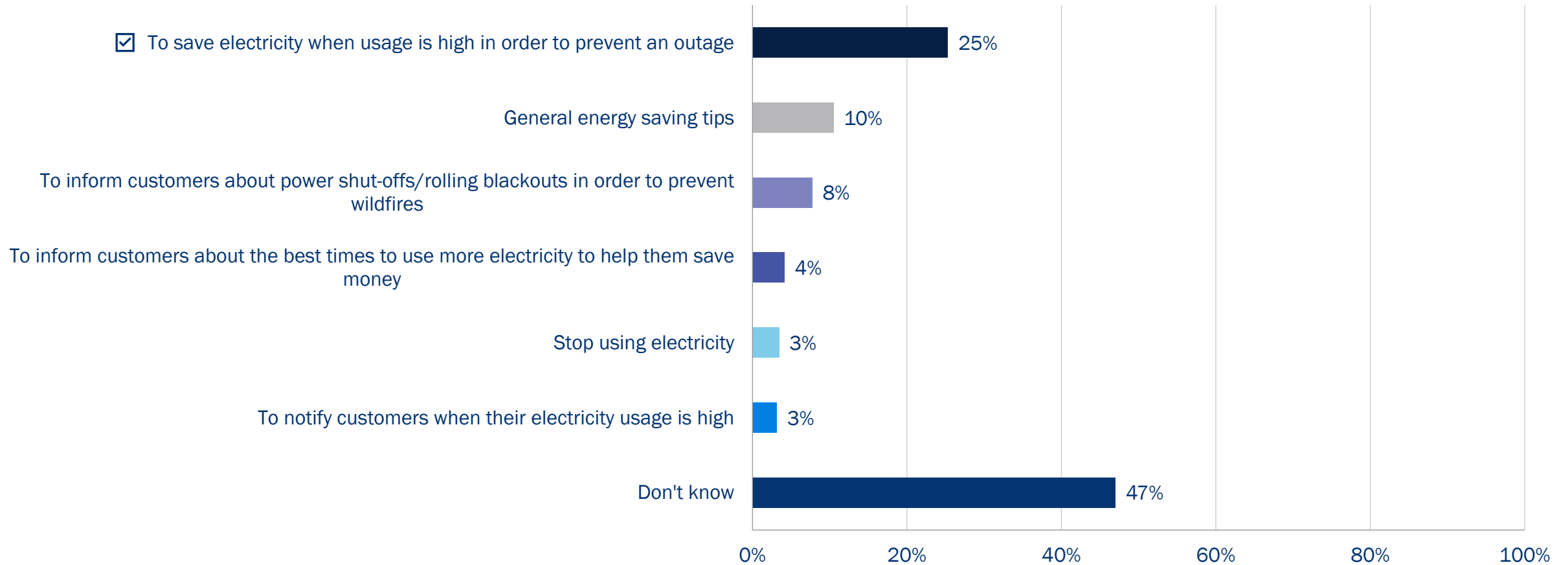
Where did you hear about Flex Alerts?



Percentage recall among respondents who were aware of Flex Alerts (n=213)

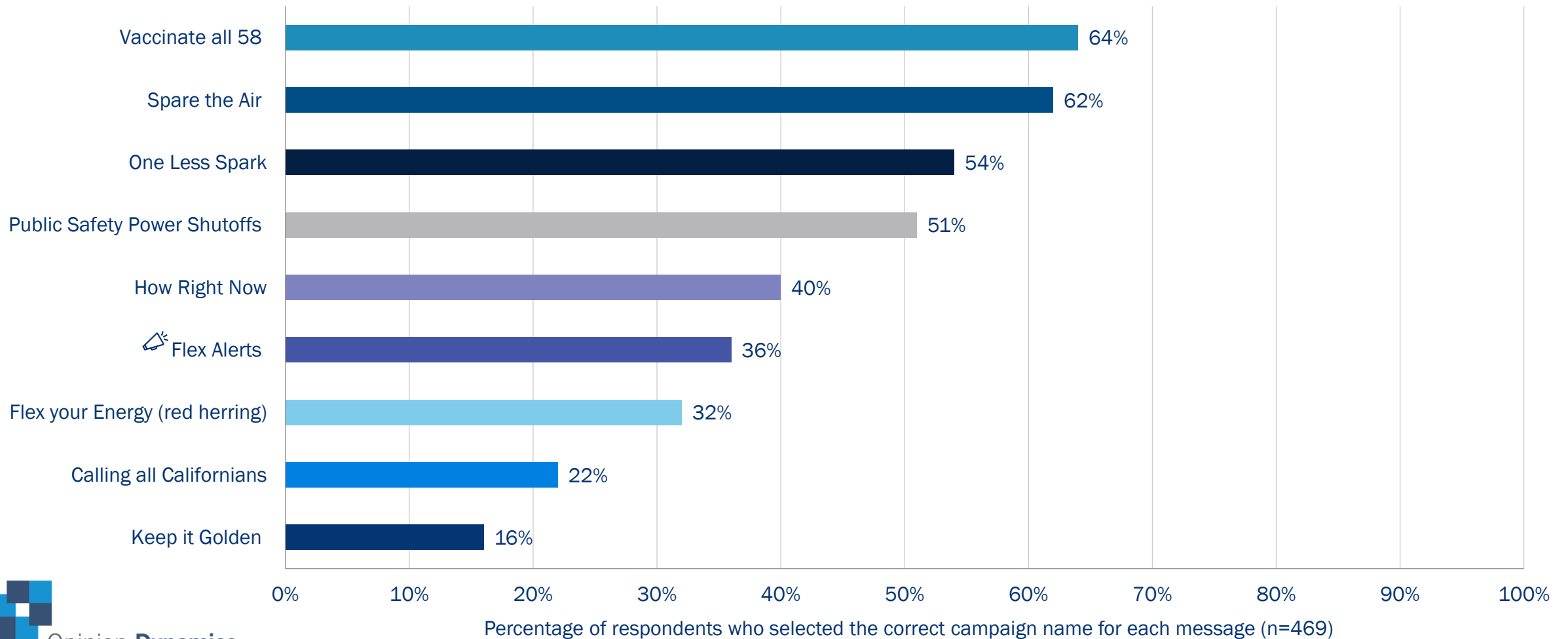
Most respondents did not know or could not accurately state the purpose of Flex Alerts

What is the purpose of Flex Alert? (open end)



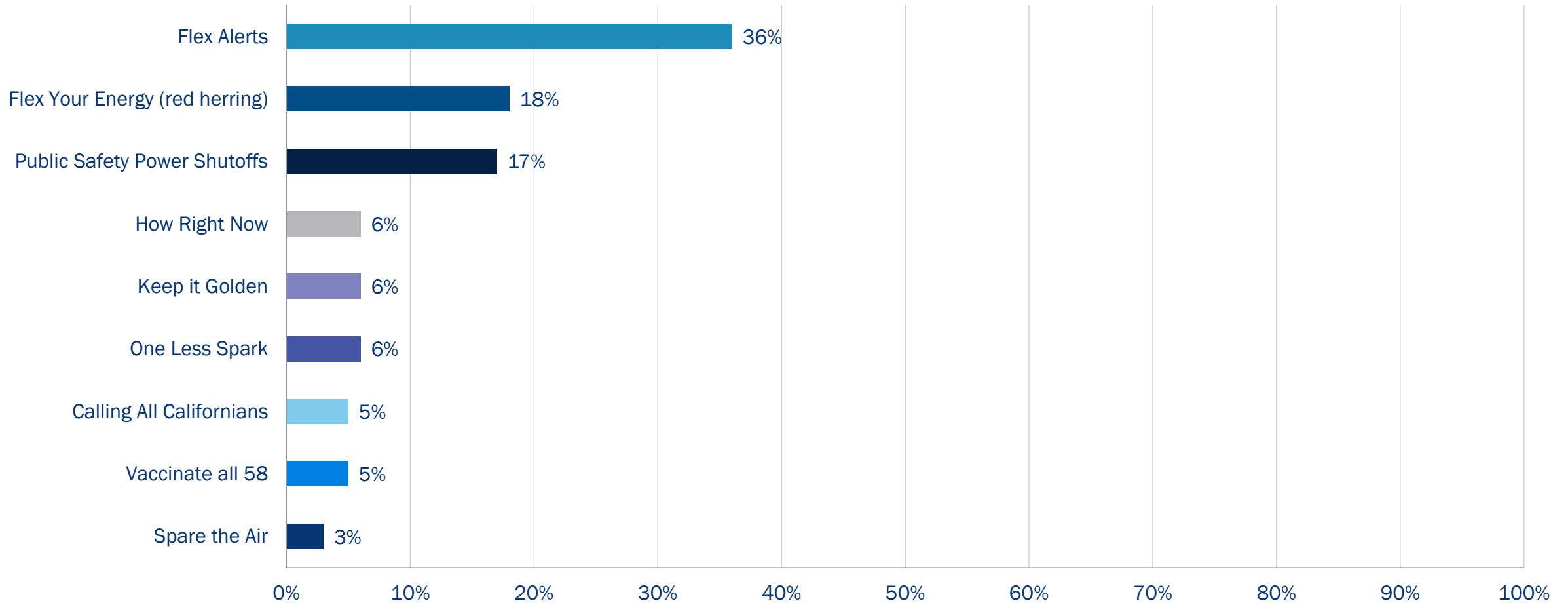
Respondents correctly associated the campaign names and messages for Vaccinate All 58 and Spare the Air most often

Please match each campaign with its campaign message.



Respondents most commonly confused Flex Alert's campaign message with a similar sounding campaign, a made-up campaign, and/or Public Safety Power Shutoffs

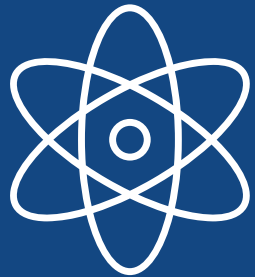
Please match each campaign with its campaign message.



Flex Alert campaign message - Temporarily reduce your electricity use to prevent outages on hot days when demand for electricity is high (n=469)



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FLEX ALERT UNDERSTANDING



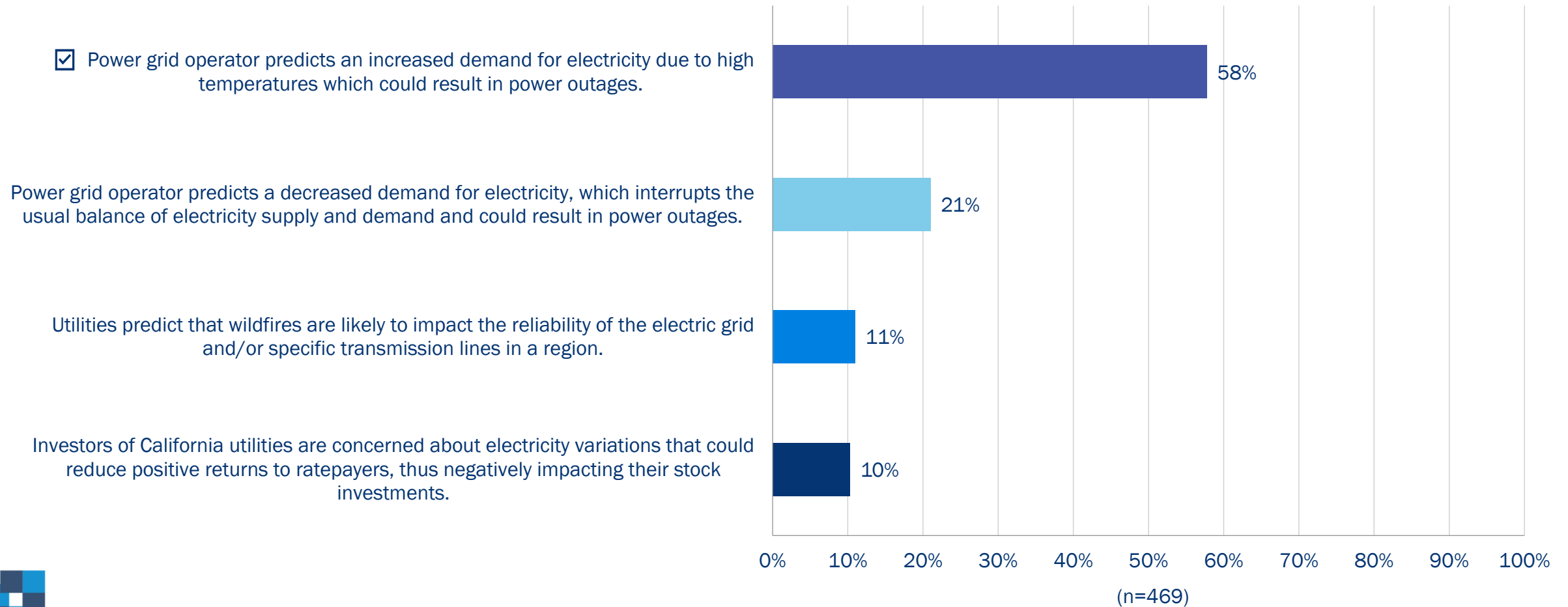
Respondents seem to be confusing PSPS and Flex Alerts, and seem to be over-estimating the capacity of battery storage

Please select whether you think the following statements about California (CA) are true or false

| Statement | Percentage of respondents who gave correct answer (n=469) |
|---|---|
| On hot sunny days, when many people use their air conditioners, CA's electricity demand may exceed its supply | 85% |
| When an unusually high amount of electricity is used, there is a risk that there will not be enough electricity for all Californians and the power grid operator may need to create localized power outages to protect the grid | 80% |
| Localized power outages can negatively impact the health and/or safety of some Californians | 79% |
| CA is not at risk for power outages during times of unusually high electricity use because it can import electricity from other states (False) | 71% |
| CA's electricity supply is most limited in the morning hours when solar power plants are not fully up and running yet and Californians are using more electricity (False) | 65% |
| CA's electricity supply is most limited in the evening hours when solar panels start to generate less electricity and Californians are using more electricity | 64% |
| In CA, innovations in battery storage have made it possible to store enough energy generated by solar panels when the sun is shining to completely power our electricity grid when it gets dark (False) | 39% |
| When an unusually high amount of electricity is used, the power grid operator may ask Californians to conserve energy to prevent wildfires (False) | 23% |

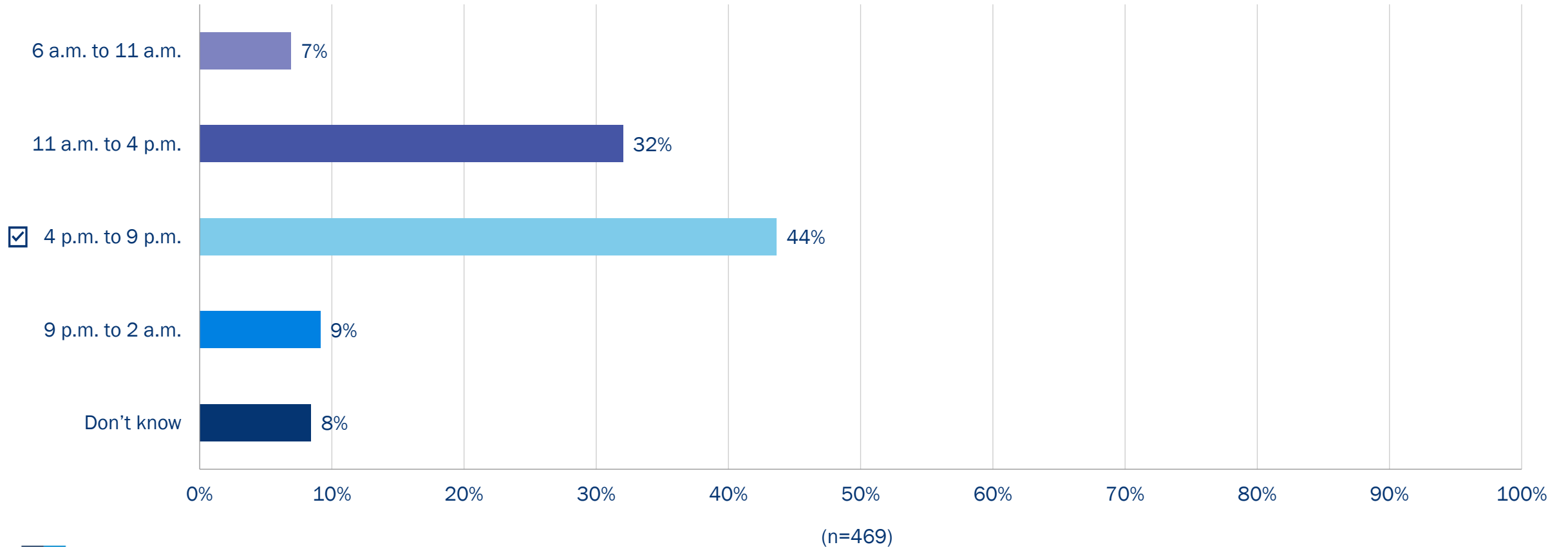
More than half of the respondents can correctly identify why Flex Alerts are called

Please select one. Flex Alerts are called when...



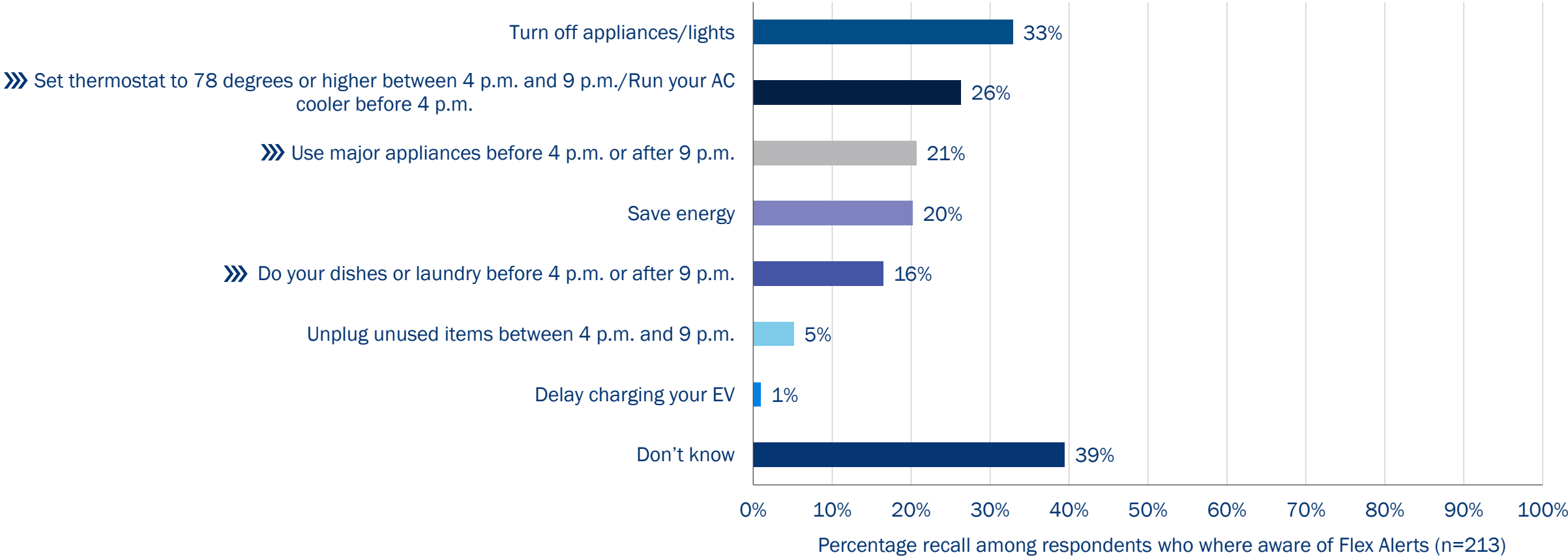
Fewer than half of respondents can correctly identify the time period to conserve electricity during a Flex Alert

When a Flex Alert is called, during what time period is it most important for Californians to conserve electricity?



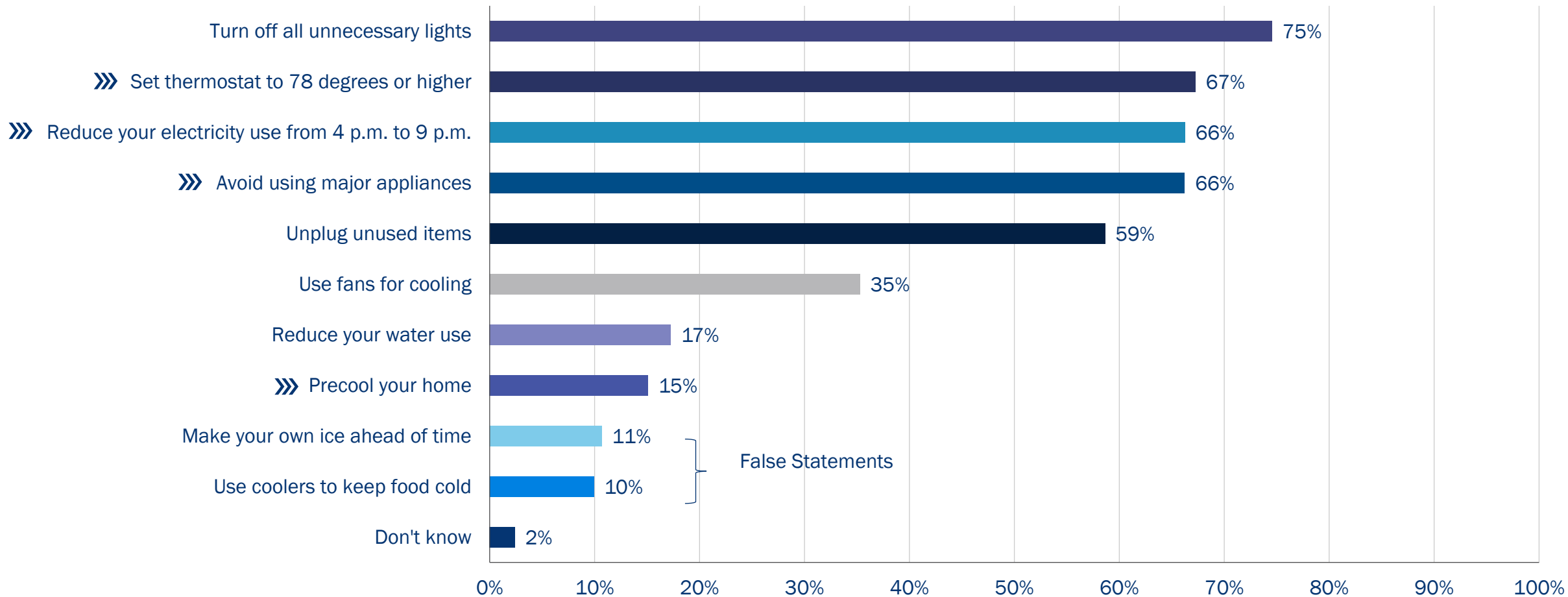
Respondents who are aware of Flex Alerts most frequently reported turning off the lights/appliances and adjusting the thermostats as actions to be taken during a Flex Alert

Please list as many Flex Alerts actions as you can. (open end)



Few respondents who were aware of Flex Alerts recognized precooling their homes as an action that the Flex Alert asked them to take

Please select the actions that Flex Alerts ask you to do.



Percentage recall among respondents who were aware of Flex Alerts (n=213)



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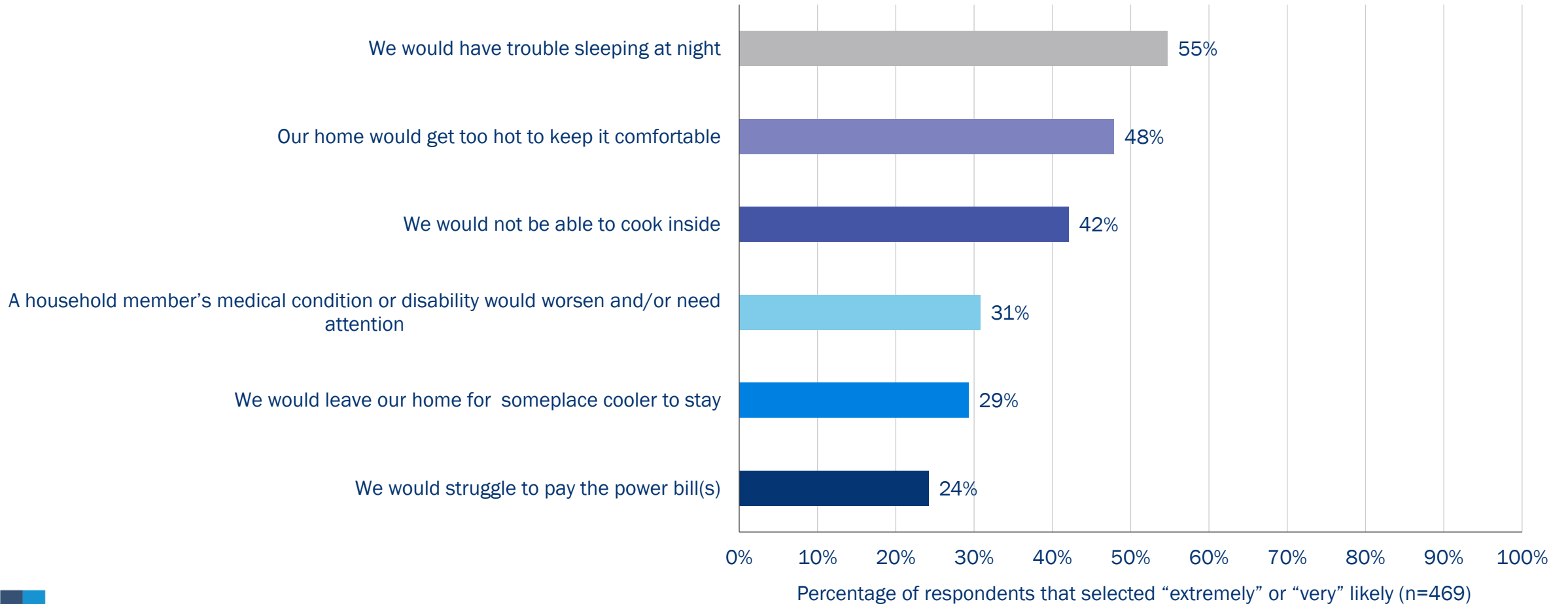


IMPACTS OF HEAT WAVES AND POWER OUTAGES



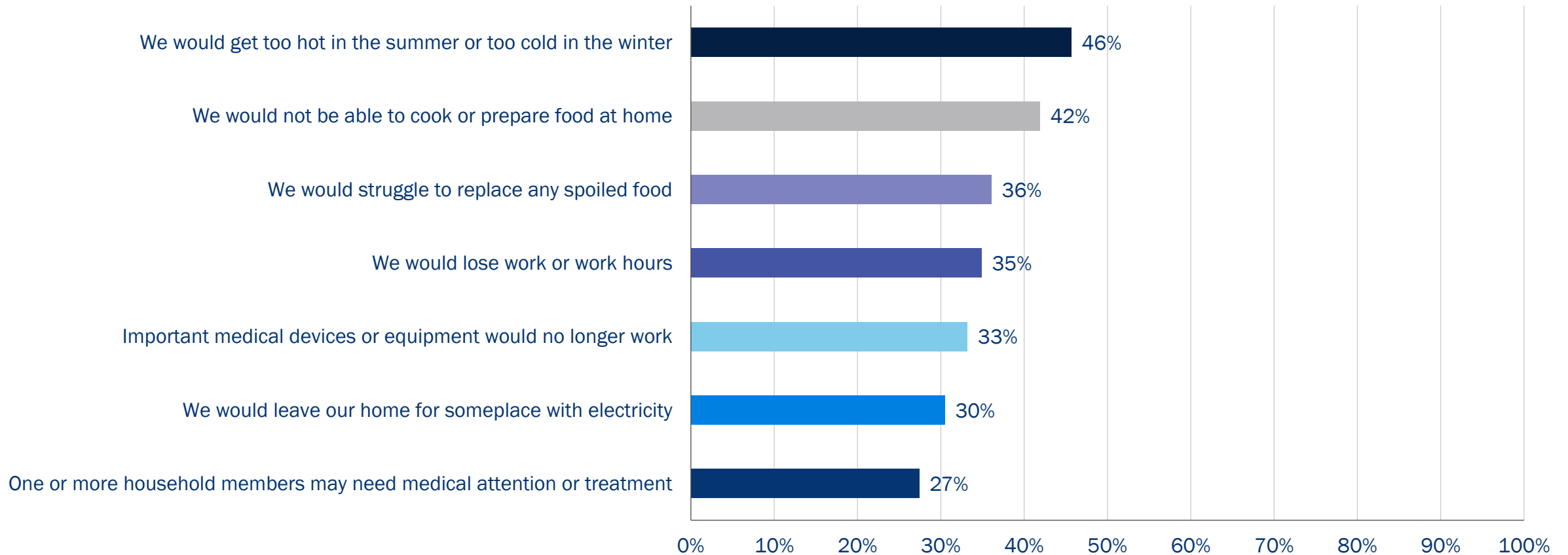
Respondents generally believe that they will likely be uncomfortable if a heat wave were to happen

Please indicate the likelihood that each of the following would occur in your household if a heat wave happened in your area.



Respondents reported discomfort and inability to cook food at home as key impacts due to a power outage

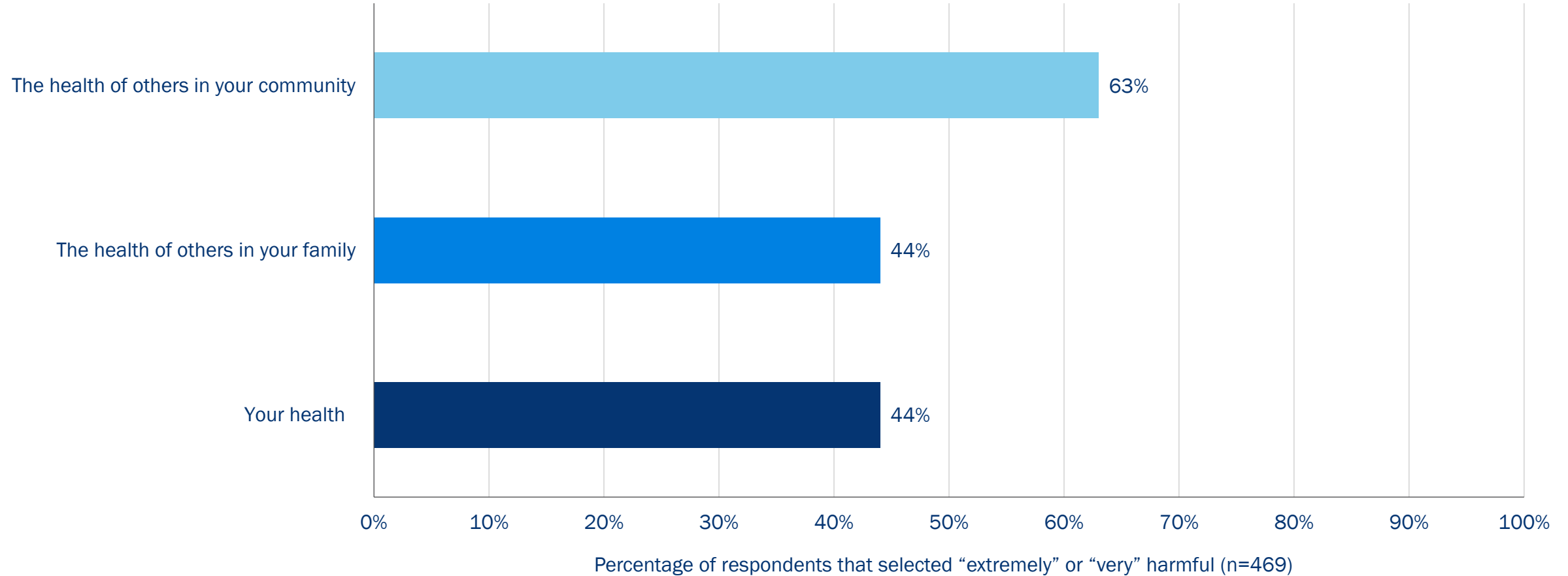
Please indicate the likelihood that each of the following would occur in your household if a power outage 24 hours or longer happened in your area.



Percentage of respondents that selected “extremely” or “very” likely (n=469)

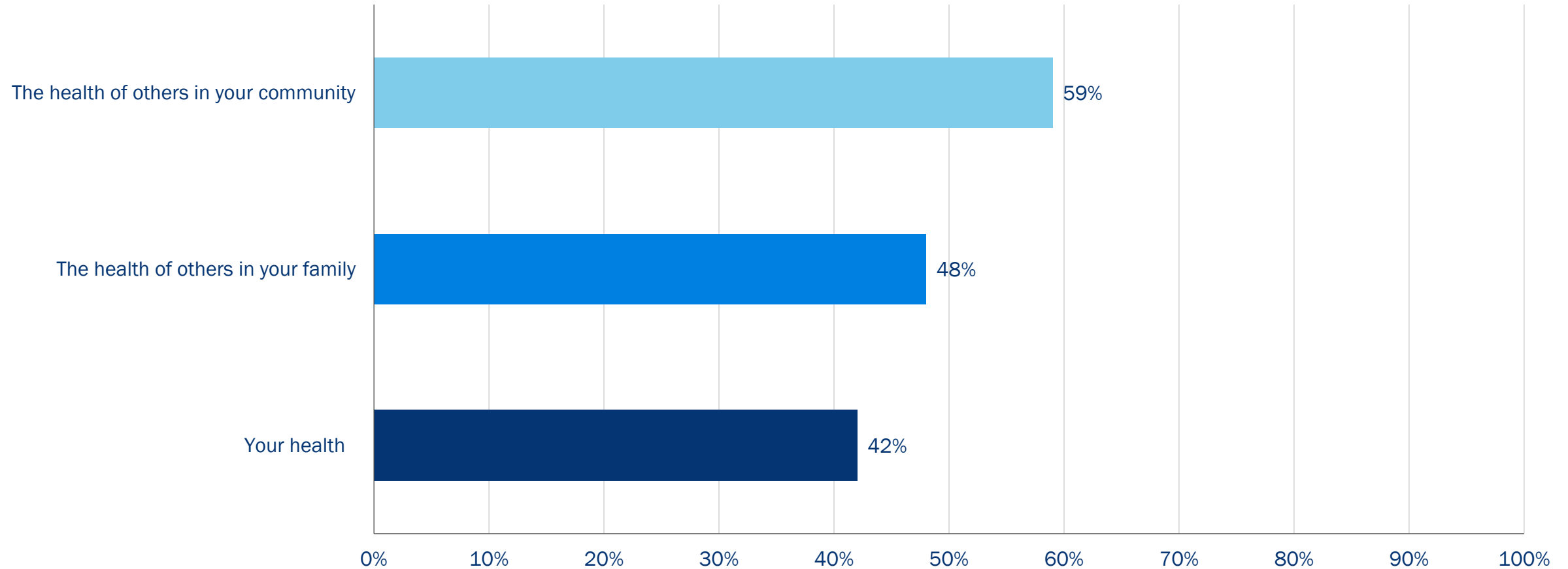
Respondents display optimism bias when assessing level of harm to own health

If a power outage due to a heat wave were to occur in your local area, how much, if at all, do you think it would harm the following?



Respondents are more worried about the health of others in their community than their own

How worried, if at all, are you about the effects a power outage due to a heat wave on the following?





Opinion **Dynamics**



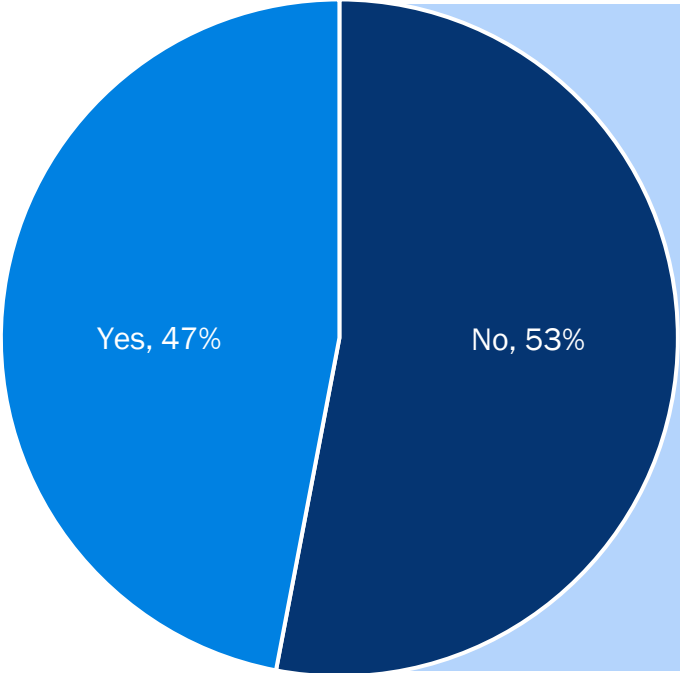
FLEX ALERT INTENT



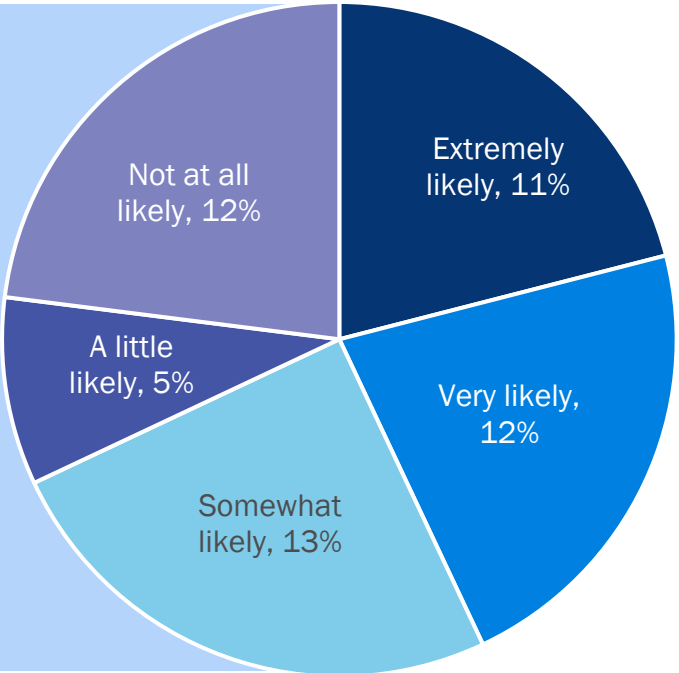
Most respondents who are aware of Flex Alerts are either signed up or likely to sign up to receive them

Are you currently signed up to receive Flex Alerts?

How likely are you to sign up to receive the notifications?



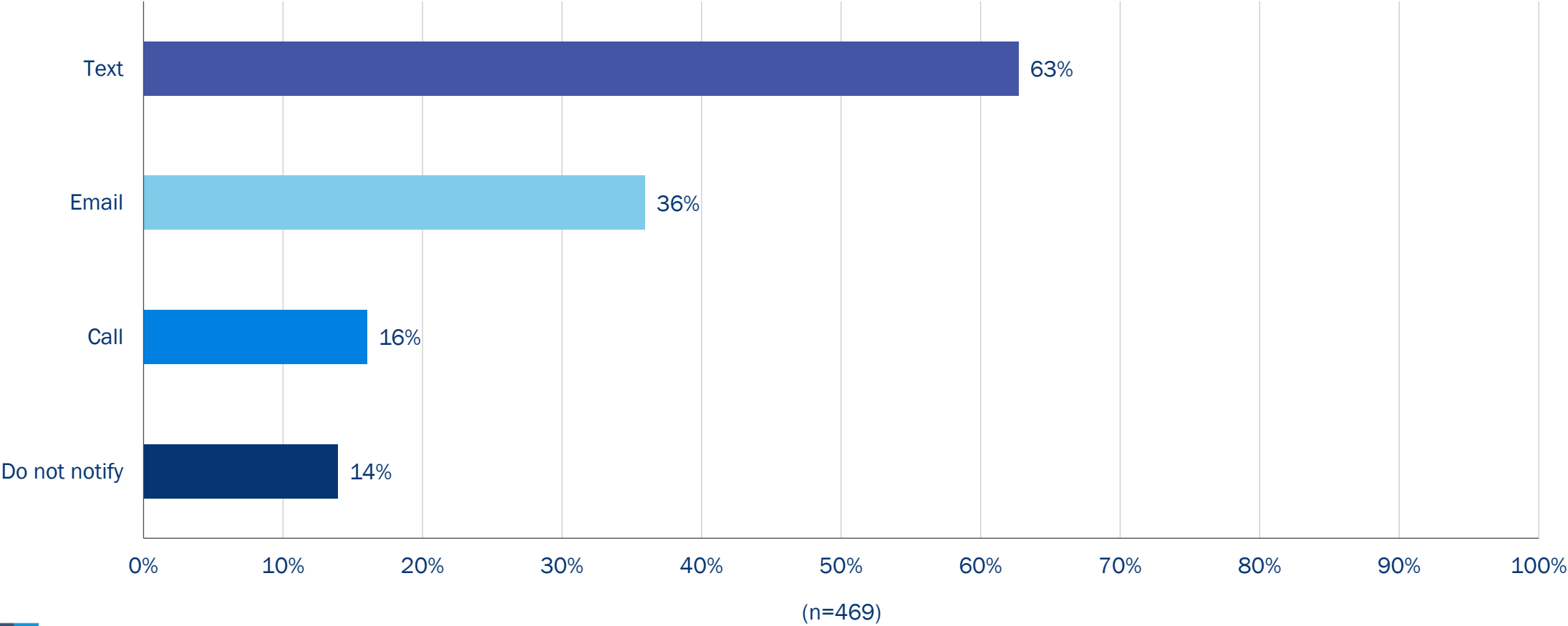
Percentage signed up among respondents who were aware of Flex Alerts (n=213)



Percentage likelihood among respondents who are aware but have not yet signed up to receive Flex Alerts (n=119)

Respondents prefer to be notified about upcoming Flex Alerts through texts

How would you prefer to be notified about an upcoming Flex Alert?



Respondents find low effort actions such as turning off the lights and adjusting the window blinds easy, but they are also low energy saving actions

Please rate the ease or difficulty of taking each action between 4 p.m. to 9 p.m. on hot days

| Statement | Percentage of respondents that selected “very” or “somewhat” easy (n=469) |
|--|---|
| Turn off all unnecessary lights | 80% |
| Adjust blinds, drapes, and/or shades on windows | 75% |
| Keep the windows and doors closed | 72% |
| Avoid using the oven | 65% |
| Avoid using the washing machine or dryer | 63% |
| Use fans instead of the air conditioning | 60% |
| Unplug electronic devices when not in use | 59% |
| Avoid using the dishwasher | 59% |
| Unplug power strips when not in use | 58% |
| Turn the water heater down to the lowest setting | 53% |
| Pre-cool home | 49% |
| Avoid using the TV | 45% |
| Set the air conditioning to 78 degrees or higher | 41% |
| Leave the home | 30% |

Notes: 1. All statements were not applicable to all the respondents, so the valid ‘n’ is lower for some statements.

2. The “pre-cool you home” statement was asked as a separate question, as the action needs to be taken before 4 p.m. instead of between 4 p.m. to 9 p.m.

3. The “delay charging your EV” statement was excluded from the results, as more people responded to the question than we would have expected to own an EV.

Respondents are also most likely to take low effort, low energy saving actions such as adjusting the window blinds and keeping the doors/windows closed

Please rate the likelihood of taking each action between 4 p.m. to 9 p.m. on hot days

| Statement | Percentage of respondents that selected “extremely” or “very” likely (n=469) |
|--|--|
| Adjust blinds, drapes, and/or shades on windows | 77% |
| Keep the windows and doors closed | 75% |
| Turn off all unnecessary lights | 75% |
| Avoid using the washing machine or dryer | 70% |
| Avoid using the oven | 68% |
| Avoid using the dishwasher | 66% |
| Use fans instead of the air conditioning | 64% |
| Unplug power strips when not in use | 62% |
| Unplug electronic devices when not in use | 60% |
| Turn the water heater down to the lowest setting | 55% |
| Pre-cool home | 53% |
| Set the air conditioning to 78 degrees or higher | 52% |
| Avoid using the TV | 45% |
| Leave the home | 27% |

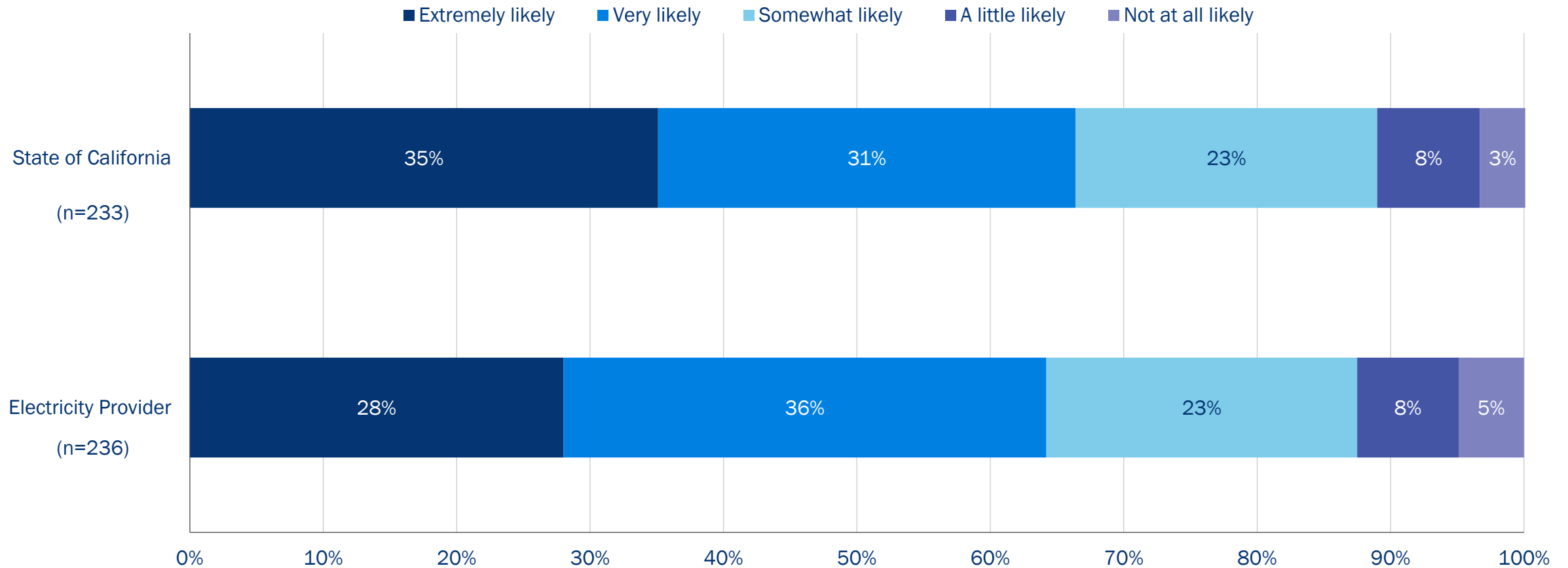
Notes: 1. All statements were not applicable to all the respondents, so the valid ‘n’ is lower for some statements.

2. The “pre-cool you home” statement was asked as a separate question, as the action needs to be taken before 4 p.m. instead of between 4 p.m. to 9 p.m.

3. The “delay charging your EV” statement was excluded from the results, as more people responded to the question than we would have expected to own an EV.

Approximately two-thirds of respondents are extremely or very likely to reduce their energy use if asked. Respondents are slightly more responsive when asked by the State of California than their electricity provider.

How likely would you be to reduce your electricity use if asked by the state/electricity provider?





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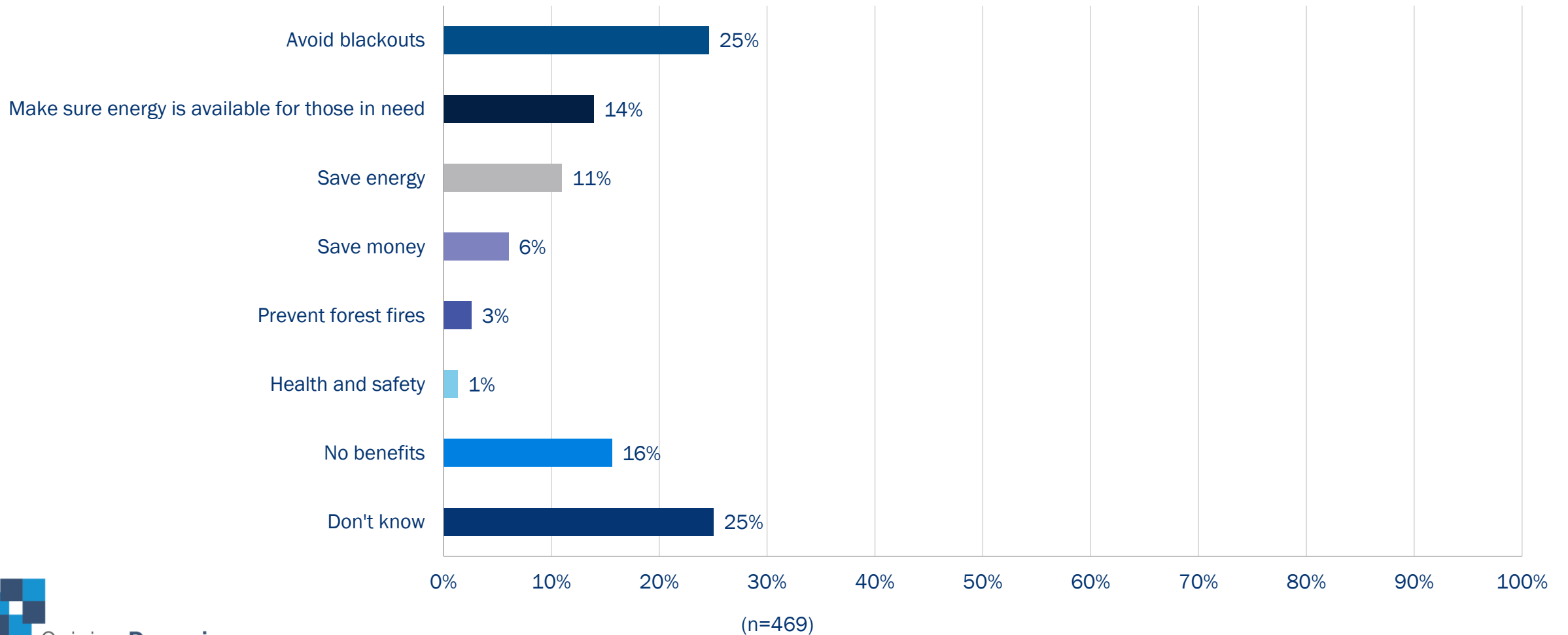


FLEX ALERT BENEFITS AND BARRIERS



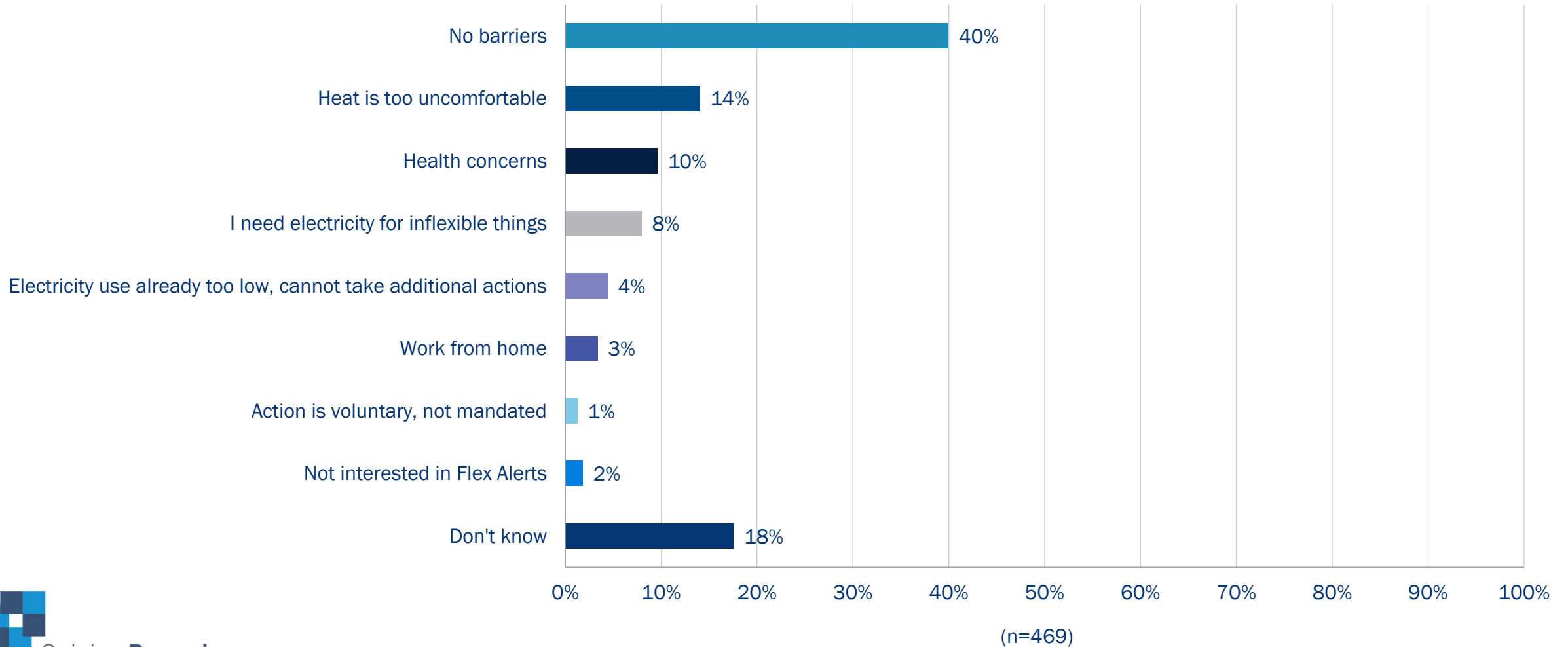
Respondents view avoiding blackouts and ensuring availability of electricity for those in need as key benefits to taking action during Flex Alerts

What benefits do you see from taking action during a Flex Alert? (open end)



Most respondents do not see any barriers or don't know what the barriers are to taking action during a Flex Alert

What barriers do you see to taking action during a Flex Alert? (open end)





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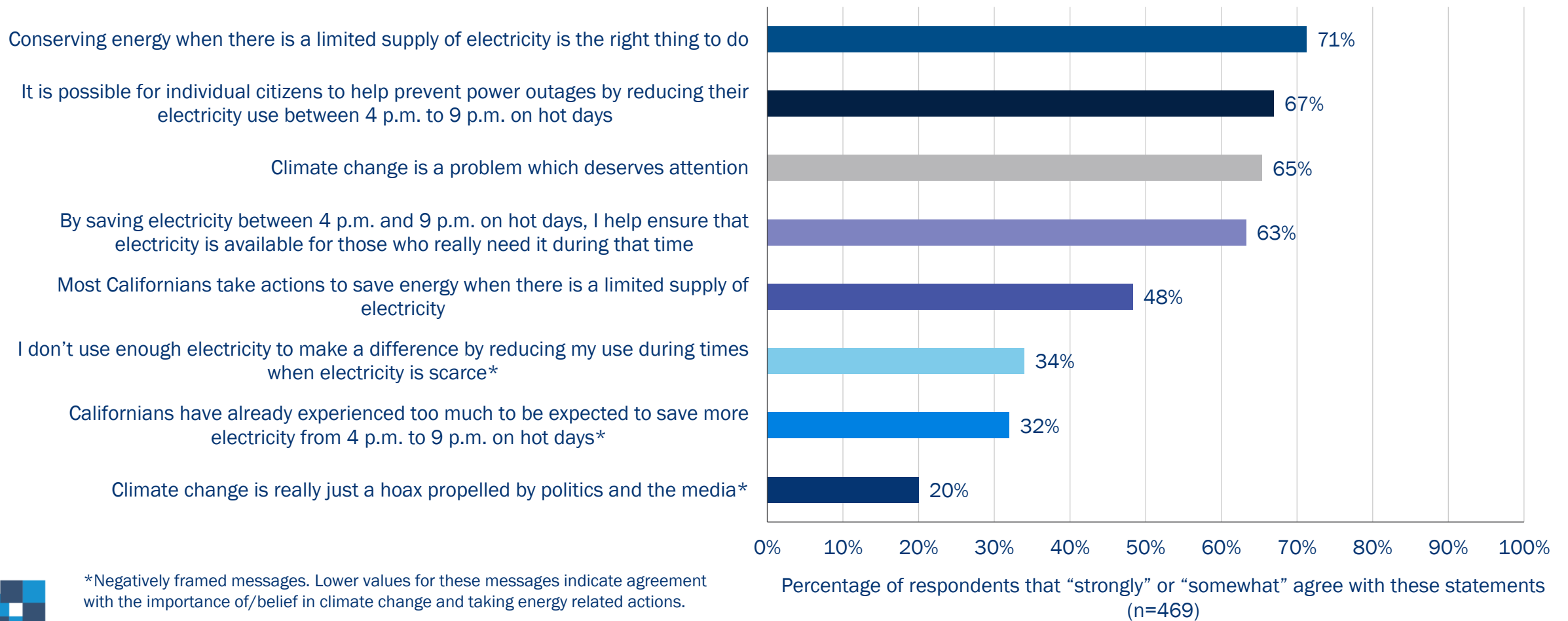


PSYCHOGRAPHICS



Respondents mostly agree that it is possible to reduce electricity use to prevent outages and is also the right thing to do

To what extent do you agree or disagree with the following statements?



*Negatively framed messages. Lower values for these messages indicate agreement with the importance of/belief in climate change and taking energy related actions.



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KEY FINDINGS AND RECOMMENDATIONS



Key Finding #1: Californians have moderate awareness of Flex Alerts and low understanding of the need to take action during a Flex Alert

- Less than half of the respondents are aware of Flex Alerts (aided)
- A quarter of respondents are able to accurately state the purpose of Flex Alerts (unaided)
- A third of the respondents are able to correctly associate the Flex Alert brand with the campaign message
- Less than half of the respondents are able to correctly identify the time period to save energy during a Flex Alert
- Respondents who are aware of Flex Alerts have low unaided awareness of actions to take during a Flex Alert, but relatively high aided awareness

Key finding #2: Many Californians have misperceptions about California's grid or their energy use

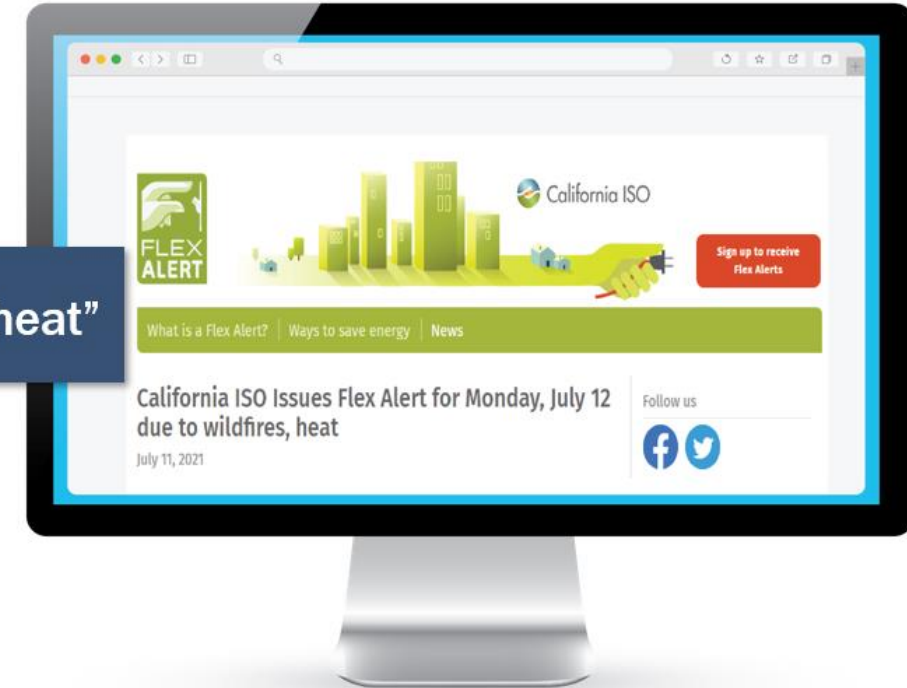
- More than half of the respondents believe innovations in battery storage have made it possible to store enough energy generated by solar panels when the sun is shining to completely power our electricity grid when it gets dark
- There are misperceptions between PSPS and Flex Alerts
 - More than three quarters of the respondents believe that when an unusually high amount of electricity is used, the power grid operator may ask Californians to conserve energy to prevent wildfires
- A third of Californians believe that they do not use enough power to make a difference by reducing their energy use
 - However, around 70% believe that conserving energy when there is a limited supply is the right thing to do

Recommendation #1: Increasing public awareness and understanding of Flex Alerts will be critical for increasing Flex Alert load impacts in 2021 and 2022

- Given relatively lower public response to Flex Alerts in 2021 compared to 2020, increasing public awareness and understanding is critical for increasing Flex Alert load impacts
 - The Flex Alert public awareness campaign is strategic tool for increasing this response
- Marketing efforts should continue to focus on increasing awareness about Flex Alerts, actions to be taken, and improving Californians' understanding of the grid
- Consider working with CAISO to keep the messaging consistent and increase awareness about the difference between PSPS and Flex Alerts
- Continue to highlight the power of one to make a difference



“due to wildfires, heat”



Key finding #3: Californians would like to receive Flex Alert notifications through text and have the most ease and likelihood of completing low effort actions to save energy

- More than two thirds of Californians are signed up or likely to sign up to receive Flex Alerts and would prefer to receive them via text
- Californians reported having the greatest ease and likelihood of taking common, actions that have low energy-savings impacts
 - These actions include turning off unnecessary lights, adjusting blinds, drapes and/or shades on windows, and keeping the windows and doors closed, to save energy between 4 p.m. and 9 p.m.
- Californians also have moderate ease and likelihood of shifting common household chores and other actions that have moderate energy-saving impacts
 - Household chores include avoiding using the washing machine or dryer, oven, or dishwasher between 4 p.m. to 9 p.m.
 - Other non-chore actions include unplugging electronic devices, power strips, and using fans instead of the AC
- Californians also reported more difficulty and less likelihood of pre-cooling their home and setting their AC to 78 degrees or higher

Key Finding #4 Californians have concerns about the health and community impacts of heat waves and power outages

- Californians believe they will likely be uncomfortable and unable to cook if a heatwave or power outage were to occur
- Californians are more worried about the health of others in their community than their own health
- Avoiding blackouts and ensuring availability of electricity for those in need were listed as key benefits of taking action during a Flex Alert
- Discomfort was listed as the main barrier to taking action during a Flex Alert

Recommendation #3: Consider revised messaging strategies

- Continue messaging to target moderate ease and likelihood of shifting common household chores and other actions that have moderate energy-saving impacts such as:
 - Delay using the washing machine or dryer between 4 p.m. to 9 p.m.
 - Delay using the dishwasher or oven between 4 p.m. to 9 p.m.
 - Using fans instead of the AC between 4 p.m. to 9 p.m.
 - Unplug power strips or electronic devices when not in use
- Consider developing messaging around how precooling homes could reduce Californians' discomfort during Flex Alerts to address the discomfort barrier
- Consider revising messaging to tap into the idea of helping others in their community
- Consider emphasizing that less clean energy is available between 4 p.m. to 9 p.m. as a complimentary focus to the “use clean energy before 4 p.m.” messaging
- Send text messages to provide Flex Alert notifications, when possible



Recommendation #4: Conduct additional research and outreach to understand barriers and opportunities

- Consider conducting additional research to understand why Californians do not find actions like setting their temperature to 78 degrees or precooling their home easy and why they may be unlikely to take them
 - Potential research questions include: Are Californians unable to take these actions because they are not home, they do not have the necessary technology like a smart thermostat to remotely control their cooling systems, or are they are solely concerned about discomfort?
- Consider creating messaging that is mutually reinforcing to other demand response messaging currently in market in CA
 - OhmConnect's End CA Blackouts messaging frames seem to mutually reinforce DDB's focus to "showcase what's at stake" with risk of power outages



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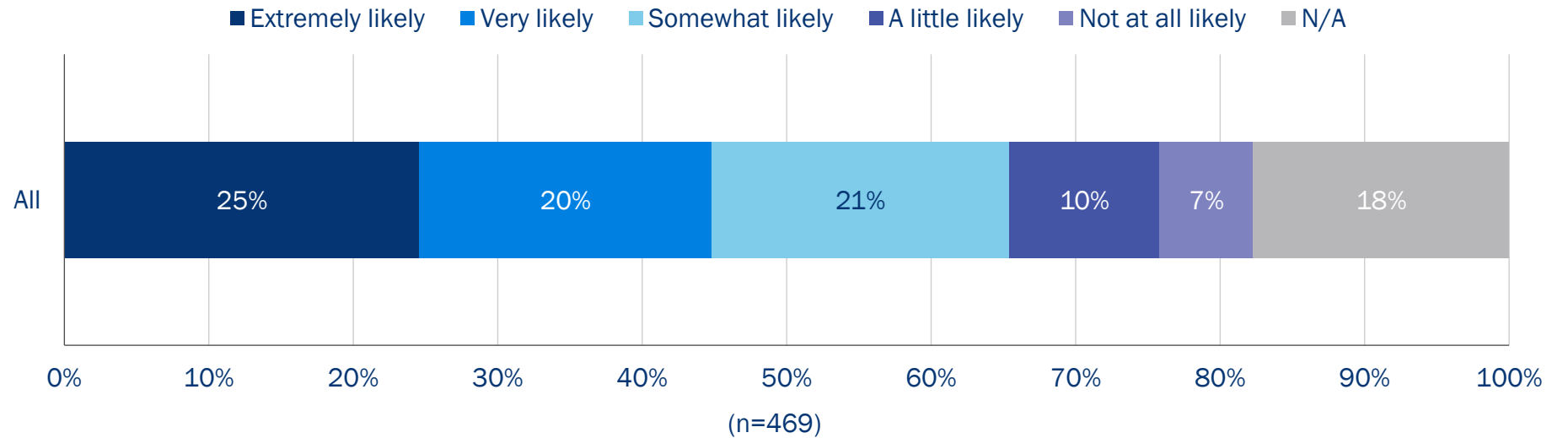
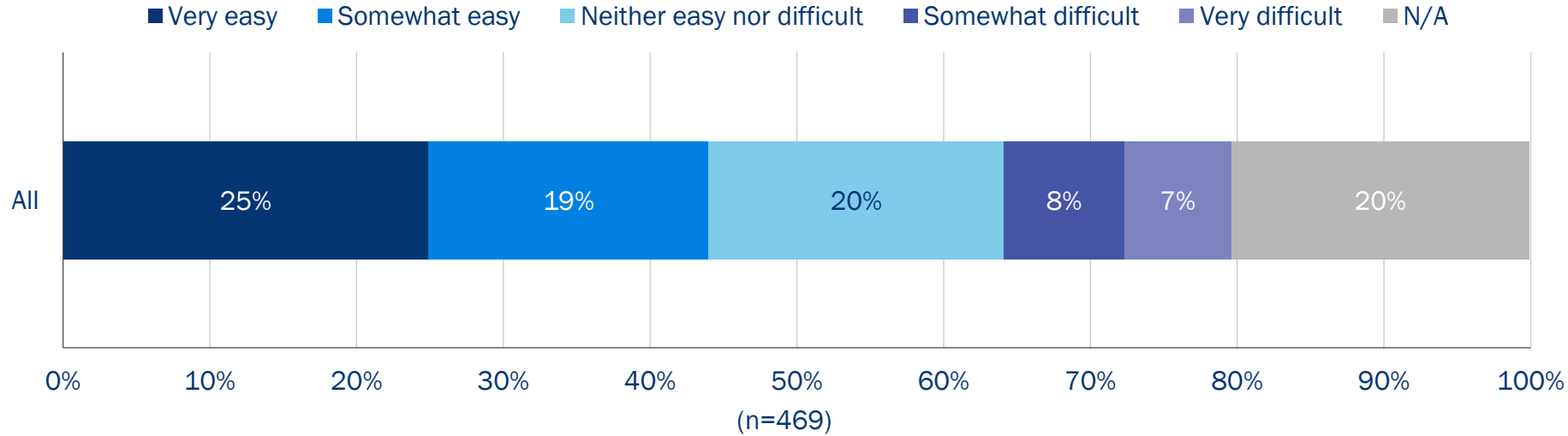
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APPENDIX



Pre-cooling Home on Hot Days

How easy or difficult would it be for you to pre-cool your home on hot days? How likely would you be to pre-cool your home?





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ME&O

FLEX ALERTS WAVE 2 SURVEY

Deliverable 25:
Flex Alert Tracking Survey
Wave 2, July Results



Flex
our power.
Save
our power.

BEFORE
4PM



Pre-Cool

Run your AC cooler during the day
to enjoy a cool evening.



August 31, 2021

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- Survey Methodology [\(6\)](#)
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 - Flex Alert understanding [\(15-20\)](#)
 - Past Flex Alerts [\(21-27\)](#)
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 - Flex Alert intent [\(33-35\)](#)
 - Flex Alert benefits and barriers [\(36-38\)](#)
 - Psychographics [\(39-40\)](#)

Summary of Key Findings

- We observed a substantial increase in Flex Alert awareness (41% in June to 51% in July)
 - This aligns with the start of DDB's social media campaign and increased news coverage of heat waves and Flex Alerts (in late June/July)
- Flex Alert understanding seems to have increased as well, including understanding of why a Flex Alert is called (58% in June to 65% in July) and the correct time period in which to conserve electricity (44% in June to 58% in July)
 - Although Californians are mostly able to identify the correct time period in which to conserve electricity, most associate the need to conserve with afternoons (42% reporting afternoon vs 32% reporting evening)
- Almost a third of Californians (29%) were aware that a Flex Alert had been called within the last month
 - Californians most commonly heard that a Flex Alert had been called from local news (28%)
 - Local news coverage, as the source of general Flex Alert awareness, grew substantially (8% in June to 38% in July)
- Californians have low awareness of pre-cooling their homes relative to other Flex Alert actions and of those who were aware of recent Flex Alerts, few pre-cooled their home during the Flex Alerts (16% reported it as an individual action and an additional 22% selected it as one of many actions taken with selection of "all of the above.")
- More Californians cited saving energy as a benefit of Flex Alert (11% in June to 27% in July), and fewer Californians were unaware of the benefits (25% in June to 18% in July)

Background

- Flex Alert is a call to consumers to voluntarily cut back on electricity and shift electricity use to off-peak hours (i.e., before 4 p.m. or after 9 p.m.)
- In the Summer of 2021, DDB, the campaign implementer, developed a media campaign to educate customers about Flex Alerts and associated energy saving actions
- Opinion Dynamics is evaluating the performance of the Flex Alert campaign in meeting its stated objectives and program performance metrics
- This report provides findings from Wave 2 of the residential customer survey conducted in July 2021, the second of six monthly tracking surveys

| CAMPAIGN OBJECTIVES | KEY METRICS | RESEARCH OBJECTIVES |
|---|---|--|
| <p>Increase Flex Alert recognition through awareness and familiarity</p> | <p>Unaided Awareness</p> | <ul style="list-style-type: none"> ▪ Understand Californians’ awareness of Flex Alerts and how they became aware of it ▪ Understand Californians’ awareness that a Flex Alert has been called ▪ Understand Californians’ familiarity with the goal of Flex Alert and the times during which they should delay their energy use |
| | <p>Aided Awareness</p> | |
| | <p>Flex Alert Familiarity</p> | |
| <p>Increase understanding of the reason behind the need to act during Flex Alerts and what actions to take</p> | <p>Understanding of the connections between grid conditions and Flex</p> | <ul style="list-style-type: none"> ▪ Understand Californians’ understanding of the relationship between heatwaves, electricity supply, and power outages ▪ Understand Californians’ awareness of the actions they can take to save energy during a Flex Alert ▪ Understand the extent to which Californians are sharing and will share energy-saving tips with their friends and family ▪ Understand the extent to which Californians believe energy conservation is something that other Californians are doing and that they should do too |
| | <p>Understanding what actions can be taken</p> | |
| <p>Increase intent to sign up for Flex Alerts and take action during a Flex Alert</p> | <p>Likelihood to reduce usage during a Flex Alert</p> | <ul style="list-style-type: none"> ▪ Understand Californians’ likelihood of signing up for Flex Alerts and taking actions to delay their energy use during peak hours ▪ Understand the extent to which Californians are taking actions during a Flex Alert |
| | <p>Likelihood to sign up</p> | |
| | <p>Action</p> | |

Survey Methodology

- Opinion Dynamics conducted a bilingual online survey of 506 Californians
- Sample drawn from YouGov's non-probability opt-in panel. Results are weighted to be representative of the state of CA population based on gender, age, race, home-ownership, education, whether the respondent is Spanish-speaking, and income using propensity score matching and post-stratification
- Respondents could complete the survey in either English or Spanish
 - English: 428 (85%)
 - Spanish: 78 (15%)
- Field dates: July 12th to July 31st



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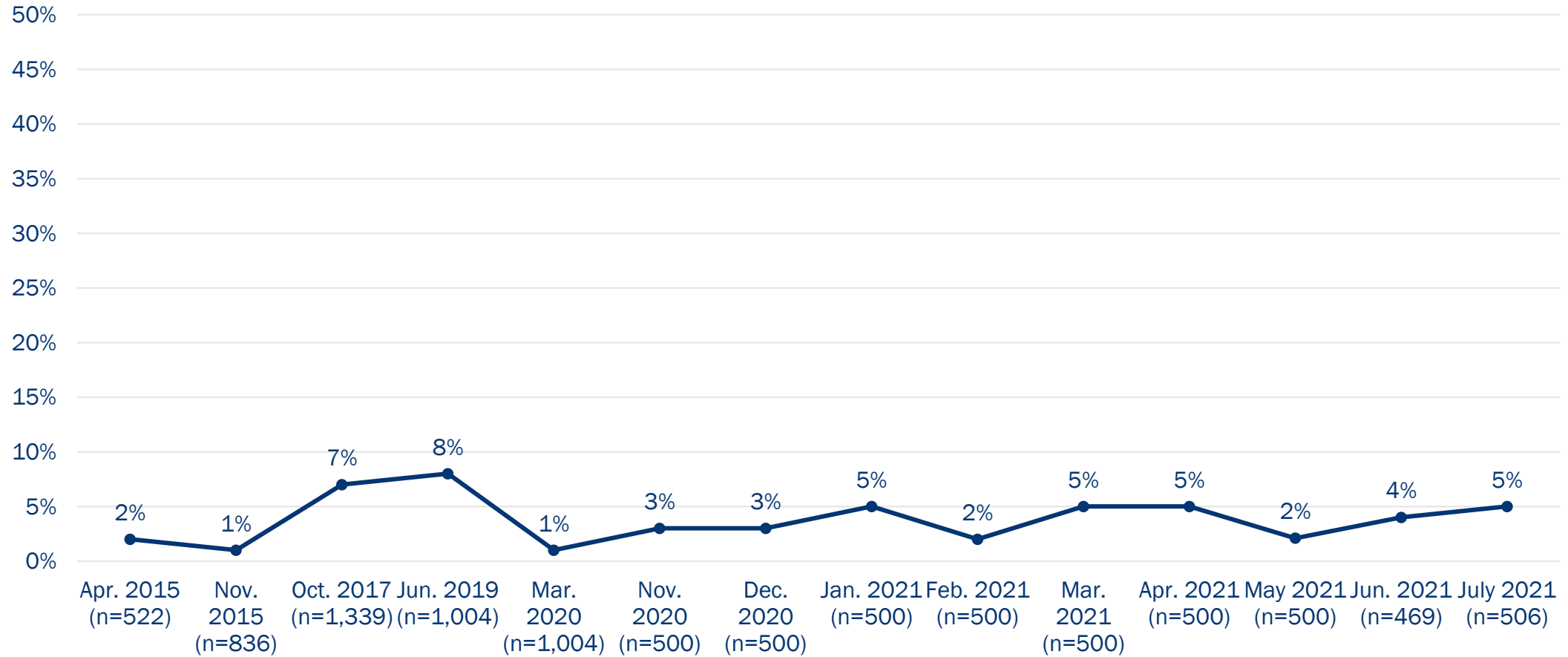


FLEX ALERT AWARENESS & FAMILIARITY



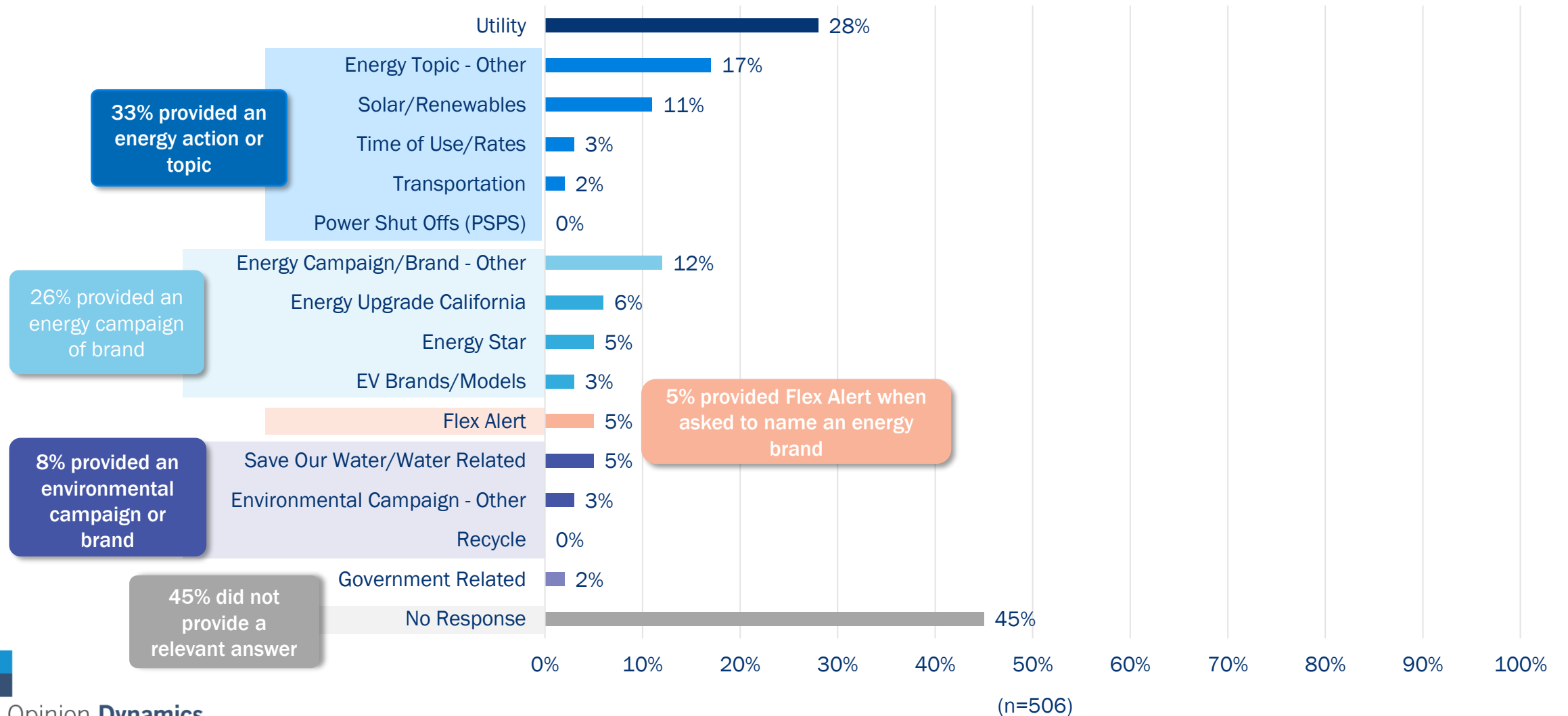
Unaided Awareness of Flex Alerts

When you think of brands, campaigns, or initiatives that encourage Californians to save energy, which ones come to mind? (open end)



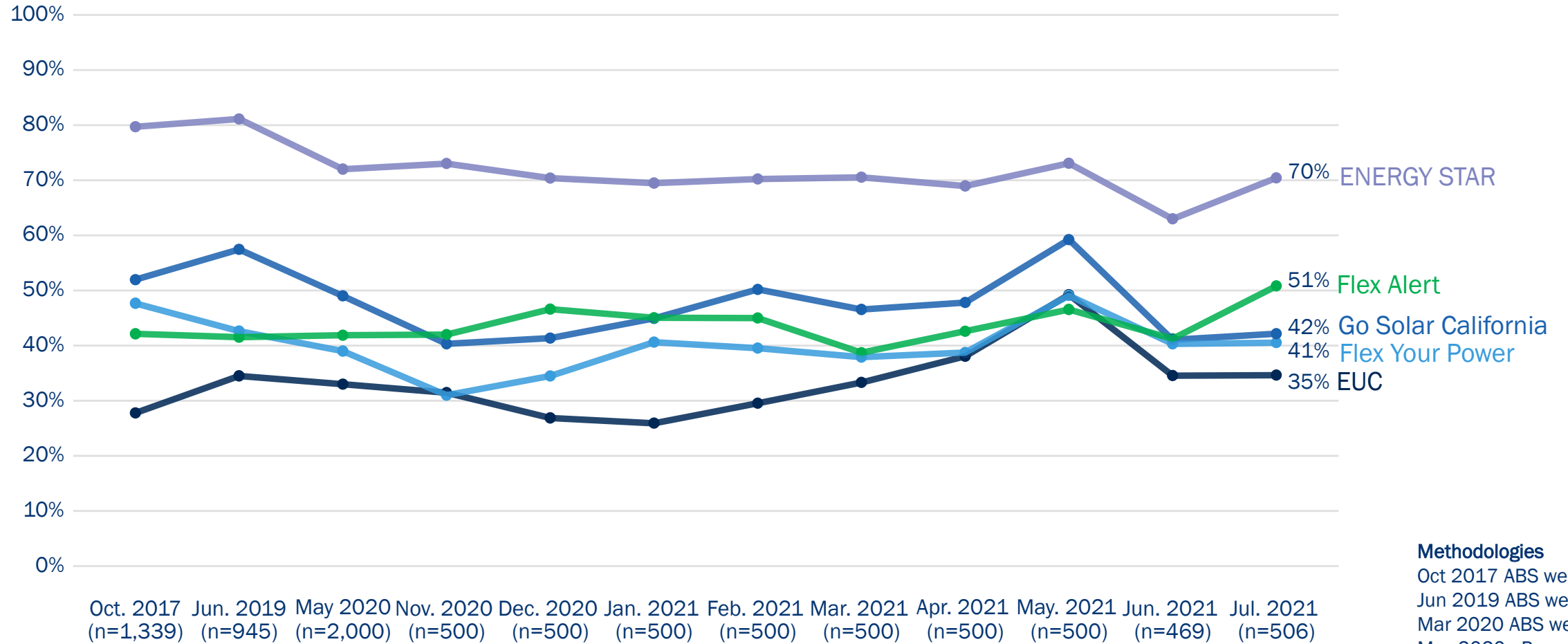
Unaided Awareness of Flex Alerts Relative to Other Brand and Topics

When you think of brands, campaigns, or initiatives that encourage Californians to save energy, which ones come to mind? (open end)



Aided Awareness of Flex Alerts

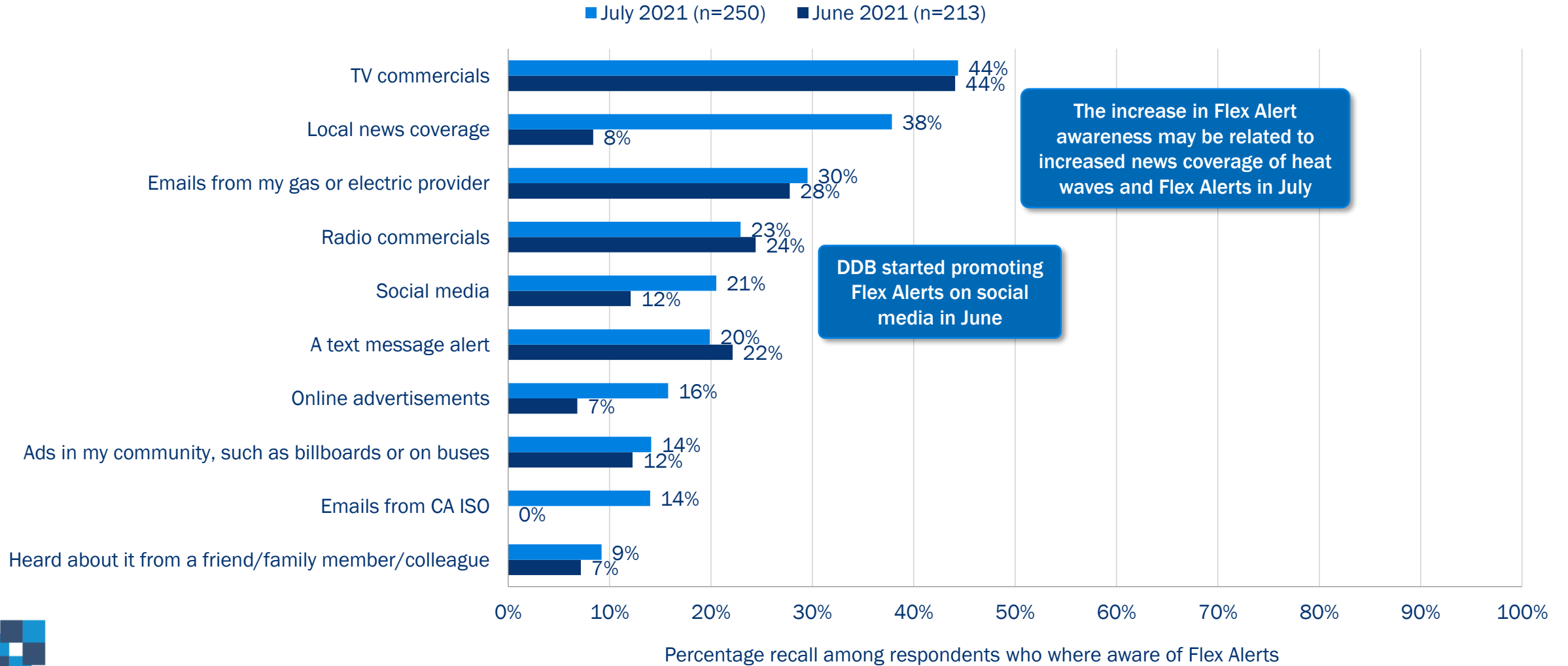
For each one, please tell us if you have heard of it before today.



Methodologies
 Oct 2017 ABS web
 Jun 2019 ABS web
 Mar 2020 ABS web
 May 2020 - Present
 YouGov web panel

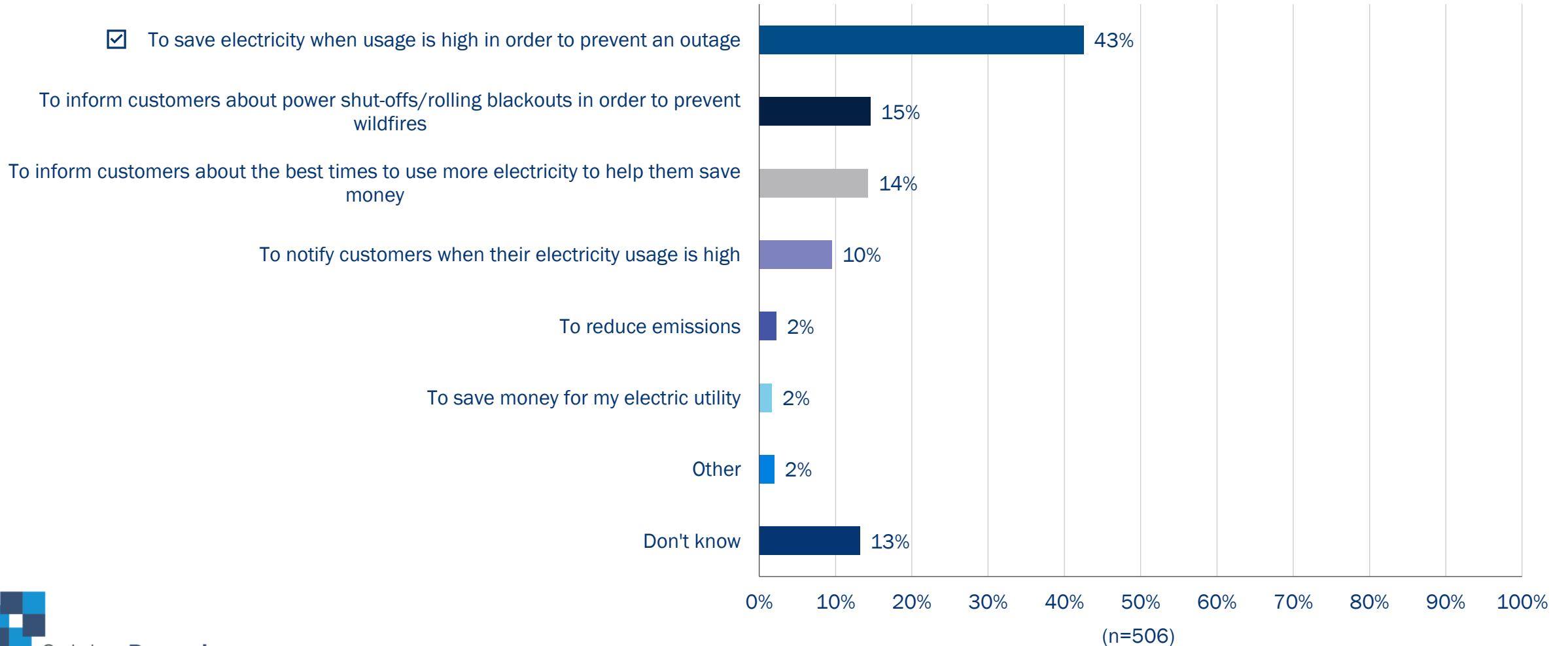
Source of Flex Alert Awareness

Where did you hear about Flex Alerts?



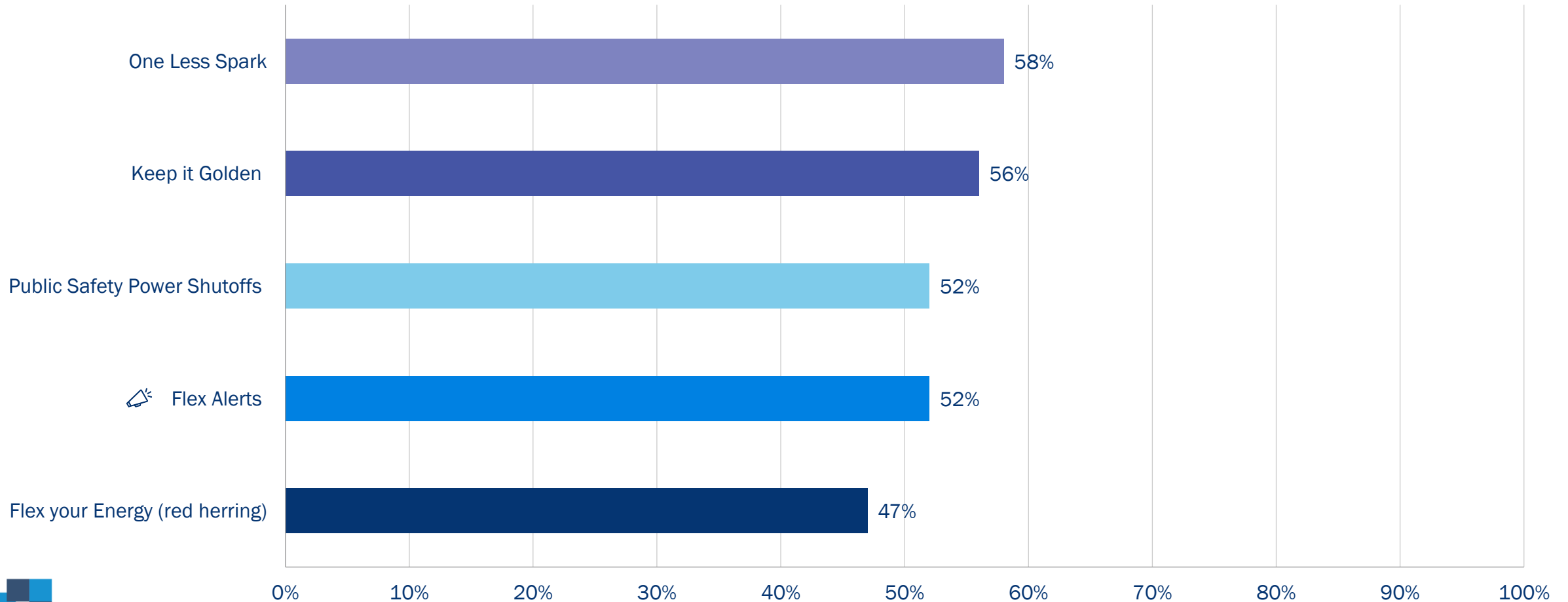
Purpose of Flex Alert

What is the purpose of Flex Alert?



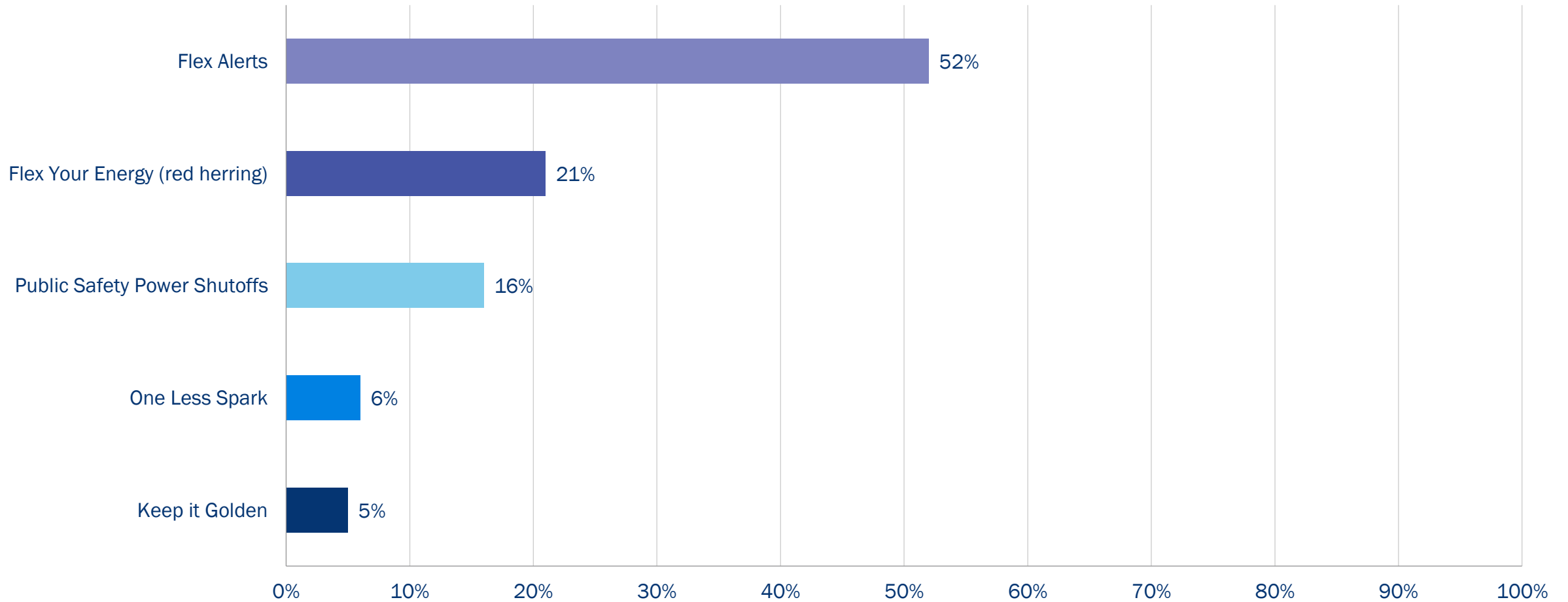
Respondents who Correctly Associated the Campaign Name with its Message

Please match each campaign with its campaign message.



Campaign Name Selected for Flex Alert's Campaign Message

Please match each campaign with its campaign message.

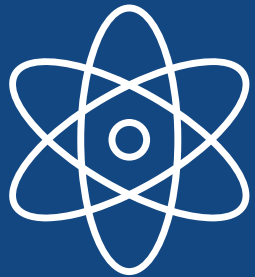


Flex Alert campaign message - Temporarily reduce your electricity use to prevent outages on hot days when demand for electricity is high
(n=504)

Note: We do not include a comparison to June, because we reduced the number of answer options to alleviate respondent burden



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FLEX ALERT UNDERSTANDING



Understanding of California's Electric Grid

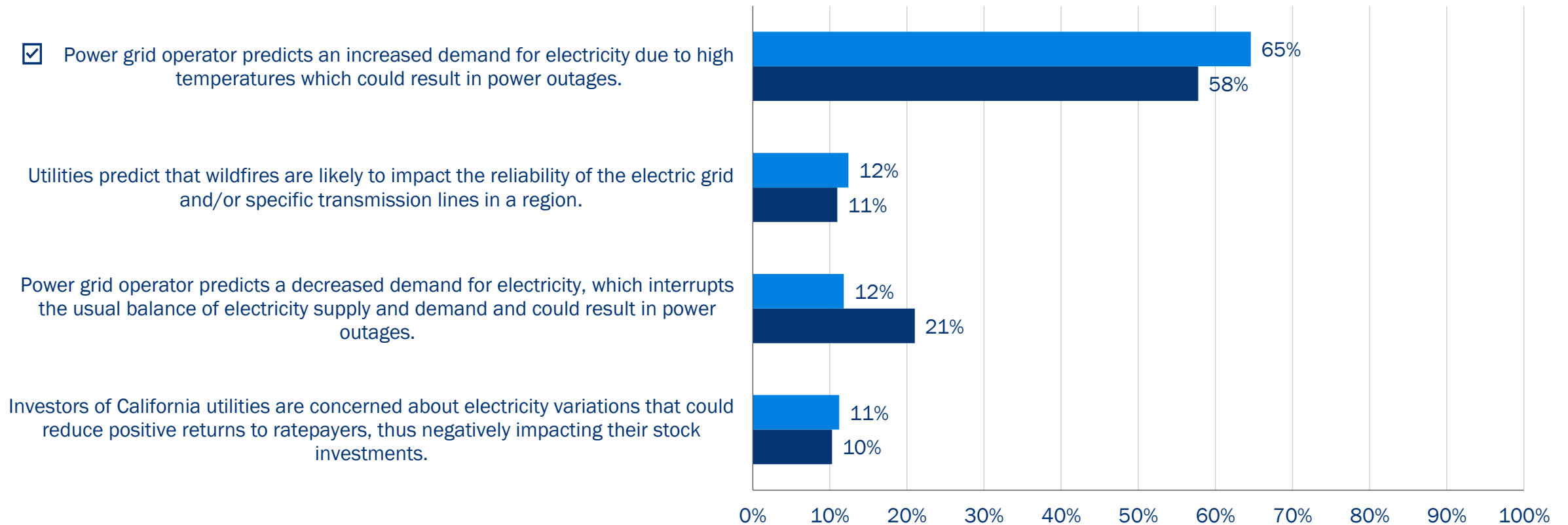
Please select whether you think the following statements about California (CA) are true or false

| Statement | Percentage of respondents who gave correct answer | |
|---|---|-------------------|
| | June 2021 (n=469) | July 2021 (n=506) |
| On hot sunny days, when many people use their air conditioners, CA's electricity demand may exceed its supply | 85% | 90% |
| When an unusually high amount of electricity is used, there is a risk that there will not be enough electricity for all Californians and the power grid operator may need to create localized power outages to protect the grid | 80% | 82% |
| Localized power outages can negatively impact the health and/or safety of some Californians | 79% | 84% |
| CA is not at risk for power outages during times of unusually high electricity use because it can import electricity from other states (False) | 71% | 81% |
| CA's electricity supply is most limited in the morning hours when solar power plants are not fully up and running yet and Californians are using more electricity (False) | 65% | 71% |
| CA's electricity supply is most limited in the evening hours when solar panels start to generate less electricity and Californians are using more electricity | 64% | 62% |
| In CA, innovations in battery storage have made it possible to store enough energy generated by solar panels when the sun is shining to completely power our electricity grid when it gets dark (False) | 39% | 41% |
| When an unusually high amount of electricity is used, the power grid operator may ask Californians to conserve energy to prevent wildfires (False) | 23% | 25% |

Understanding of Why a Flex Alert is Called

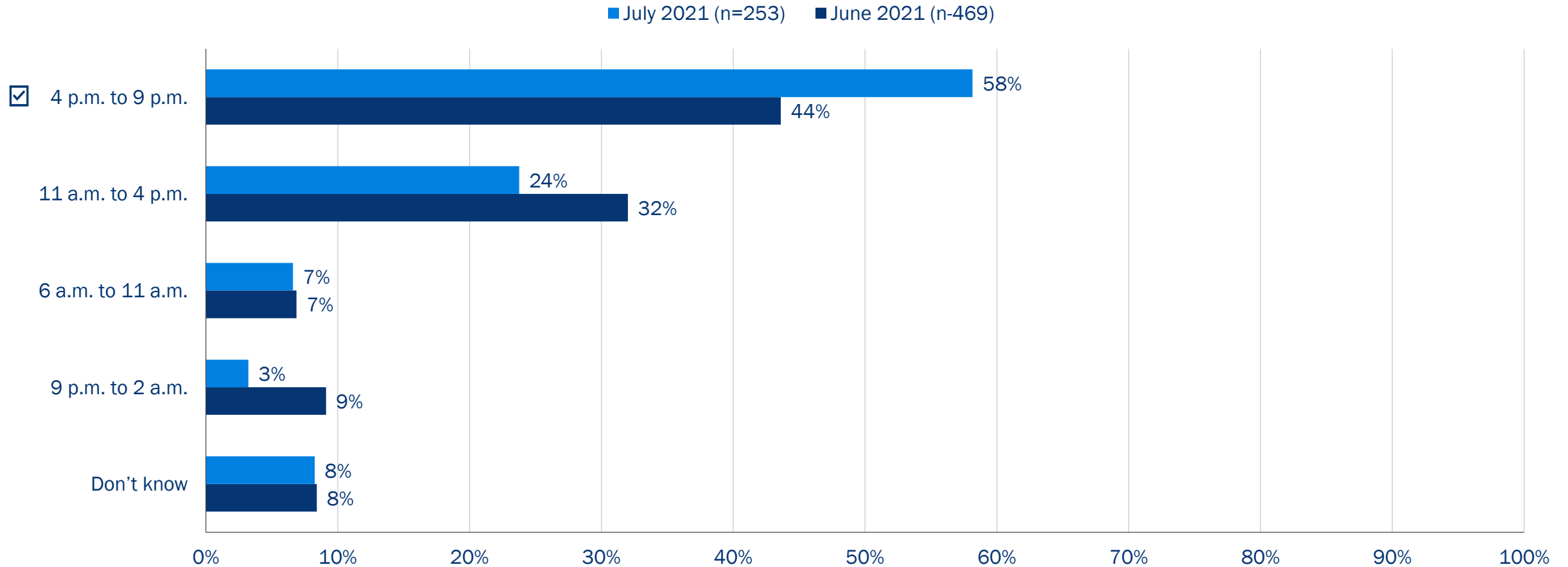
Please select one. Flex Alerts are called when...

■ July 2021 (n=506) ■ June 2021 (n=469)



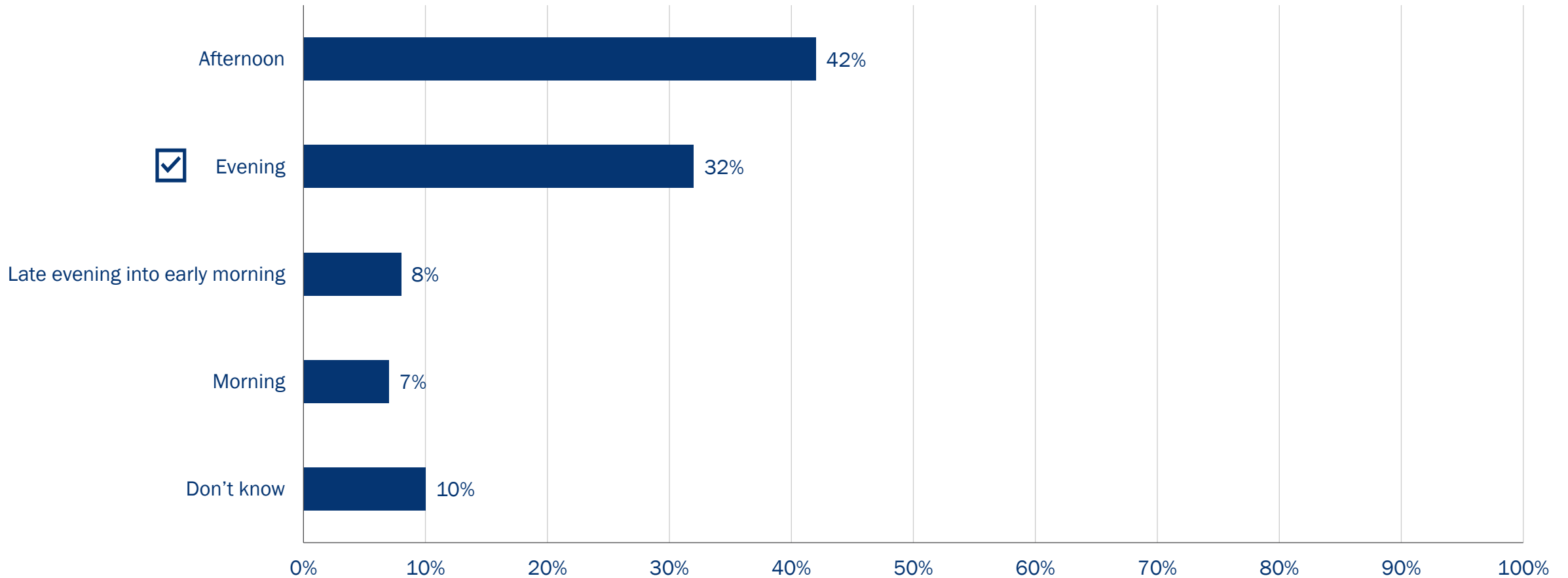
Understanding of Time Period to Conserve Electricity During a Flex Alert - 1

When a Flex Alert is called, during what time period is it most important for Californians to conserve electricity?



Understanding of Time Period to Conserve Electricity During a Flex Alert - 2

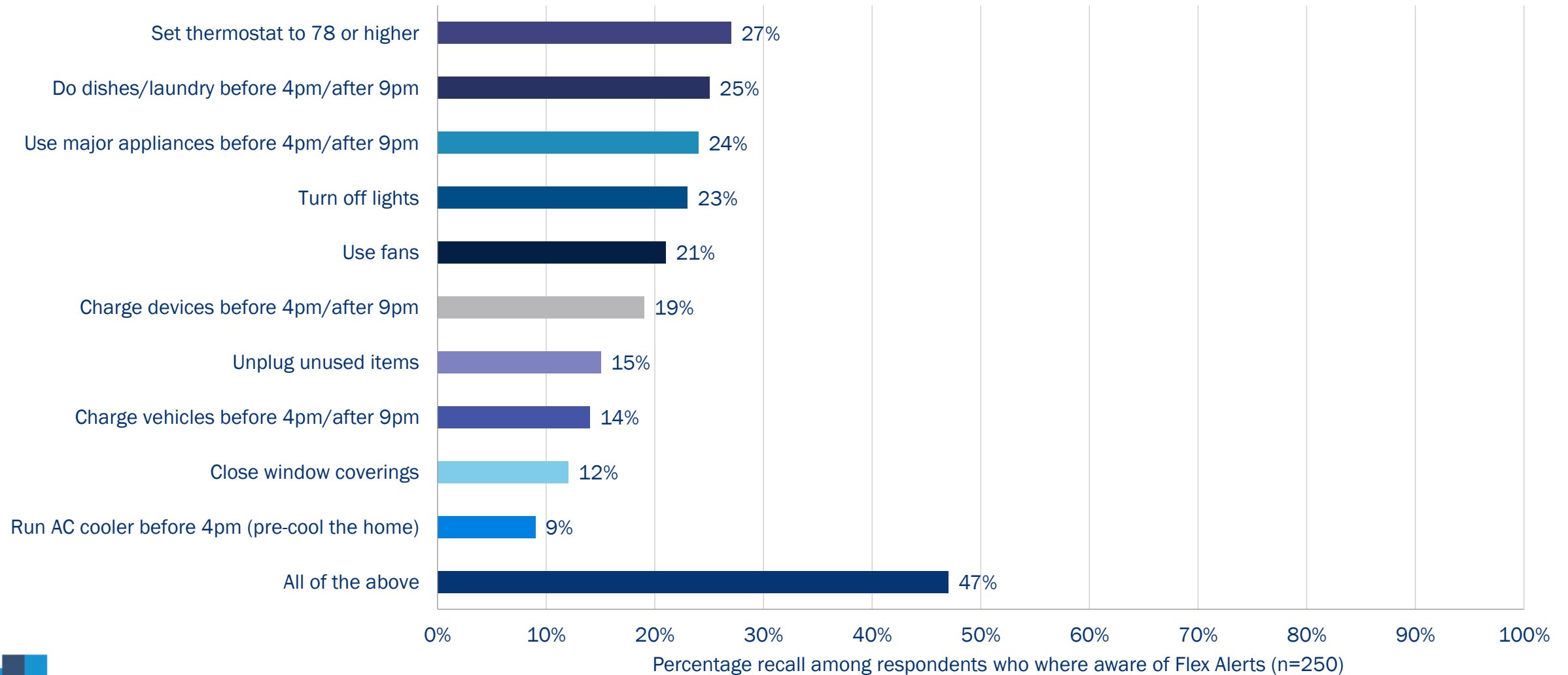
When a Flex Alert is called, during what time period is it most important for Californians to conserve electricity?



(n=213)

Aided Awareness of Flex Alert Actions

Please select the actions that Flex Alerts ask you to do.





Opinion **Dynamics**

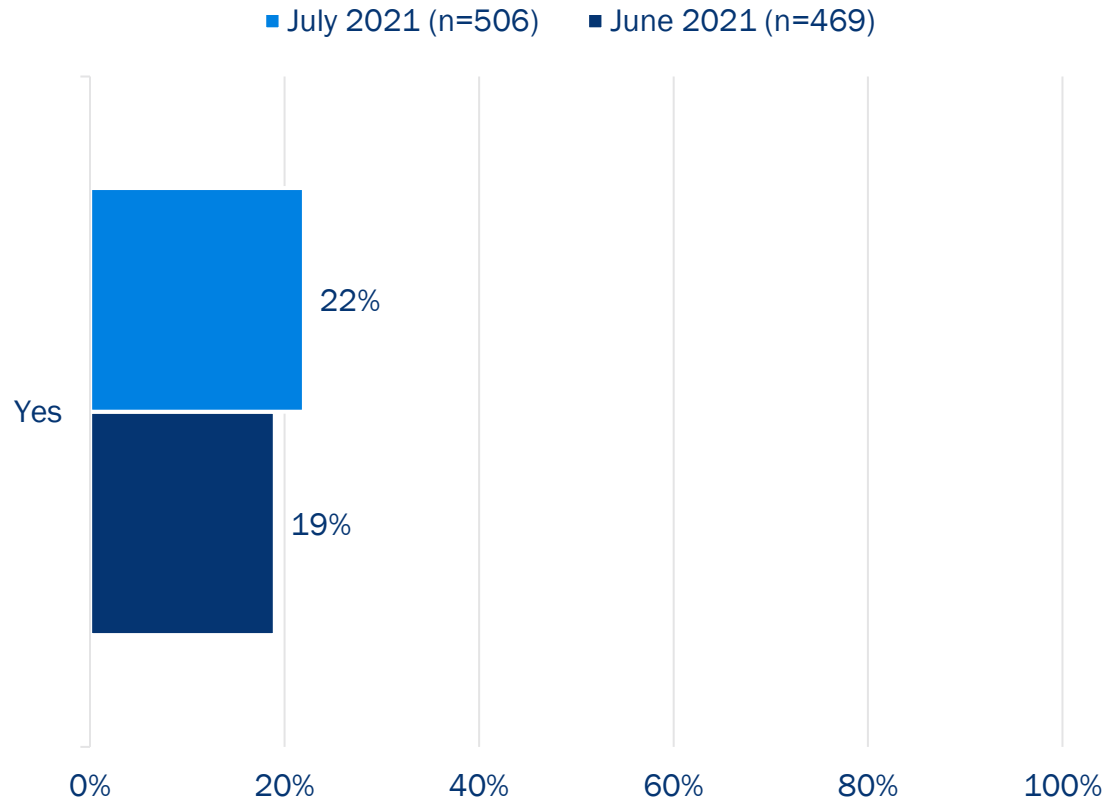


PAST FLEX ALERTS

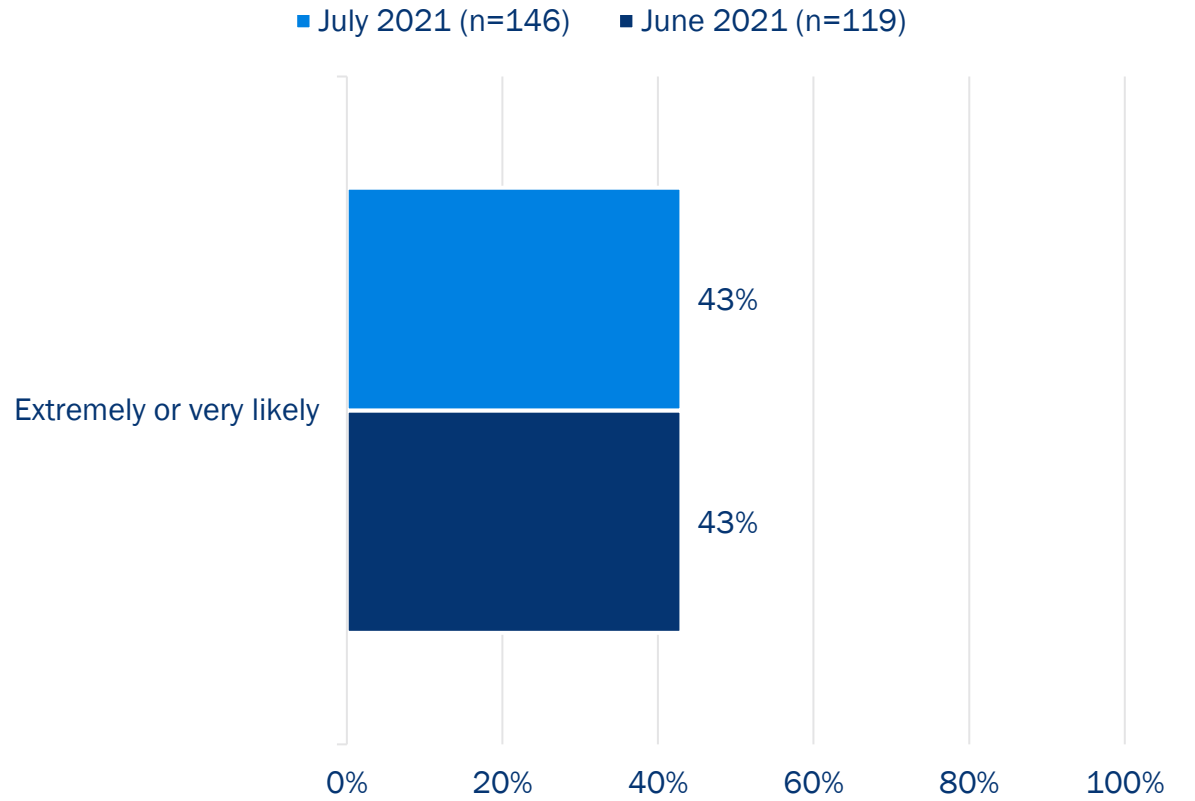


Flex Alert Sign-up

Are you currently signed up to receive Flex Alerts?



How likely are you to sign up to receive Flex Alerts in the future?

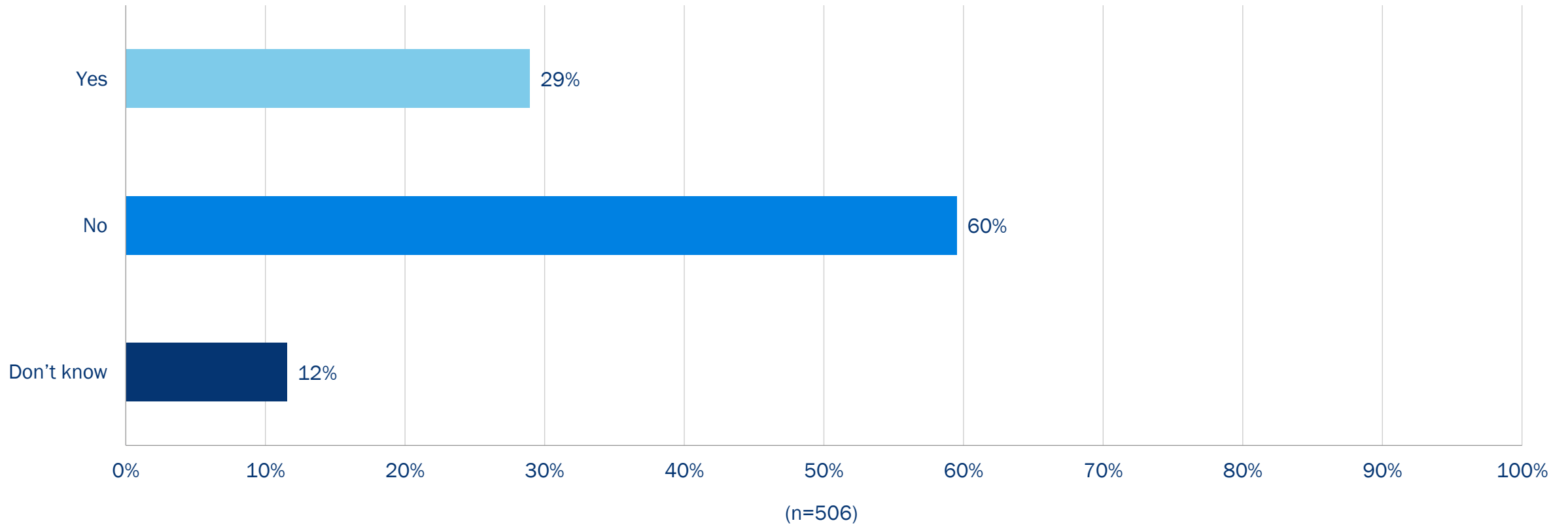


Percentage of those extremely or very likely to sign up for Flex Alerts (among respondents who are aware but have not yet signed up)

Note: Although the results are based on the entire sample, only those who were aware of Flex Alerts were asked this question. It was assumed that if someone was not aware of Flex Alerts, they did not sign up for them.

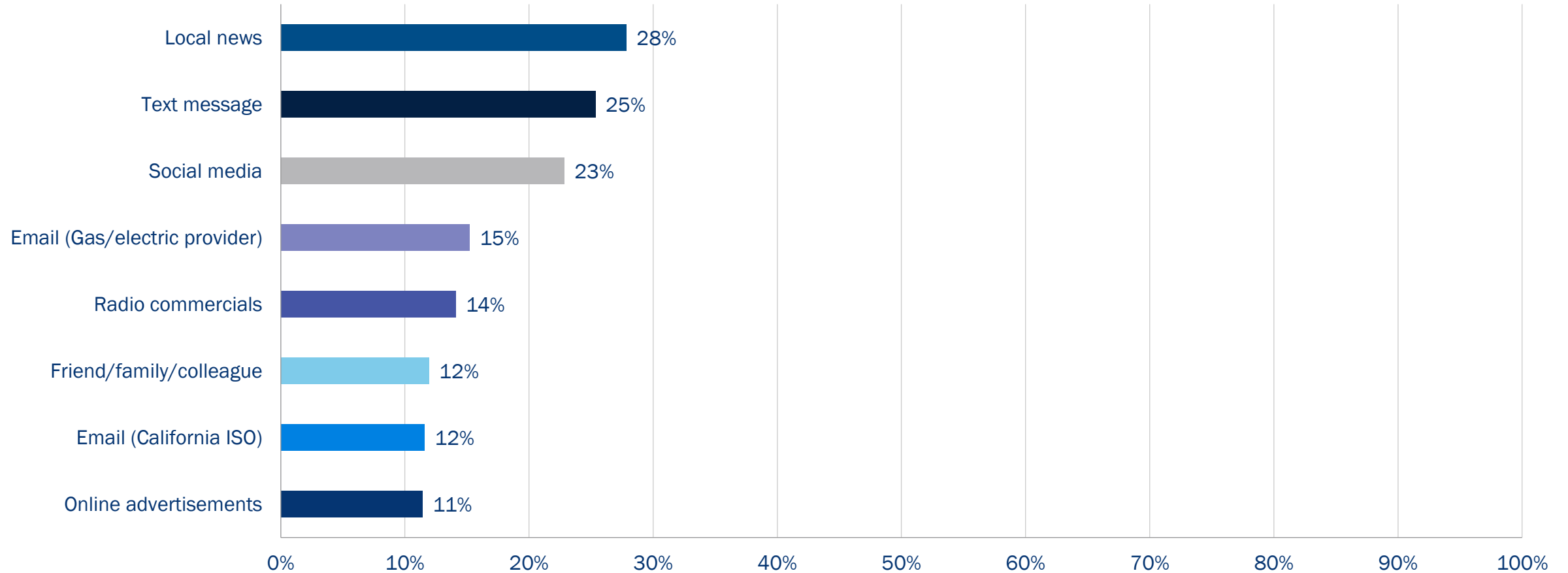
Received a Flex Alert

Over the past month, do you remember receiving a Flex Alert notification or hearing that a Flex Alert had been called?



Source of Flex Alert Notification

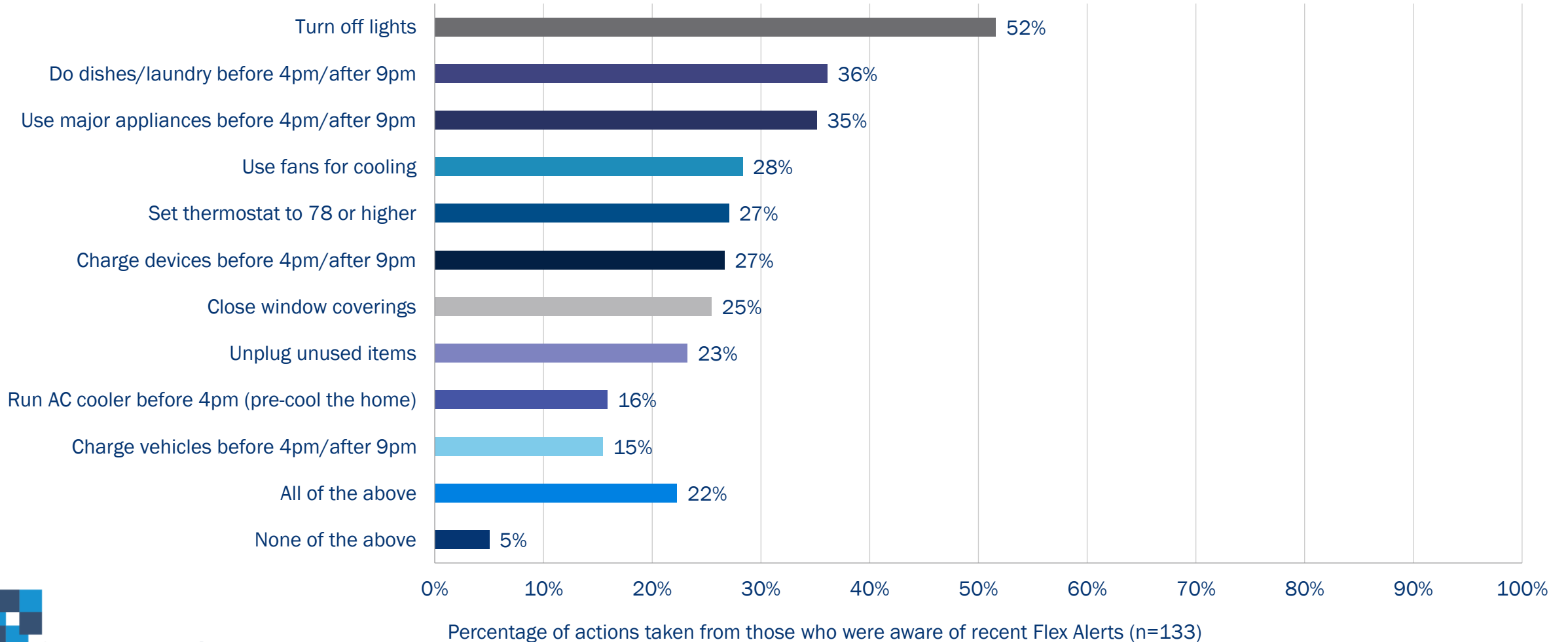
How did you receive the Flex Alert notification or hear that the Flex Alert had been called?



Percentage of source notification from those who were aware of recent Flex Alerts (n=133)

Actions Taken during Flex Alert

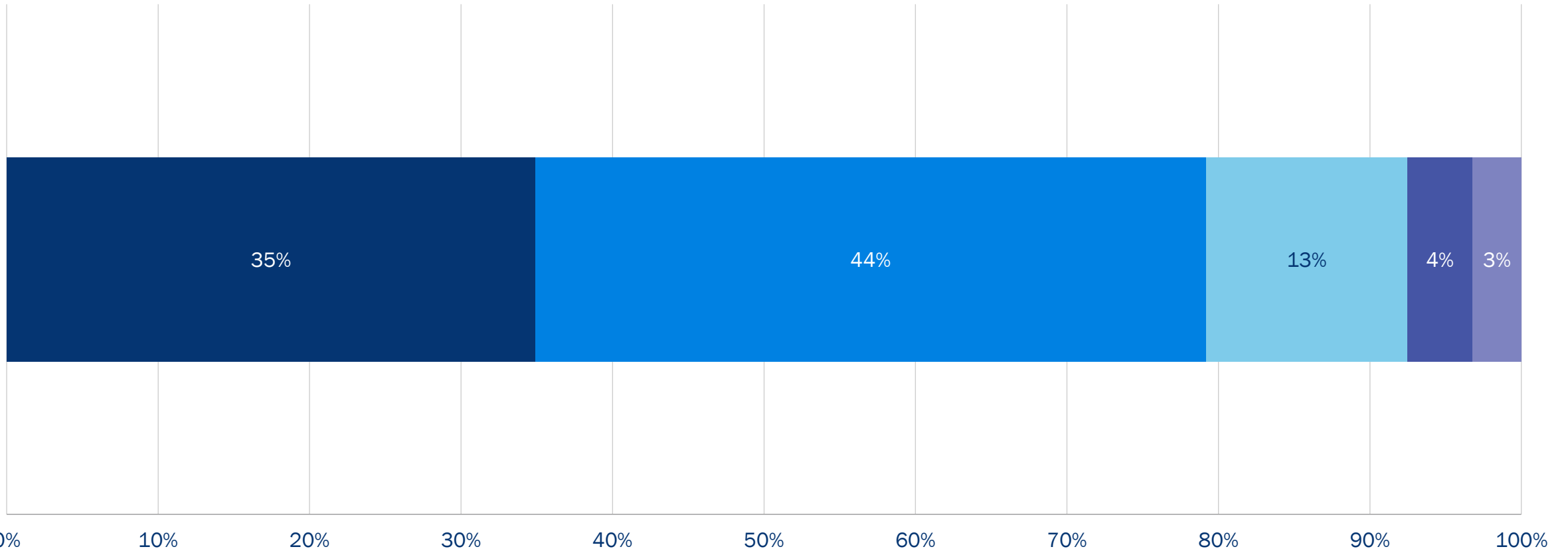
Please select all the actions you were able to take to alter or reduce your energy use during the Flex Alert.



Flex Alert Time Frame Confusion

How confusing, if at all, is it to have the Flex Alerts called during different time frames?

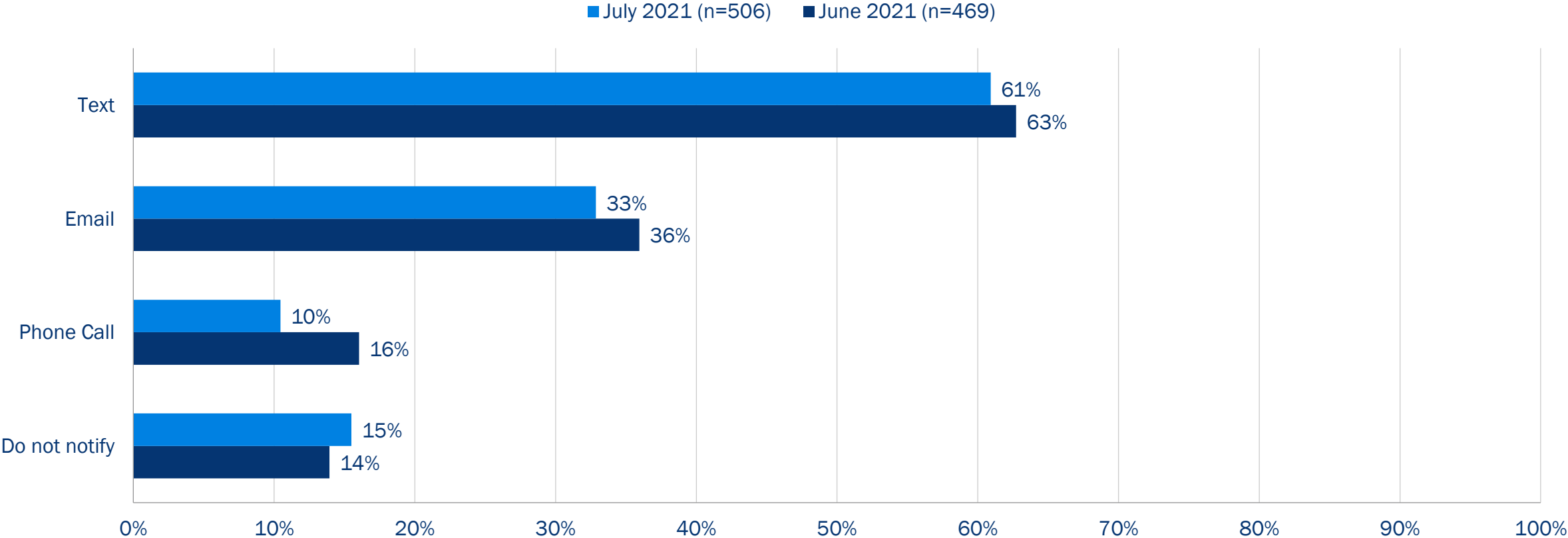
■ Not at all confusing ■ A little confusing ■ Somewhat confusing ■ Very confusing ■ Extremely confusing



Percentage from those who were aware of recent Flex Alerts (n=133)

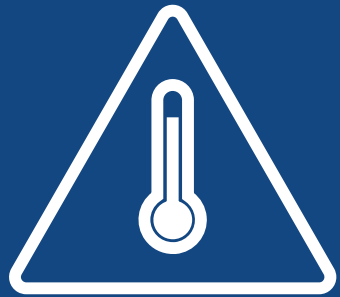
Preferred Mode to Receive Upcoming Flex Alert Notification

How would you prefer to be notified about an upcoming Flex Alert?





Opinion **Dynamics**

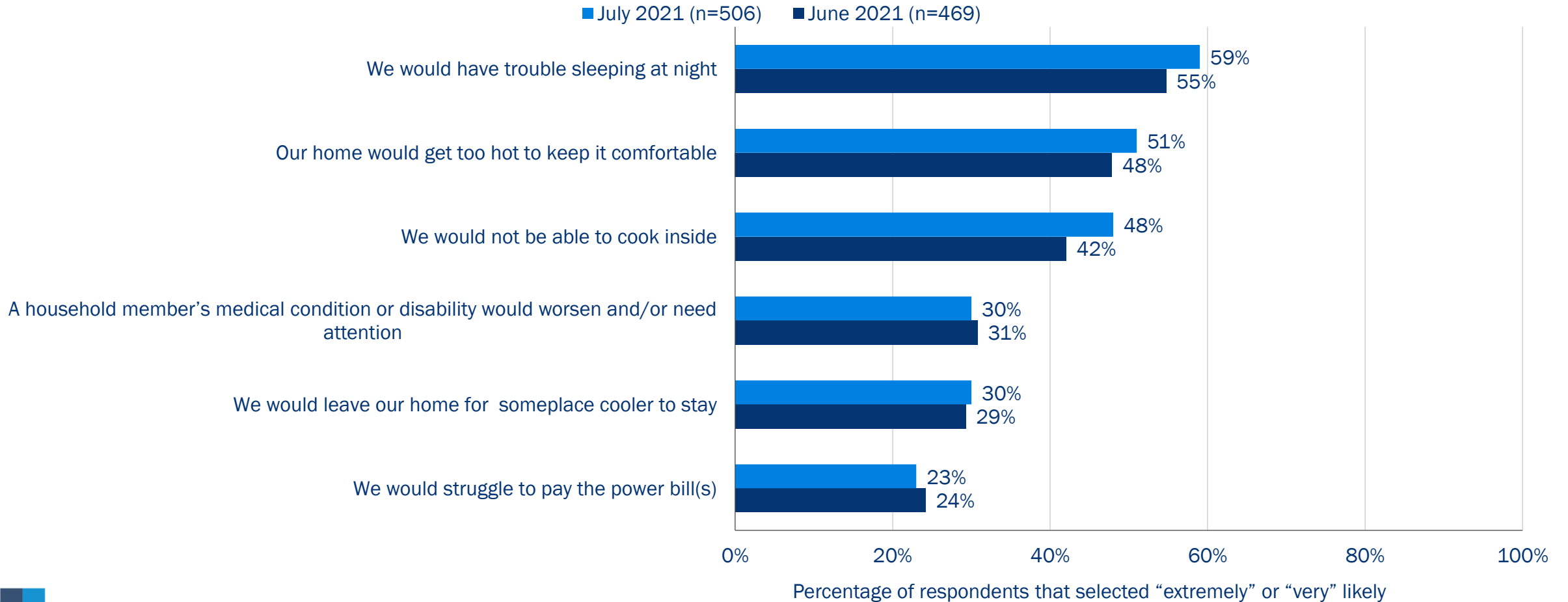


IMPACTS OF HEAT WAVES AND POWER OUTAGES



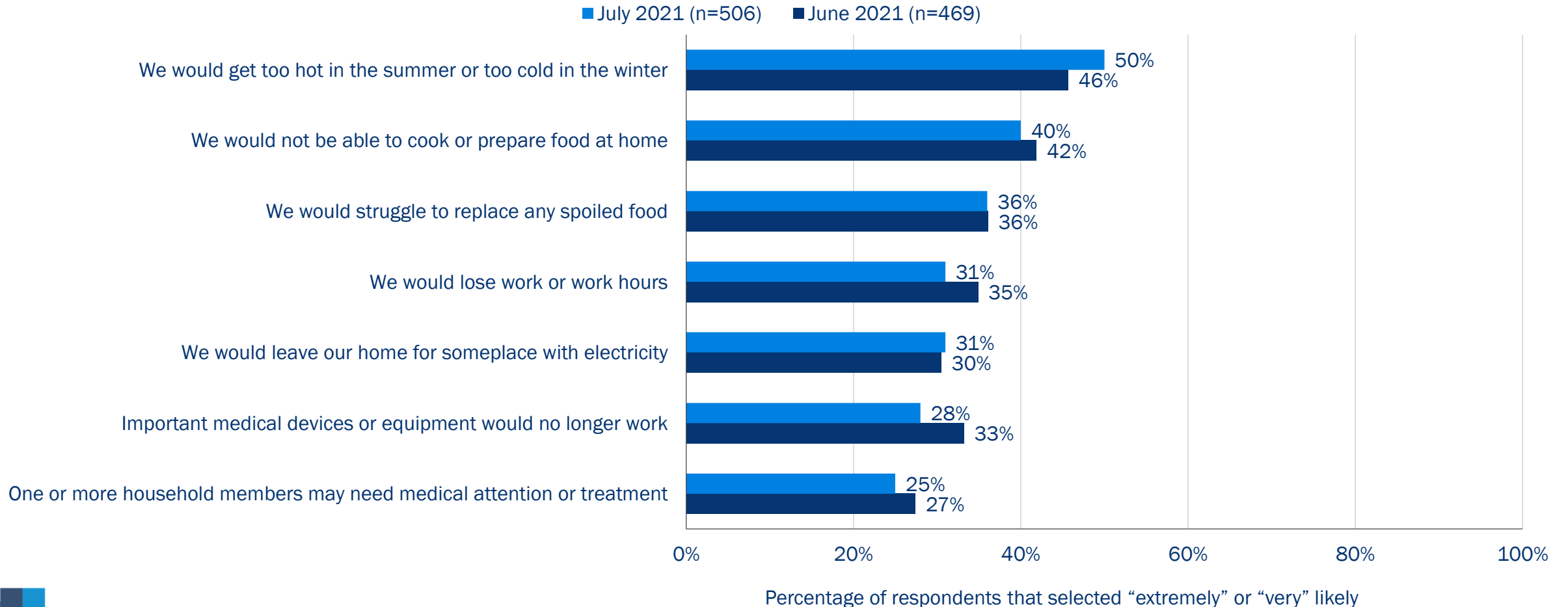
Heat Wave Impacts

Please indicate the likelihood that each of the following would occur in your household if a heat wave happened in your area.



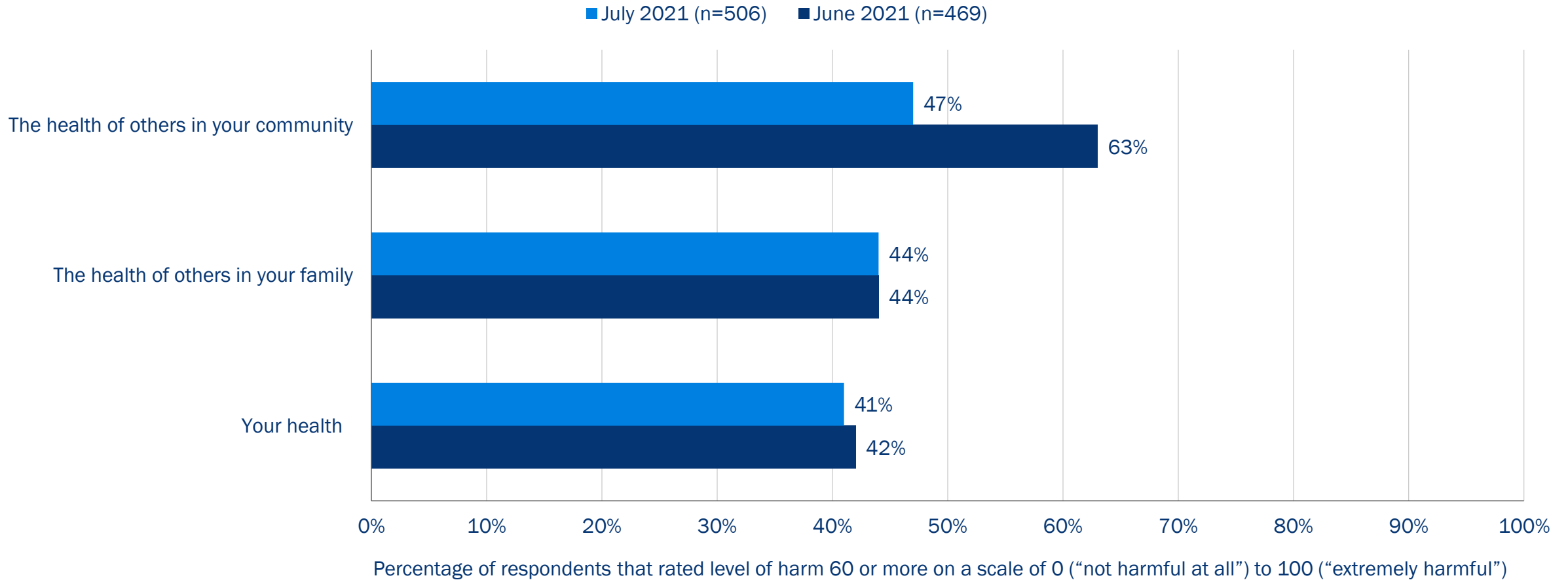
Power Outage Impacts

Please indicate the likelihood that each of the following would occur in your household if a power outage 24 hours or longer happened in your area.



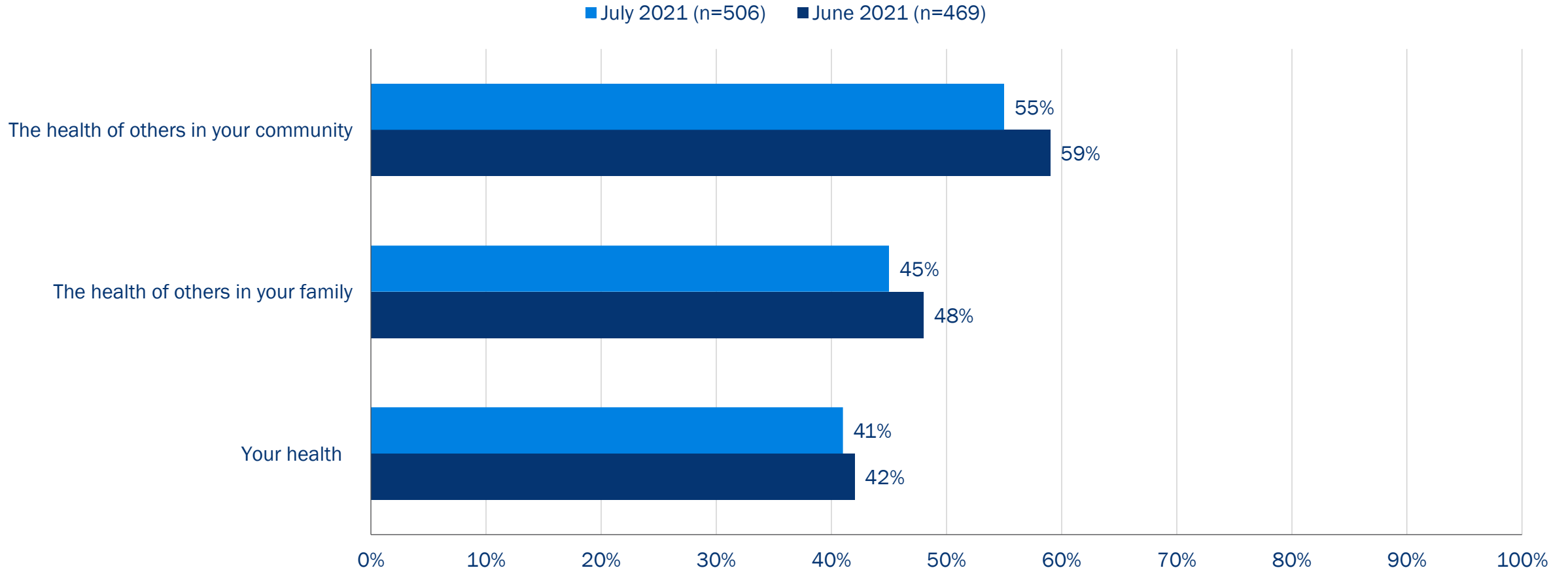
Level of Harm due to Power Outage

If a power outage due to a heat wave were to occur in your local area, how much, if at all, do you think it would harm the following?



Level of Worry about Effects of Power Outage

How worried, if at all, are you about the effects a power outage due to a heat wave on the following?



Percentage of respondents that rated level of worry 60 or more on a scale of 0 ("not worried at all") to 100 ("extremely worried")



Opinion **Dynamics**



FLEX ALERT INTENT



Likelihood of Taking Action during a Flex Alert

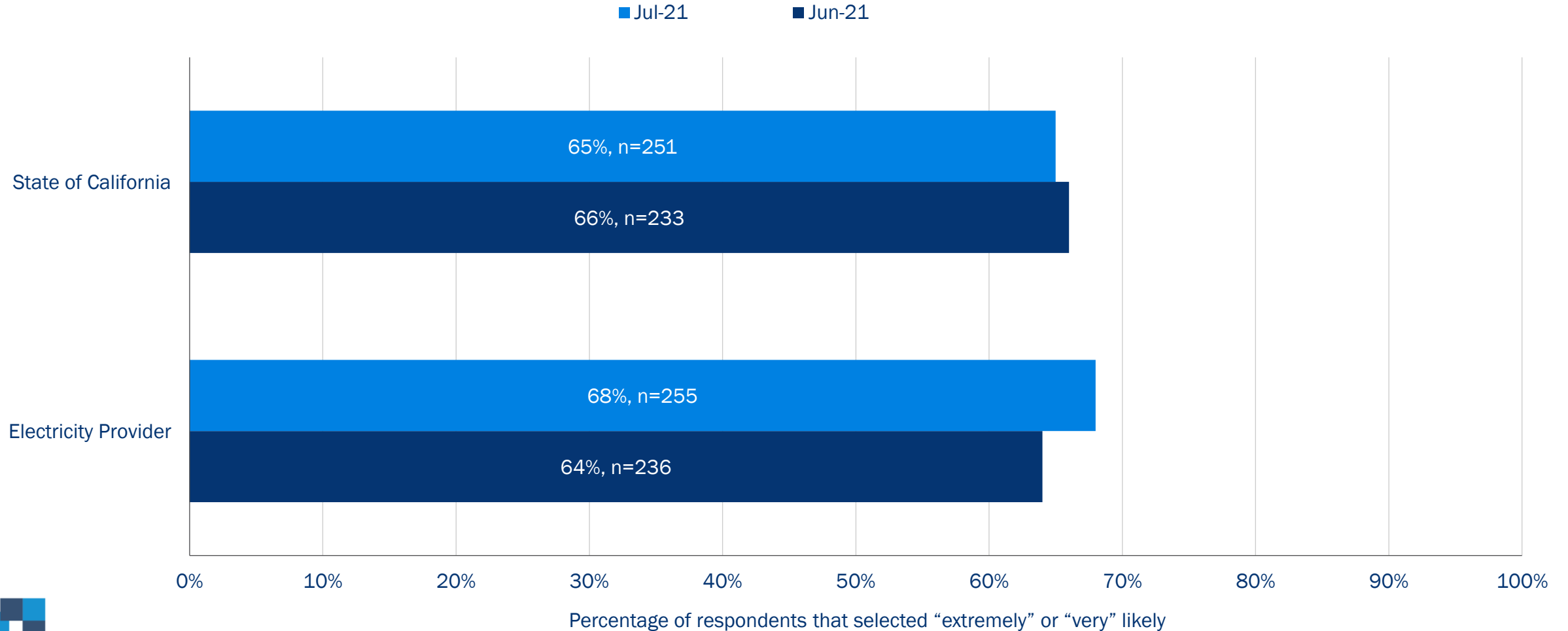
Please rate the likelihood of taking each action between 4 p.m. to 9 p.m. on hot days

| Statement | Percentage of respondents that selected “extremely” or “very” likely (n=506) |
|--|--|
| Turn off all unnecessary lights between 4 p.m. and 9 p.m. | 77% |
| Close your window coverings before 4 p.m. | 66% |
| Do your dishes or laundry before 4 p.m. or after 9 p.m. | 66% |
| Charge your electronic devices before 4 p.m. or after 9 p.m. | 66% |
| Use fans for cooling between 4 p.m. and 9 p.m. | 62% |
| Use major appliances before 4 p.m. or after 9 p.m. | 57% |
| Unplug unused items between 4 p.m. and 9 p.m. | 57% |
| Pre-cool your home | 57% |
| Set thermostat to 78 degrees or higher between 4 p.m. and 9 p.m. | 51% |
| Run your AC cooler before 4 p.m. | 44% |
| Charge electric vehicles before 4 p.m. or after 9 p.m. | 24% |

Note: The “pre-cool you home” statement was asked as a separate question, as the action needs to be taken before 4 p.m. instead of between 4 p.m. to 9 p.m.

Likelihood to reduce electricity use

How likely would you be to reduce your electricity use if asked by the state/electricity provider?





Opinion **Dynamics**

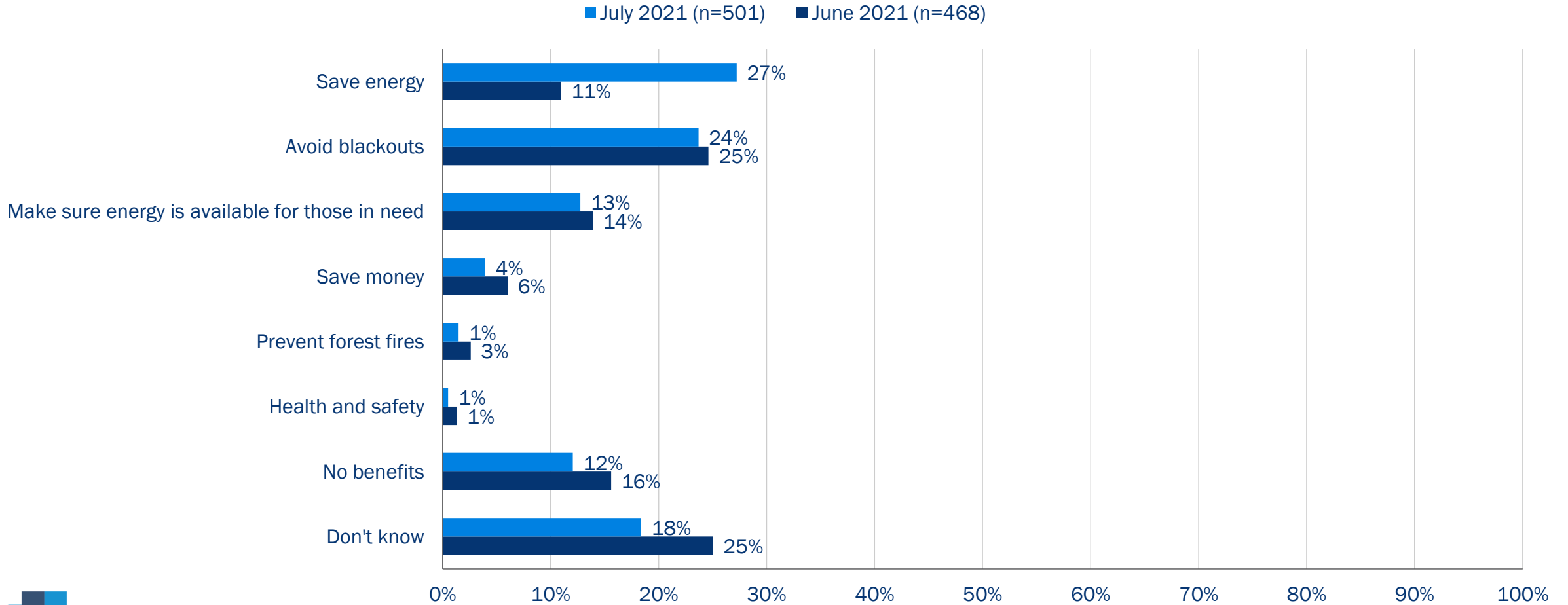


FLEX ALERT BENEFITS AND BARRIERS



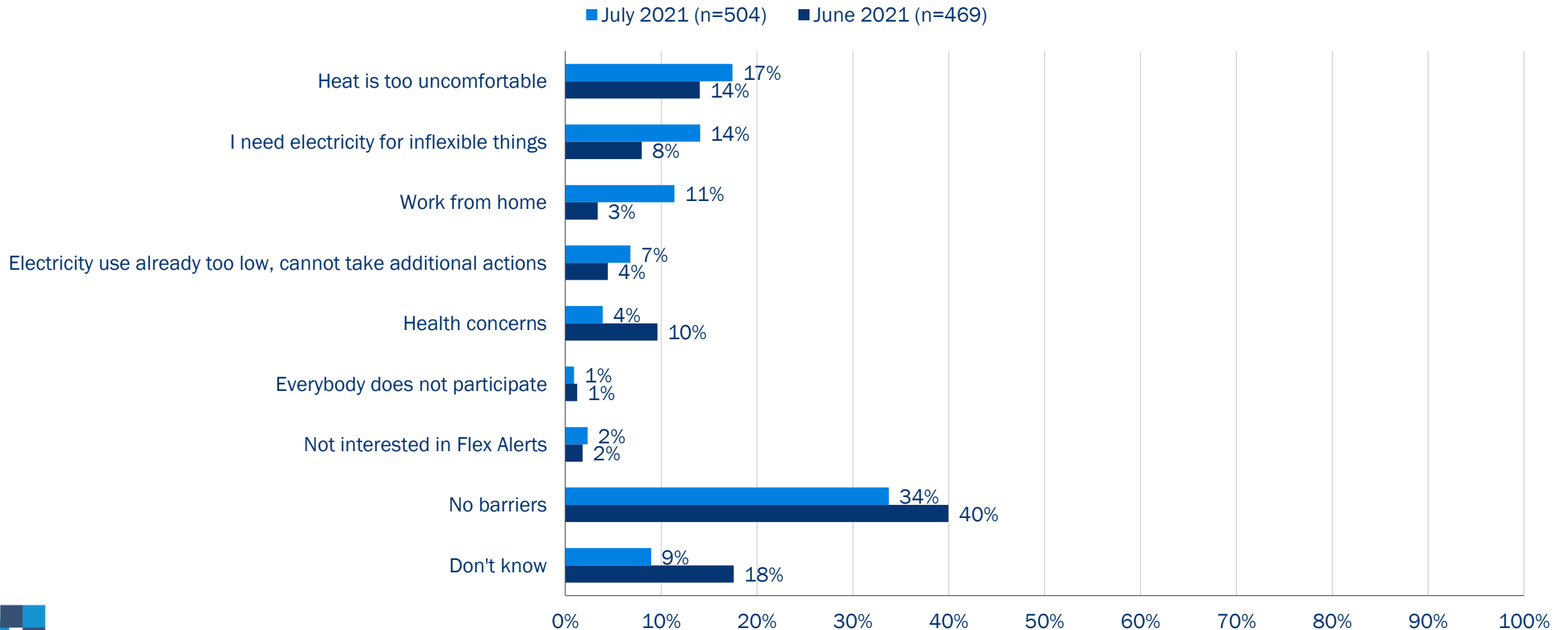
Flex Alert Benefits

What benefits do you see from taking action during a Flex Alert? (open end)



Flex Alert Barriers

What barriers do you see to taking action during a Flex Alert? (open end)





Opinion **Dynamics**

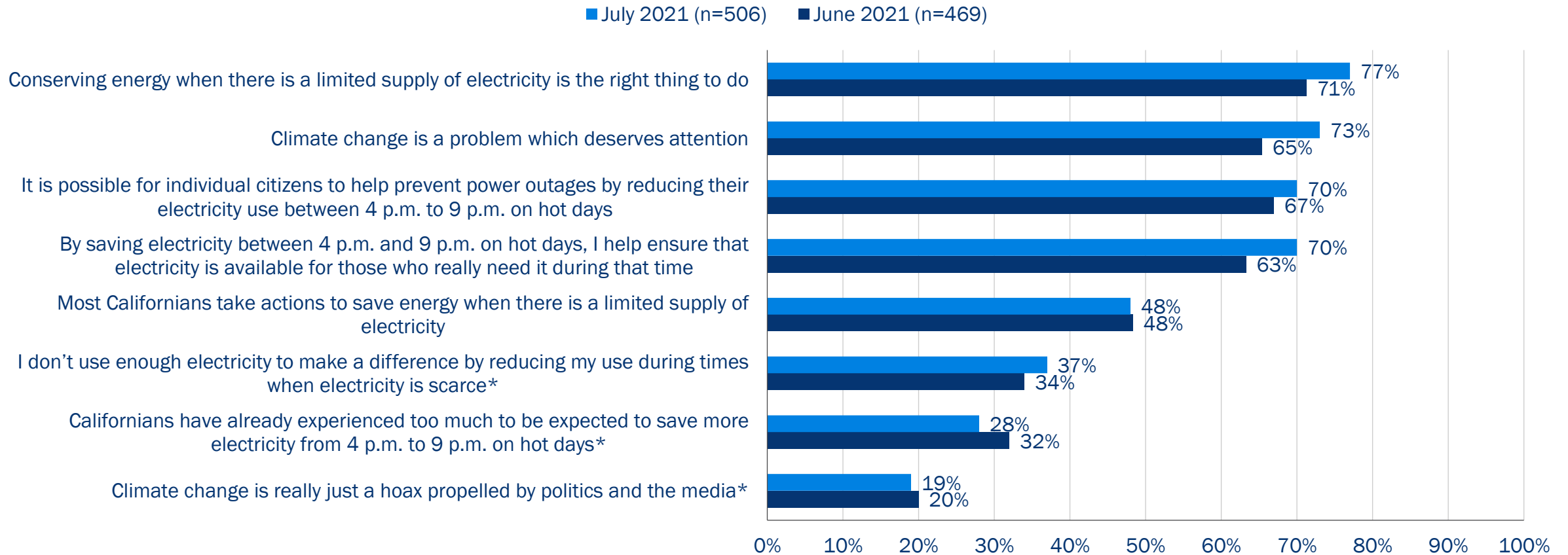


PSYCHOGRAPHICS



Agreement with Climate Change Statements

To what extent do you agree or disagree with the following statements?



Percentage of respondents that “strongly” or “somewhat” agree with these statements

*Negatively framed messages. Lower values for these messages indicate agreement with the importance of/belief in climate change and taking energy related actions.



Opinion **Dynamics**

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Opinion **Dynamics**



ME&O

FLEX ALERTS WAVE 3 SURVEY

Deliverable 25:
Flex Alert Tracking Survey
Wave 3, August Results



Flex
our power.
Save
our power.

BEFORE
4PM



Pre-Cool

Run your AC cooler during the day
to enjoy a cool evening.



September 30, 2021

Table of Contents

- Summary of Key Findings [\(3\)](#)
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- Campaign Objectives, Key Metrics, and Research Objectives [\(5\)](#)
- Survey Methodology [\(6\)](#)
- Findings
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 - Flex Alert understanding [\(15-20\)](#)
 - Past Flex Alerts [\(21-25\)](#)
 - Impacts of heat waves and power outages [\(26-30\)](#)
 - Flex Alert intent [\(31-33\)](#)
 - Flex Alert benefits and barriers [\(34-36\)](#)
 - Psychographics [\(37-38\)](#)

Summary of Key Findings

- Most of the metrics are tracking similarly to the Wave 2 results, showing that the increase in the metrics from Wave 1 to Wave 2 was not an anomaly
 - Consistent results include: Flex Alert awareness (51% in July to 53% in August), understanding of why a Flex Alert is called (65% in July to 64% in August), understanding of the correct time period in which to conserve electricity (58% in July to 62% in August)
- There was an increase in the number of Californians who were aware that a Flex Alert had been called (29% in July to 37% in August) and about the specific actions that they should take, including pre-cooling (9% in July to 20% in August)
- More Californians also reported shifting energy use during Flex Alerts, such as doing dishes/laundry (36% in July vs 52% in August), using major appliances (35% in July vs 49% in August), setting thermostat to 78 degrees or higher (27% in July vs 40% in August) and pre-cooling (16% in July vs 24% in August)
- Californians mostly commonly view avoiding blackouts (66%) and saving energy (60%) as benefits to taking action during a Flex Alert

Background

- Flex Alert is a call to consumers to voluntarily cut back on electricity and shift electricity use to off-peak hours (i.e., before 4 p.m. or after 9 p.m.)
- In the Summer of 2021, DDB, the campaign implementer, developed a media campaign to educate customers about Flex Alerts and associated energy saving actions
- Opinion Dynamics is evaluating the performance of the Flex Alert campaign in meeting its stated objectives and program performance metrics
- This report provides findings from Wave 3 of the residential customer survey conducted in August 2021, the third of six monthly tracking surveys

| CAMPAIGN OBJECTIVES | KEY METRICS | RESEARCH OBJECTIVES |
|---|---|--|
| <p>Increase Flex Alert recognition through awareness and familiarity</p> | <p>Unaided Awareness</p> | <ul style="list-style-type: none"> ▪ Understand Californians’ awareness of Flex Alerts and how they became aware of it ▪ Understand Californians’ awareness that a Flex Alert has been called ▪ Understand Californians’ familiarity with the goal of Flex Alert and the times during which they should delay their energy use |
| | <p>Aided Awareness</p> | |
| | <p>Flex Alert Familiarity</p> | |
| <p>Increase understanding of the reason behind the need to act during Flex Alerts and what actions to take</p> | <p>Understanding of the connections between grid conditions and Flex</p> | <ul style="list-style-type: none"> ▪ Understand Californians’ understanding of the relationship between heatwaves, electricity supply, and power outages ▪ Understand Californians’ awareness of the actions they can take to save energy during a Flex Alert ▪ Understand the extent to which Californians are sharing and will share energy-saving tips with their friends and family ▪ Understand the extent to which Californians believe energy conservation is something that other Californians are doing and that they should do too |
| | <p>Understanding what actions can be taken</p> | |
| <p>Increase intent to sign up for Flex Alerts and take action during a Flex Alert</p> | <p>Likelihood to reduce usage during a Flex Alert</p> | <ul style="list-style-type: none"> ▪ Understand Californians’ likelihood of signing up for Flex Alerts and taking actions to delay their energy use during peak hours ▪ Understand the extent to which Californians are taking actions during a Flex Alert |
| | <p>Likelihood to sign up</p> | |
| | <p>Action</p> | |

Survey Methodology

- Opinion Dynamics conducted a bilingual online survey of 500 Californians
- Sample drawn from YouGov's non-probability opt-in panel. Results are weighted to be representative of the state of CA population based on gender, age, race, home-ownership, education, whether the respondent is Spanish-speaking, and income using propensity score matching and post-stratification
- Respondents could complete the survey in either English or Spanish
 - English: 422 (84%)
 - Spanish: 78 (16%)
- Field dates: August 19th to September 3rd*

*The majority of data collection occurred in August. The fielding slightly expanded into the month of September in part due to the extended Labor Day holiday weekend.



Opinion **Dynamics**

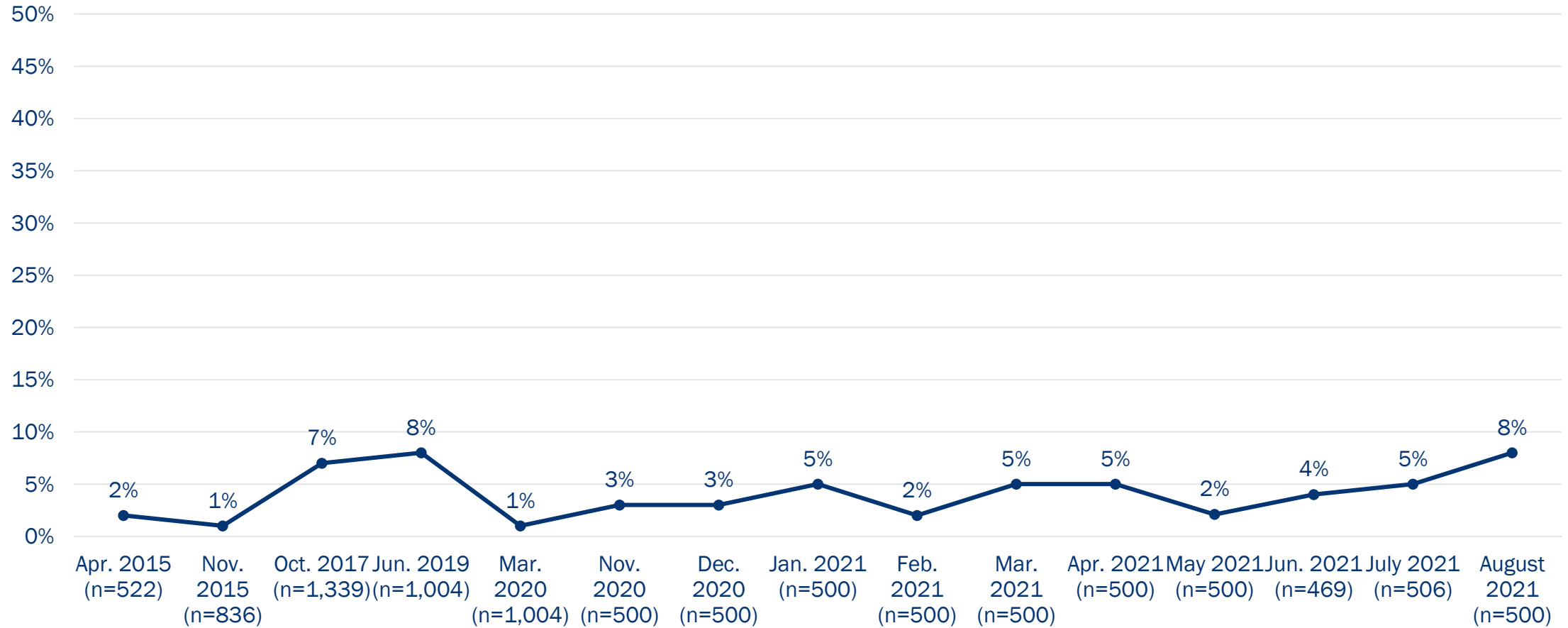


FLEX ALERT AWARENESS & FAMILIARITY



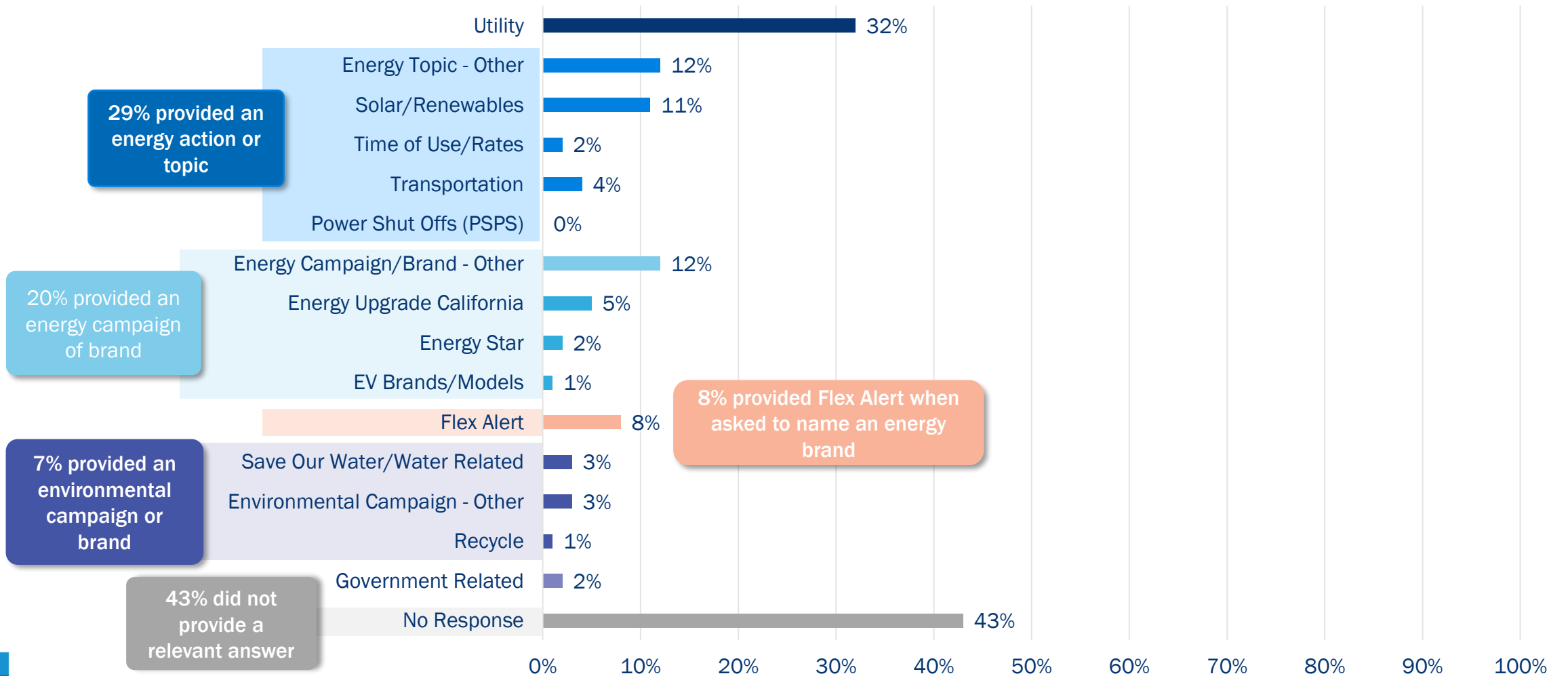
Unaided Awareness of Flex Alerts

When you think of brands, campaigns, or initiatives that encourage Californians to save energy, which ones come to mind? (open end)



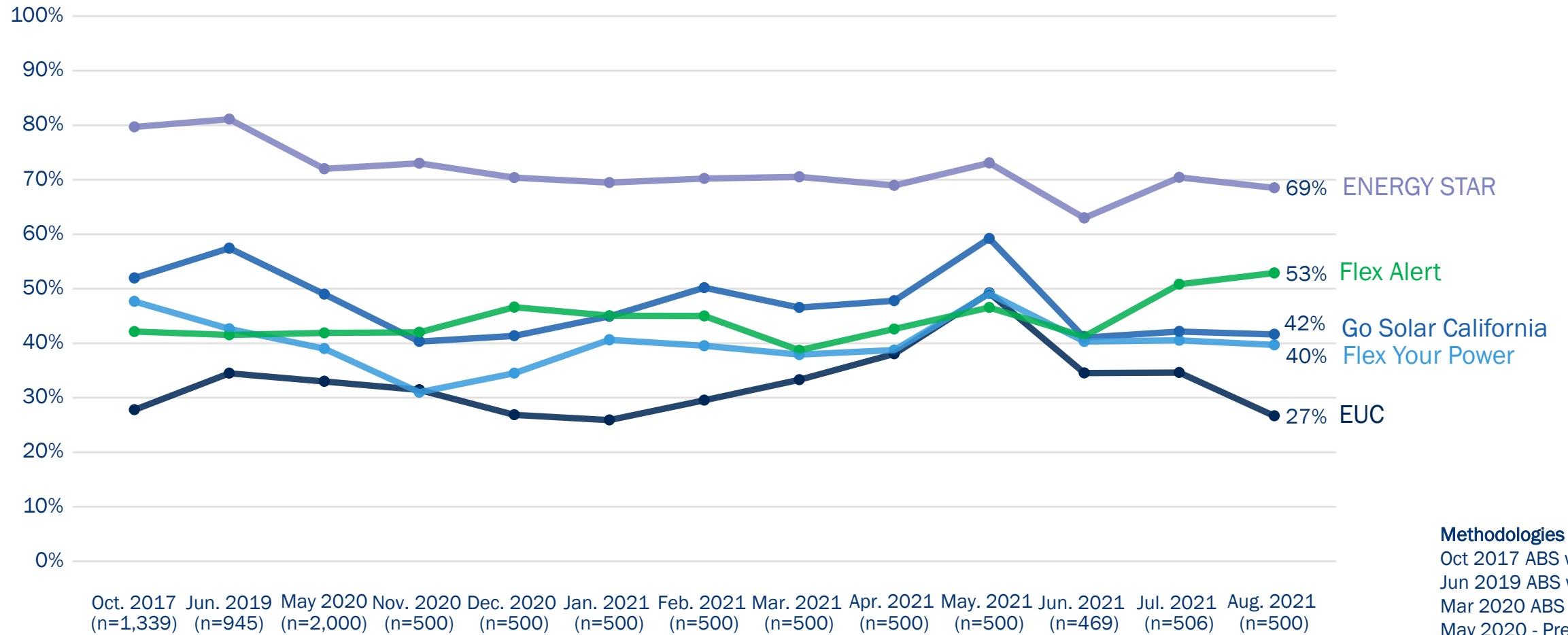
Unaided Awareness of Flex Alerts Relative to Other Brand and Topics

When you think of brands, campaigns, or initiatives that encourage Californians to save energy, which ones come to mind? (open end)



Aided Awareness of Flex Alerts

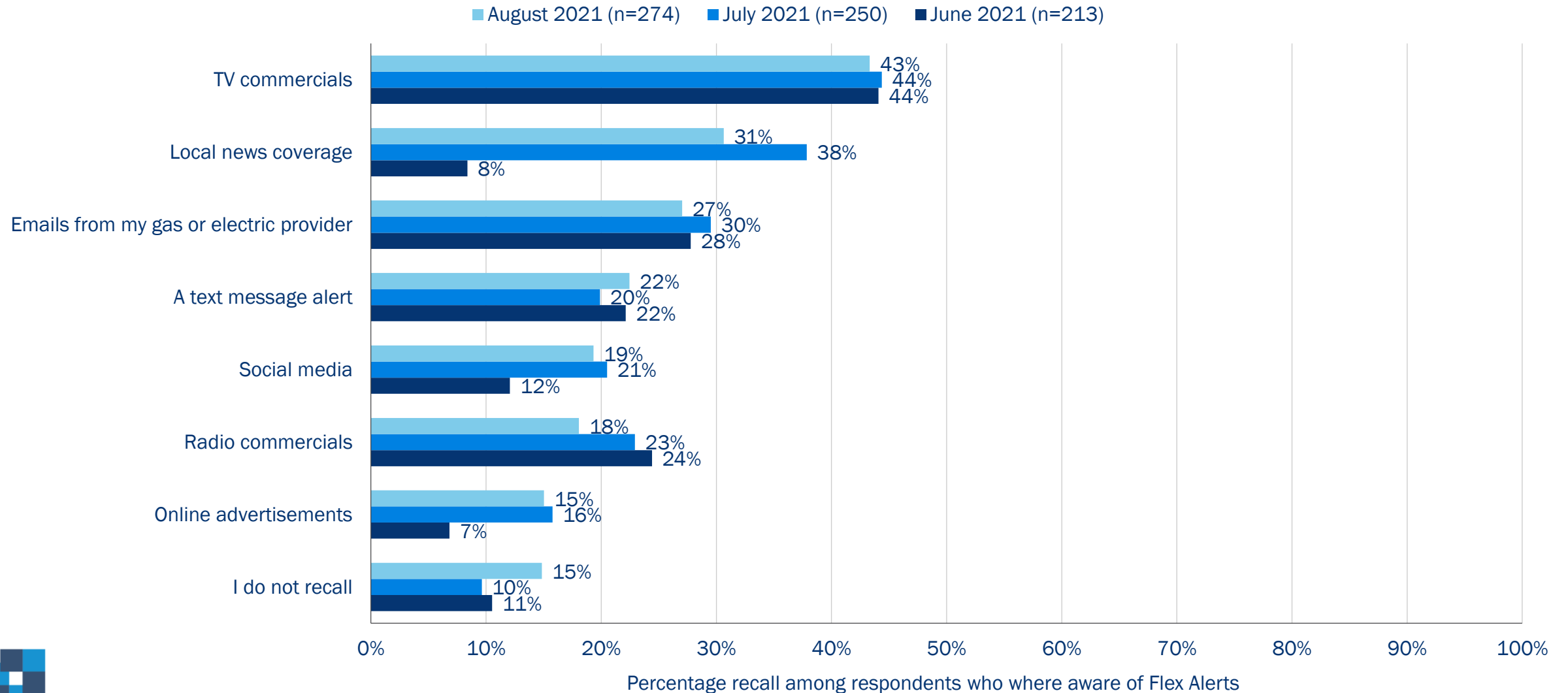
For each one, please tell us if you have heard of it before today.



Methodologies
 Oct 2017 ABS web
 Jun 2019 ABS web
 Mar 2020 ABS web
 May 2020 - Present
 YouGov web panel

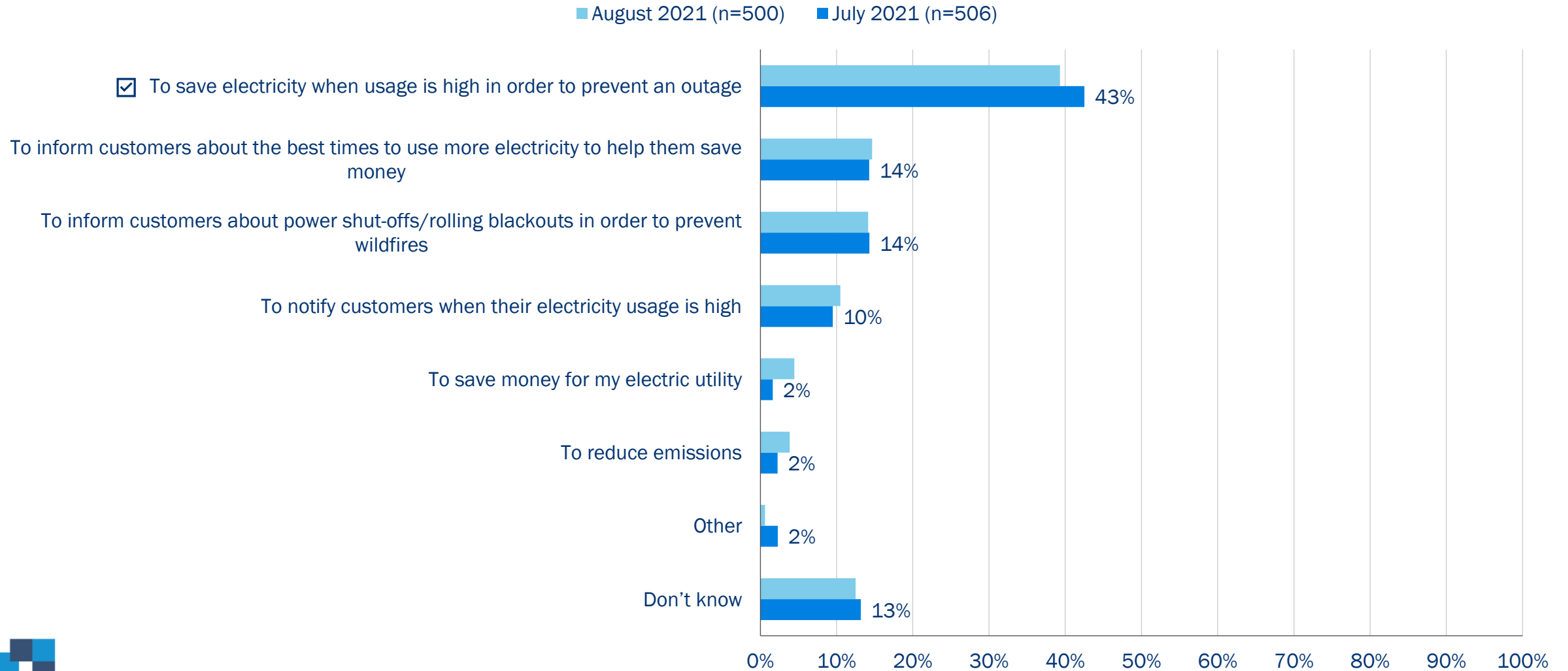
Source of Flex Alert Awareness

Where did you hear about Flex Alerts?



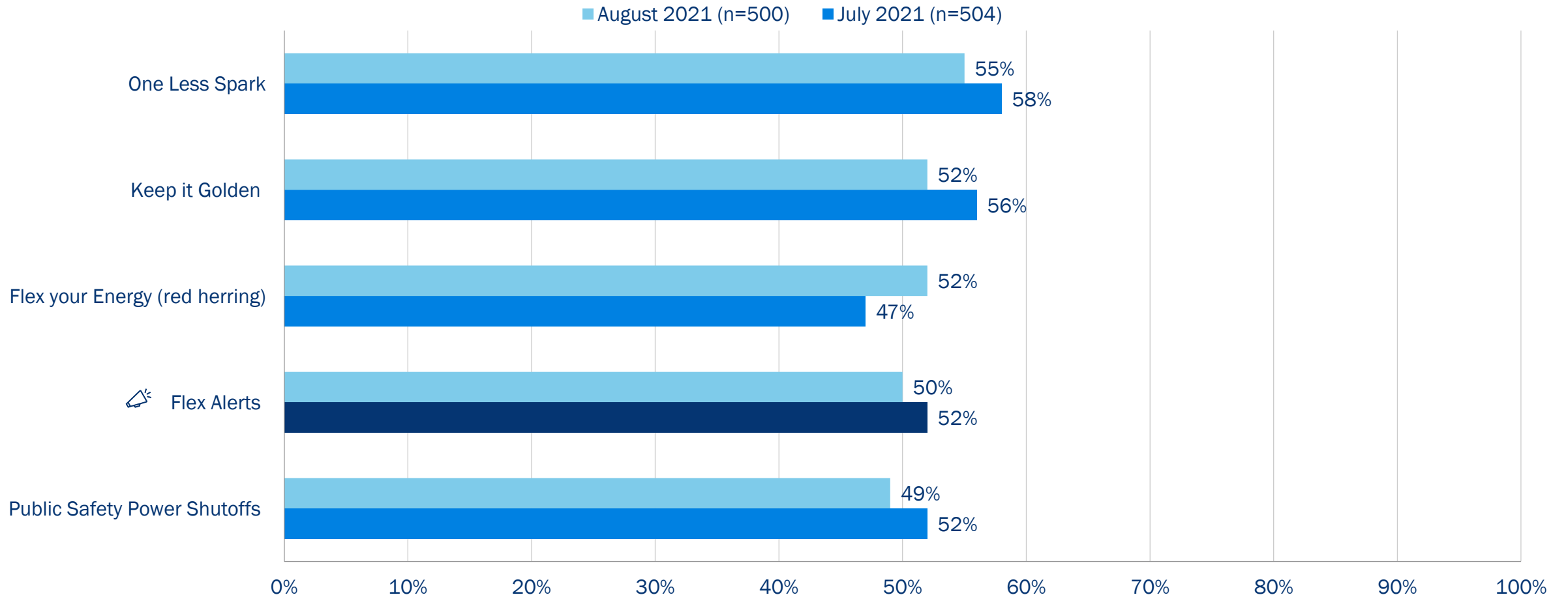
Purpose of Flex Alert

What is the purpose of Flex Alert?



Respondents who Correctly Associated the Campaign Name with its Message

Please match each campaign with its campaign message.

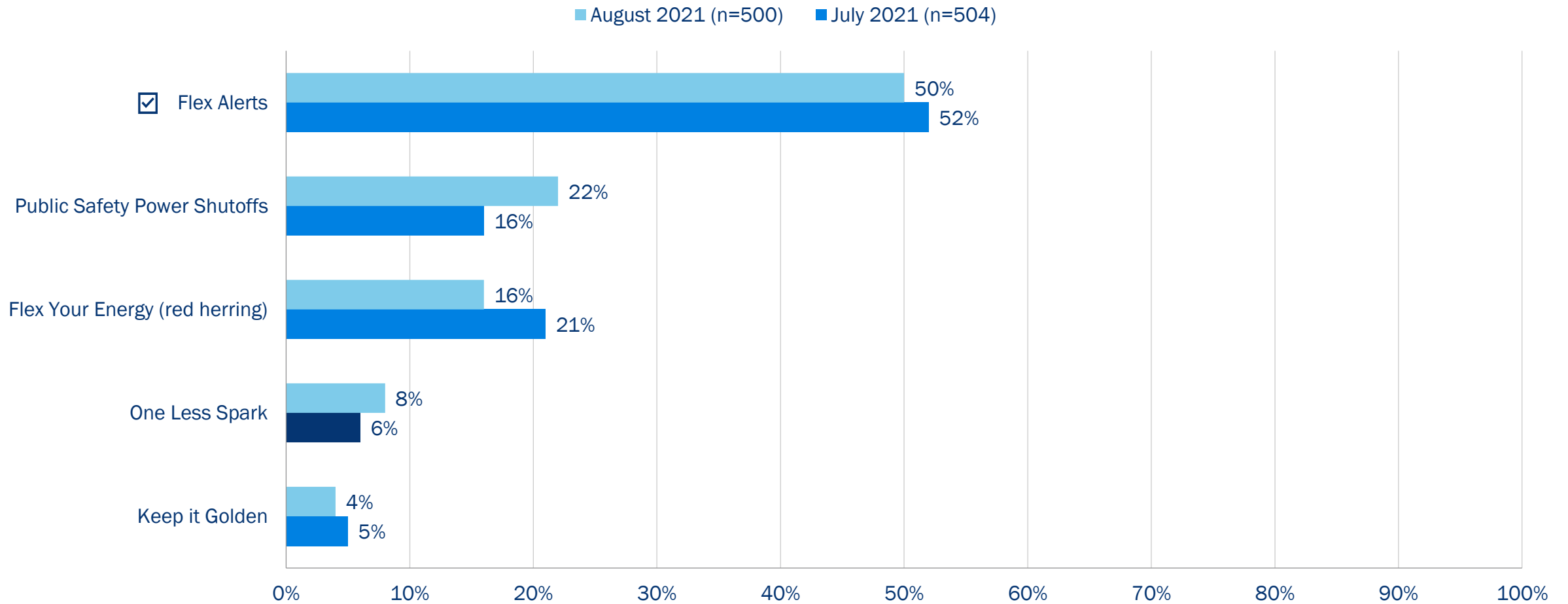


Percentage of respondents who selected the correct campaign name for each message

Note: We do not include a comparison to June because we reduced the number of response options to alleviate respondent burden

Campaign Name Selected for Flex Alert's Campaign Message

Please match each campaign with its campaign message.

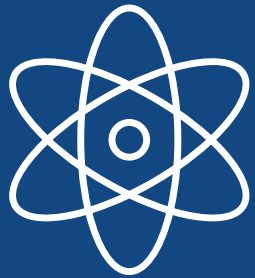


Flex Alert campaign message - Temporarily reduce your electricity use to prevent outages on hot days when demand for electricity is high

Note: We do not include a comparison to June, because we reduced the number of answer options to alleviate respondent burden



Opinion **Dynamics**



FLEX ALERT UNDERSTANDING



Understanding of California's Electric Grid

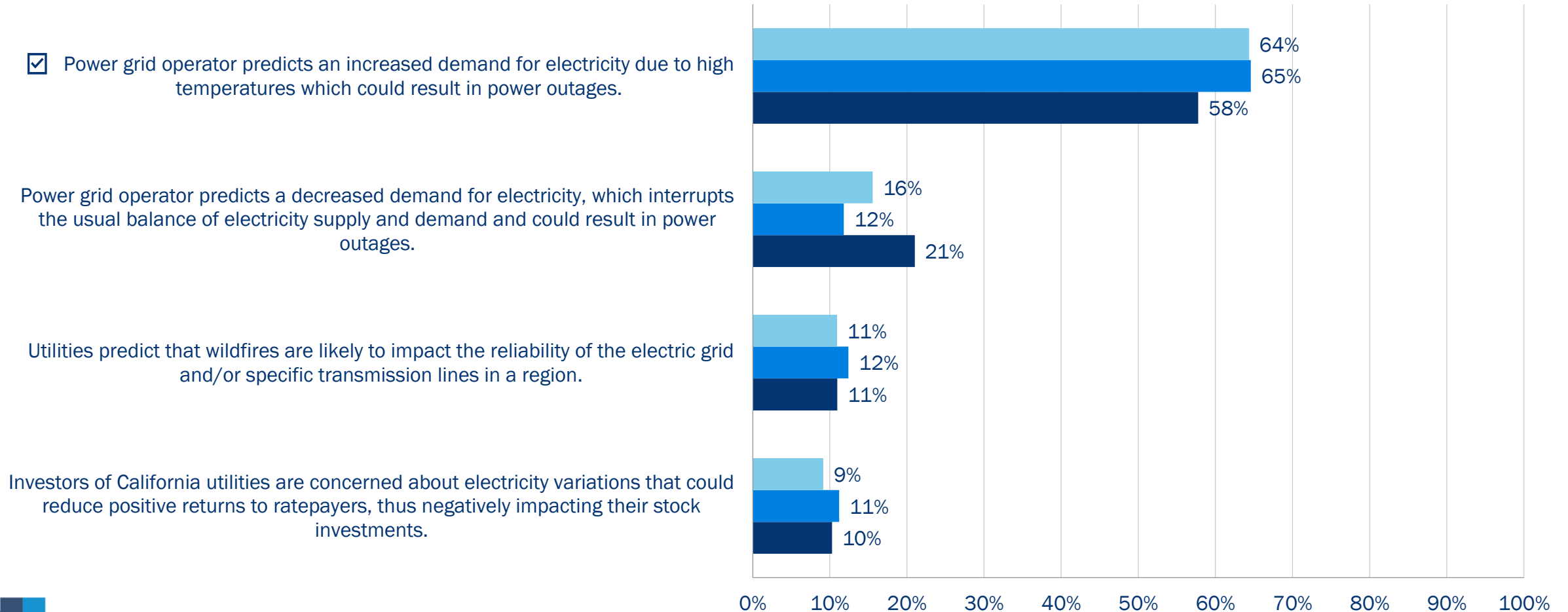
Please select whether you think the following statements about California (CA) are true or false

| Statement | Percentage of respondents who gave correct answer | | |
|---|---|-------------------|---------------------|
| | June 2021 (n=469) | July 2021 (n=506) | August 2021 (n=500) |
| On hot sunny days, when many people use their air conditioners, CA's electricity demand may exceed its supply | 85% | 90% | 88% |
| When an unusually high amount of electricity is used, there is a risk that there will not be enough electricity for all Californians and the power grid operator may need to create localized power outages to protect the grid | 80% | 82% | 80% |
| CA is not at risk for power outages during times of unusually high electricity use because it can import electricity from other states (False) | 71% | 81% | 79% |
| Localized power outages can negatively impact the health and/or safety of some Californians | 79% | 84% | 78% |
| CA's electricity supply is most limited in the morning hours when solar power plants are not fully up and running yet and Californians are using more electricity (False) | 65% | 71% | 74% |
| CA's electricity supply is most limited in the evening hours when solar panels start to generate less electricity and Californians are using more electricity | 64% | 62% | 60% |
| In CA, innovations in battery storage have made it possible to store enough energy generated by solar panels when the sun is shining to completely power our electricity grid when it gets dark (False) | 39% | 41% | 45% |
| When an unusually high amount of electricity is used, the power grid operator may ask Californians to conserve energy to prevent wildfires (False) | 23% | 25% | 24% |

Understanding of Why a Flex Alert is Called

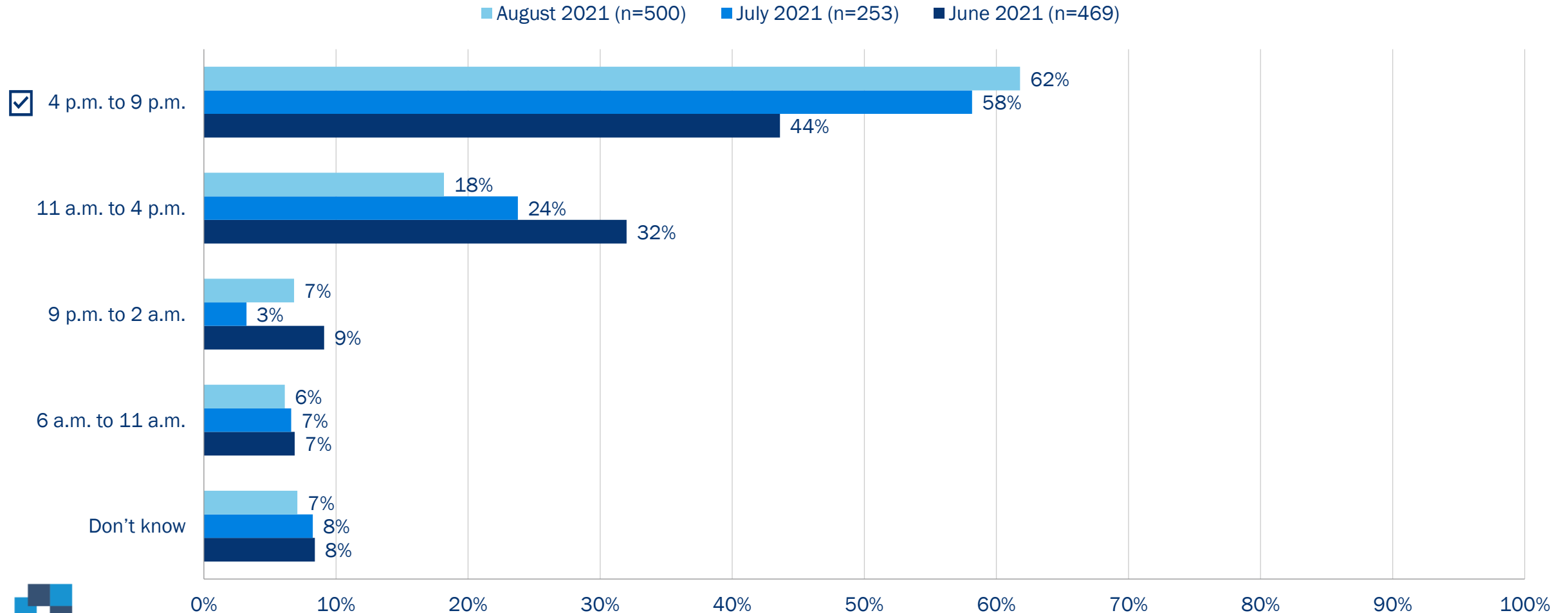
Please select one. Flex Alerts are called when...

■ August 2021 (n=500) ■ July 2021 (n=506) ■ June 2021 (n=469)



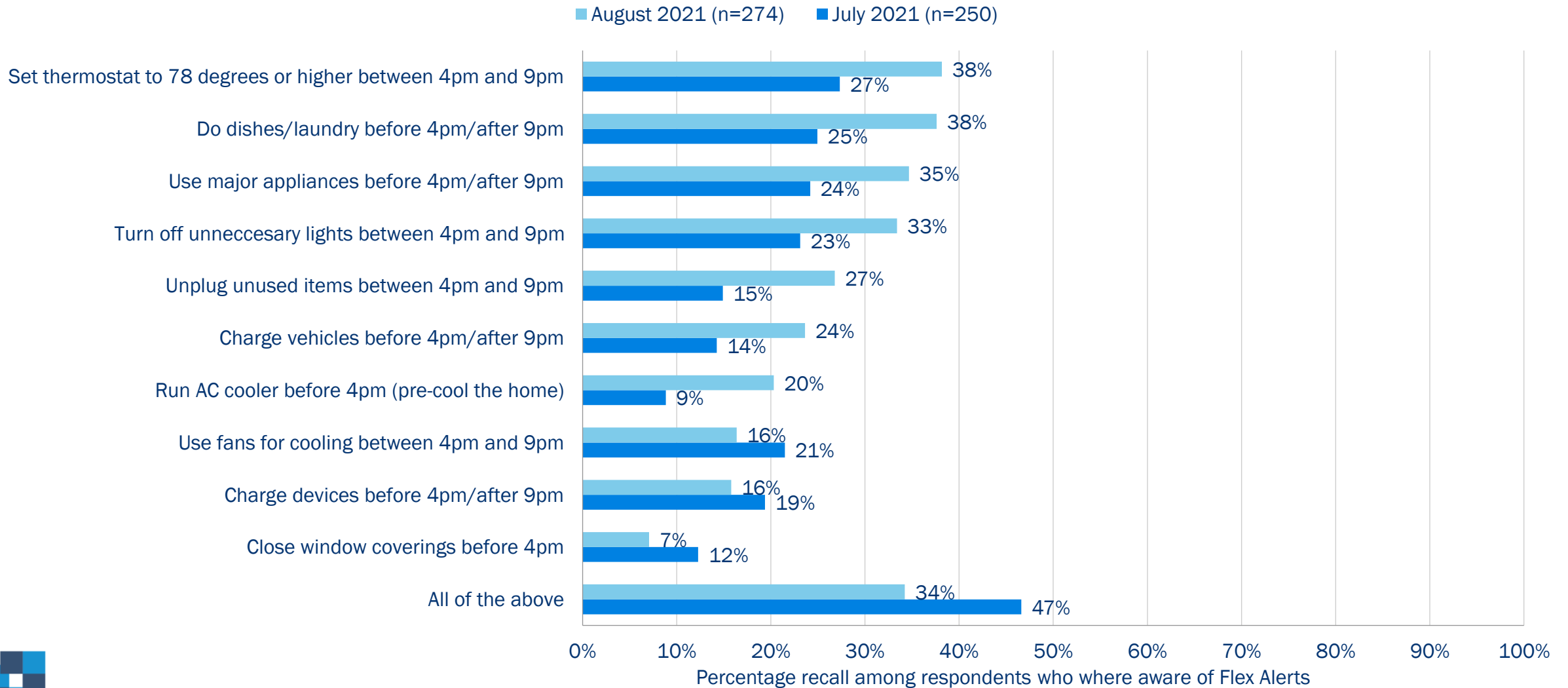
Understanding of Time Period to Conserve Electricity During a Flex Alert

When a Flex Alert is called, during what time period is it most important for Californians to conserve electricity?



Aided Awareness of Flex Alert Actions

Please select the actions that Flex Alerts ask you to do.





Opinion **Dynamics**



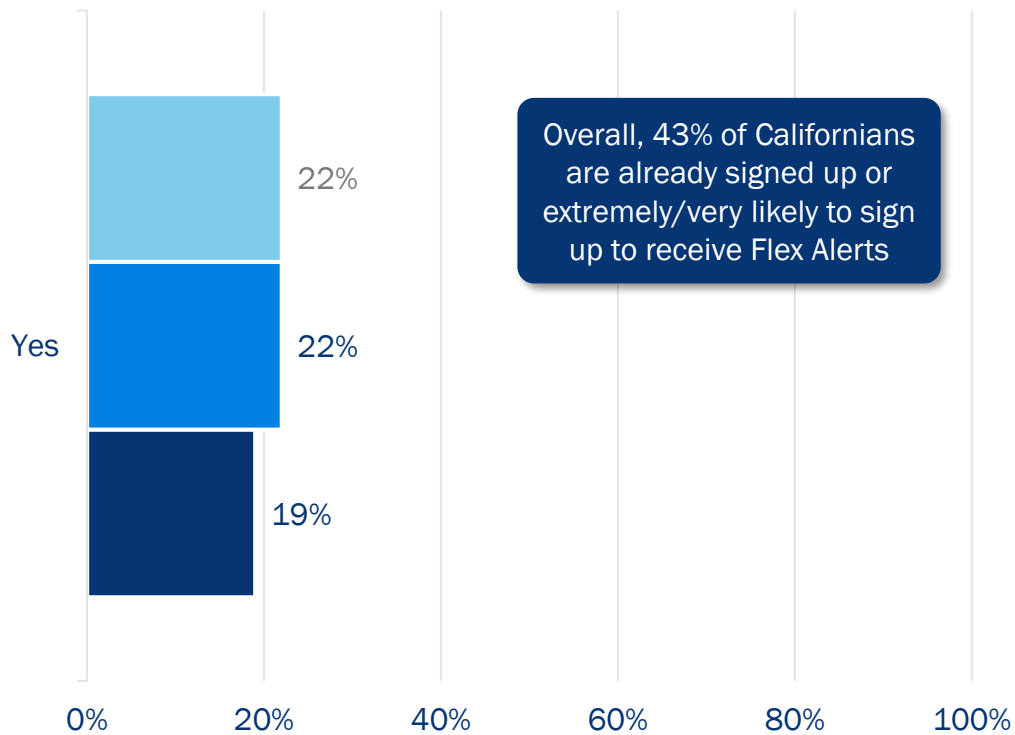
PAST FLEX ALERTS



Flex Alert Sign-up

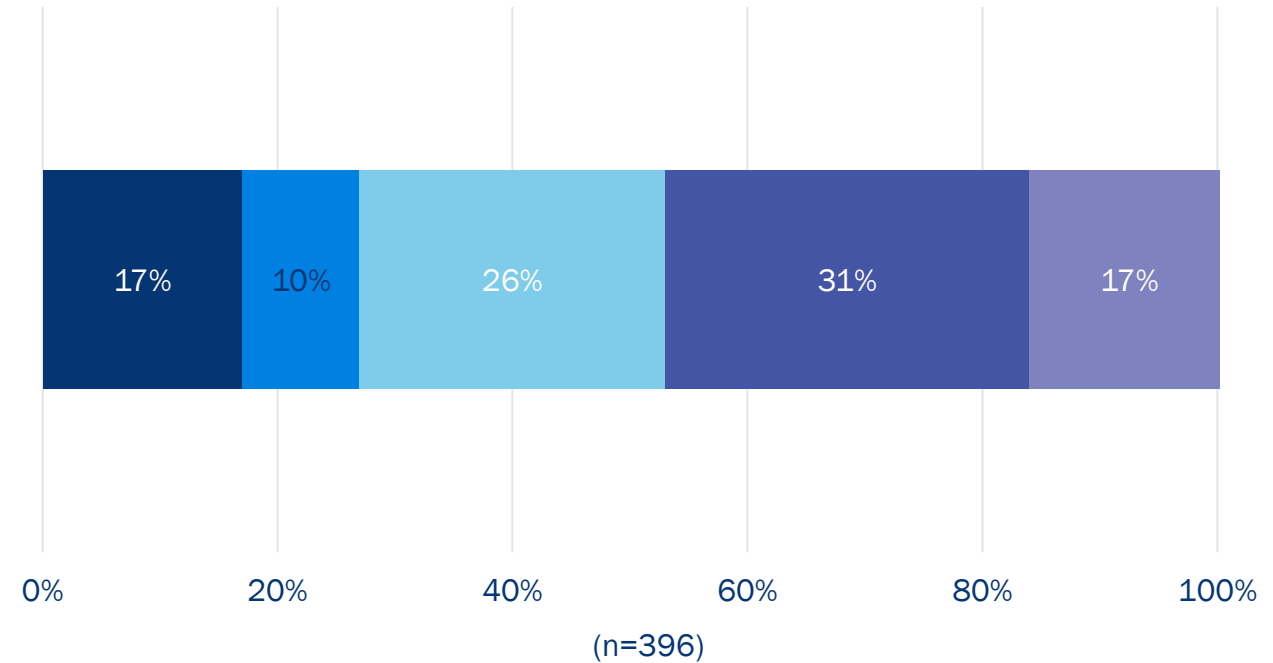
Are you currently signed up to receive Flex Alerts?

■ August 2021 (n=500) ■ July 2021 (n=506) ■ June 2021 (n=469)



How likely are you to sign up to receive Flex Alerts in the future?

■ Extremely likely ■ Very likely ■ Somewhat likely ■ A little likely ■ Not at all likely

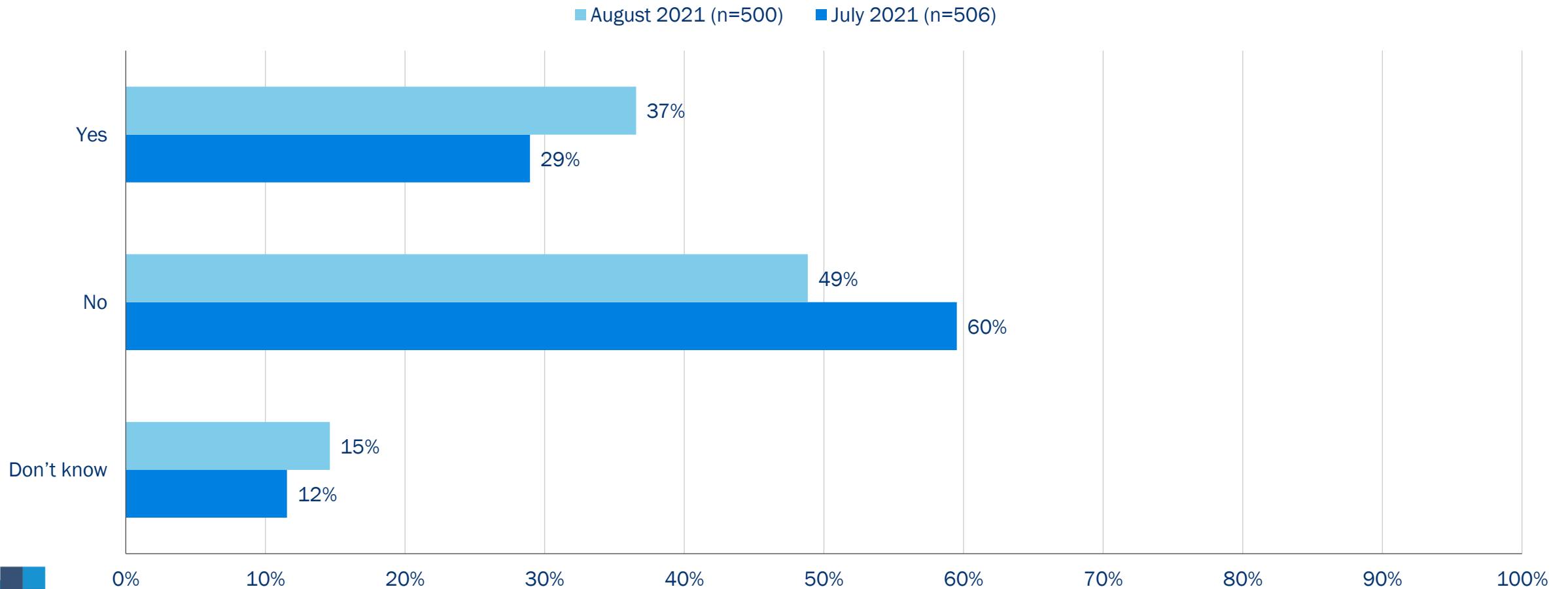


Note: Although the results are based on the entire sample, only those who were aware of Flex Alerts were asked this question. It was assumed that if someone was not aware of Flex Alerts, they did not sign up for them.

Note: We do not include a comparison to June and July, because for the August wave, we asked the likelihood to sign up for Flex Alerts question of all respondents who had not signed up for Flex Alerts, instead of asking it only of those respondents who were aware of Flex Alerts and had not signed up for them.

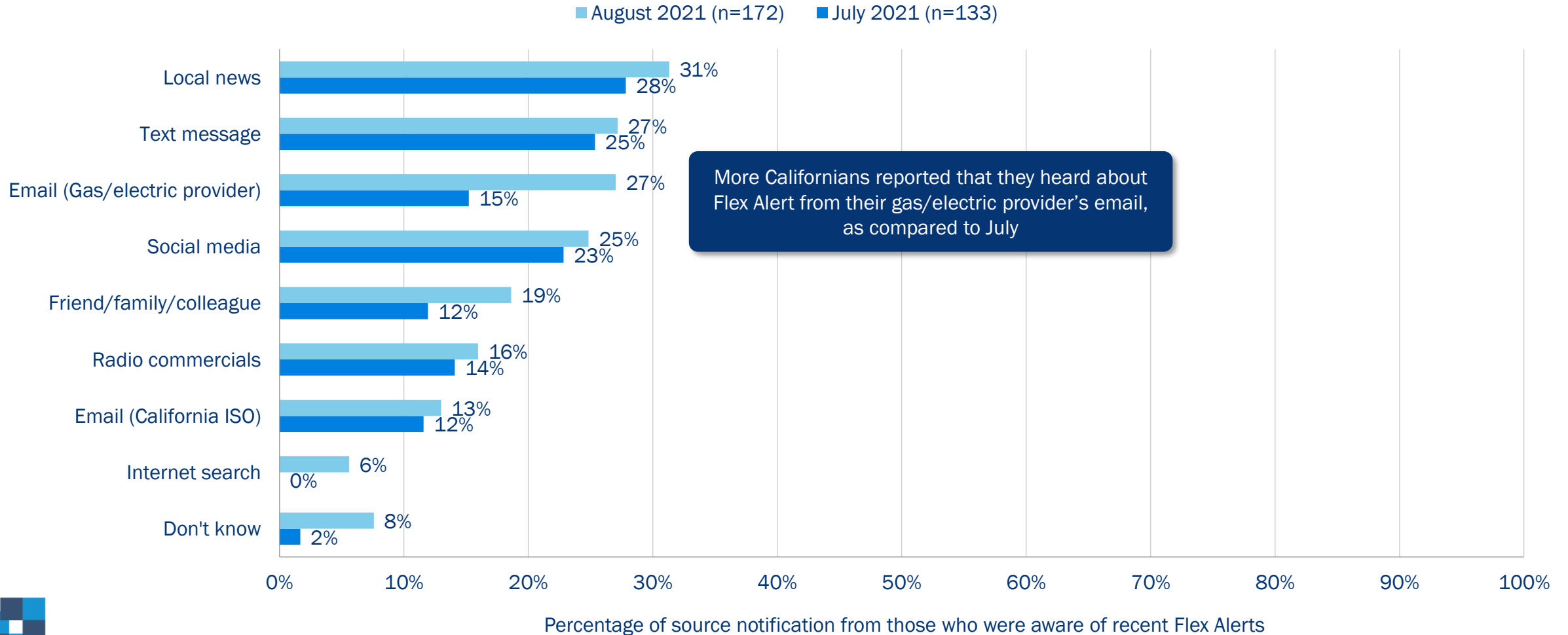
Received a Flex Alert

Over the past month, do you remember receiving a Flex Alert notification or hearing that a Flex Alert had been called?



Source of Flex Alert Notification

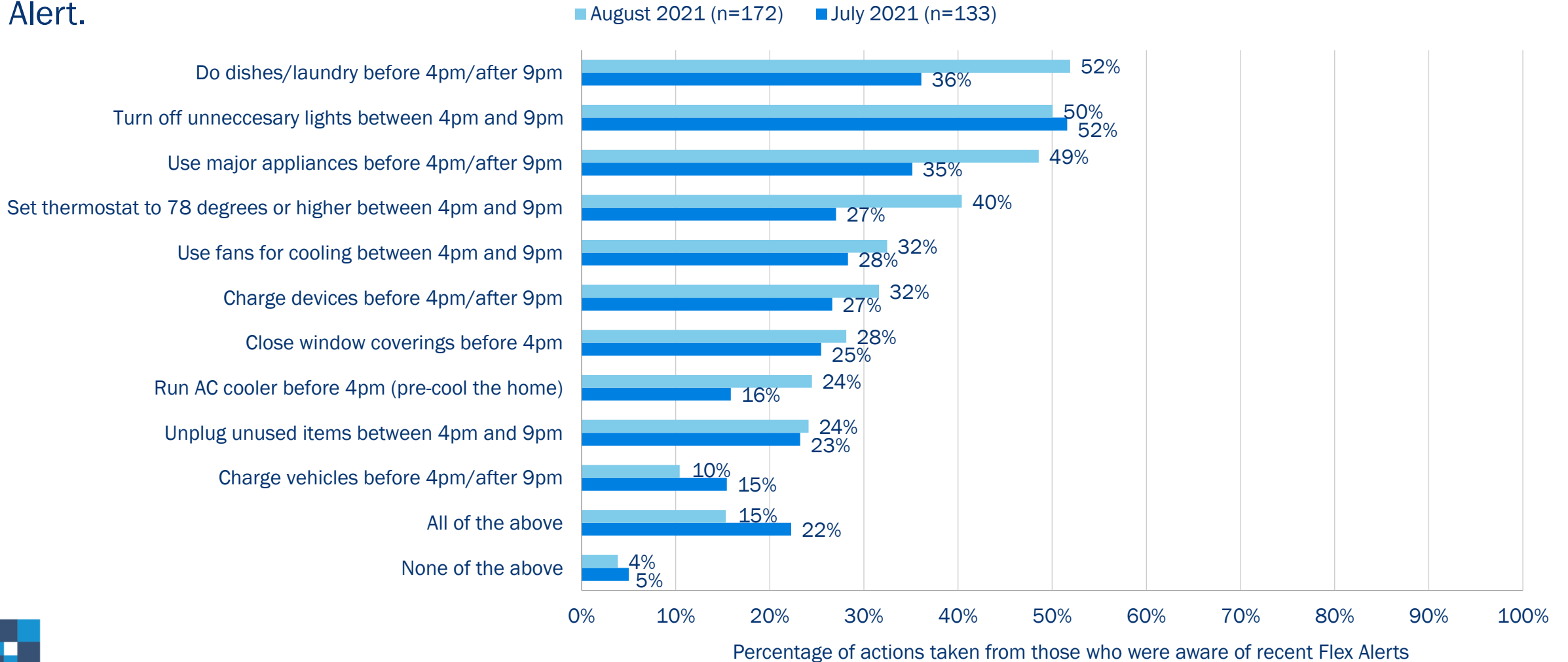
How did you receive the Flex Alert notification or hear that the Flex Alert had been called?



More Californians reported that they heard about Flex Alert from their gas/electric provider's email, as compared to July

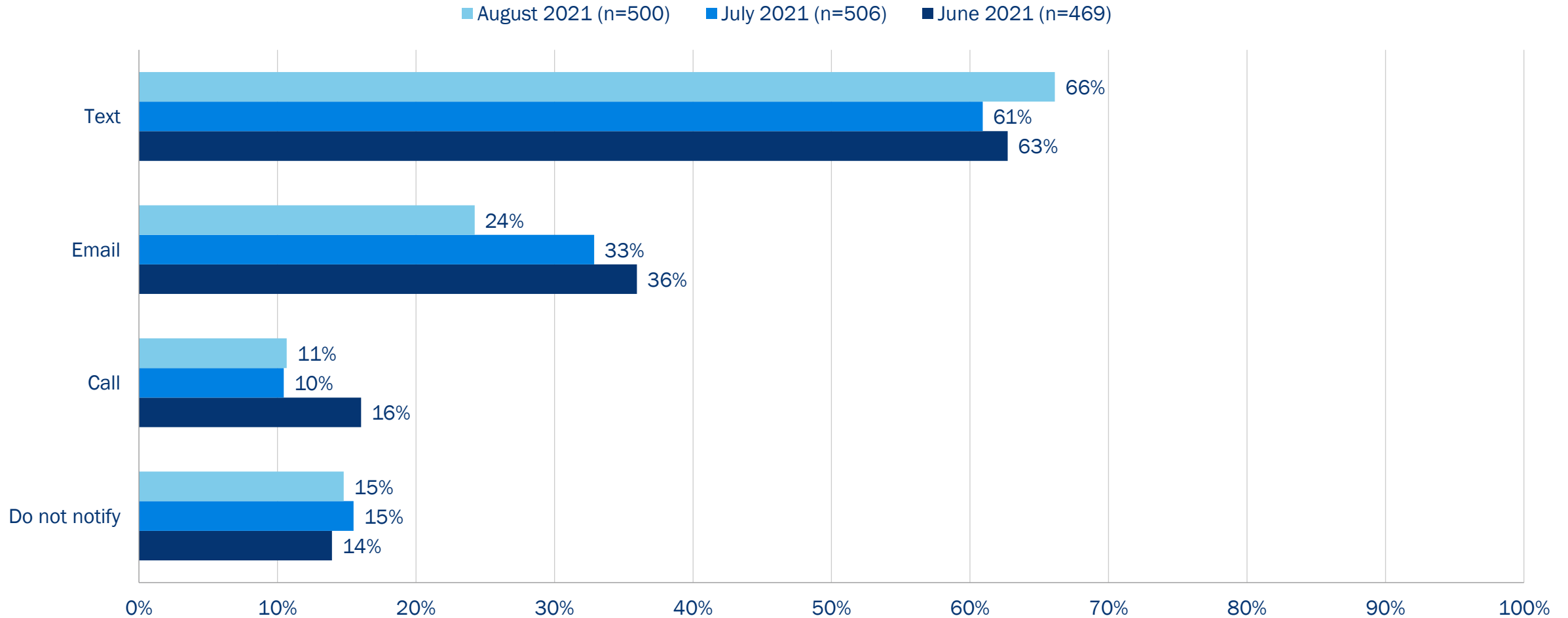
Actions Taken during Flex Alert

Please select all the actions you were able to take to alter or reduce your energy use during the Flex Alert.



Preferred Mode to Receive Upcoming Flex Alert Notification

How would you prefer to be notified about an upcoming Flex Alert?





Opinion **Dynamics**



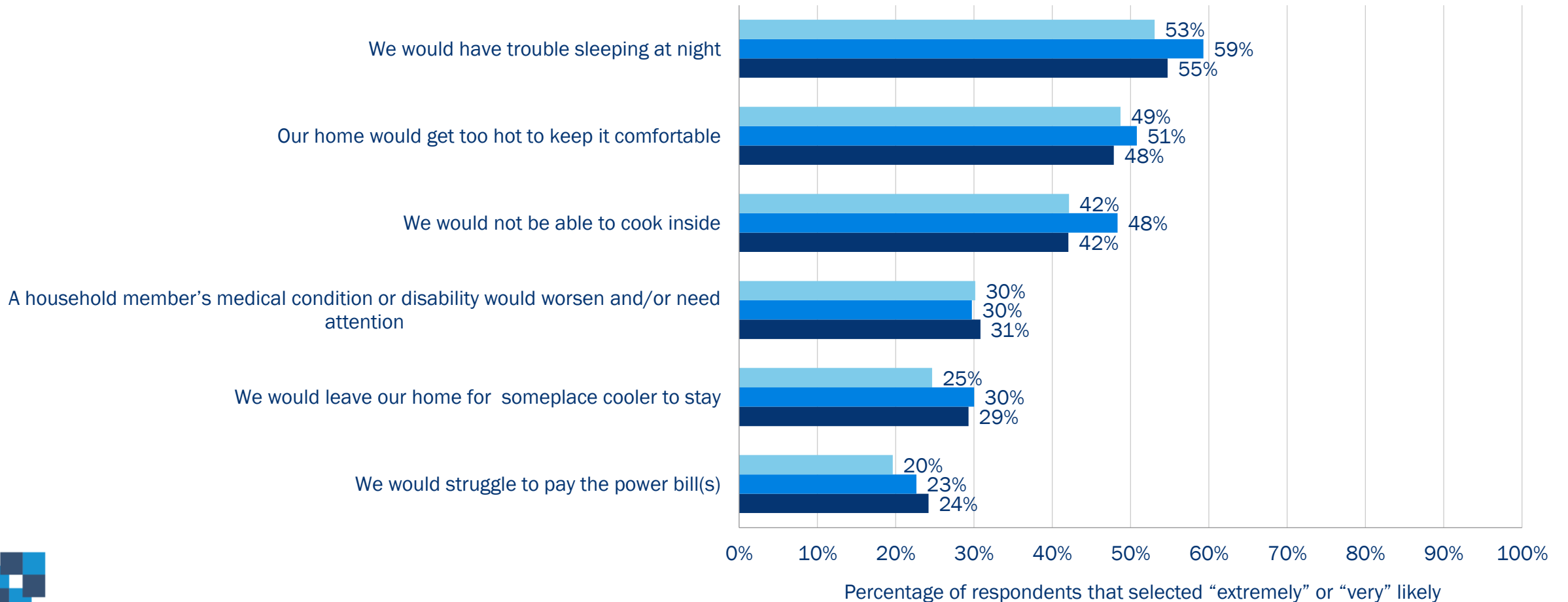
IMPACTS OF HEAT WAVES AND POWER OUTAGES



Heat Wave Impacts

Please indicate the likelihood that each of the following would occur in your household if a heat wave happened in your area.

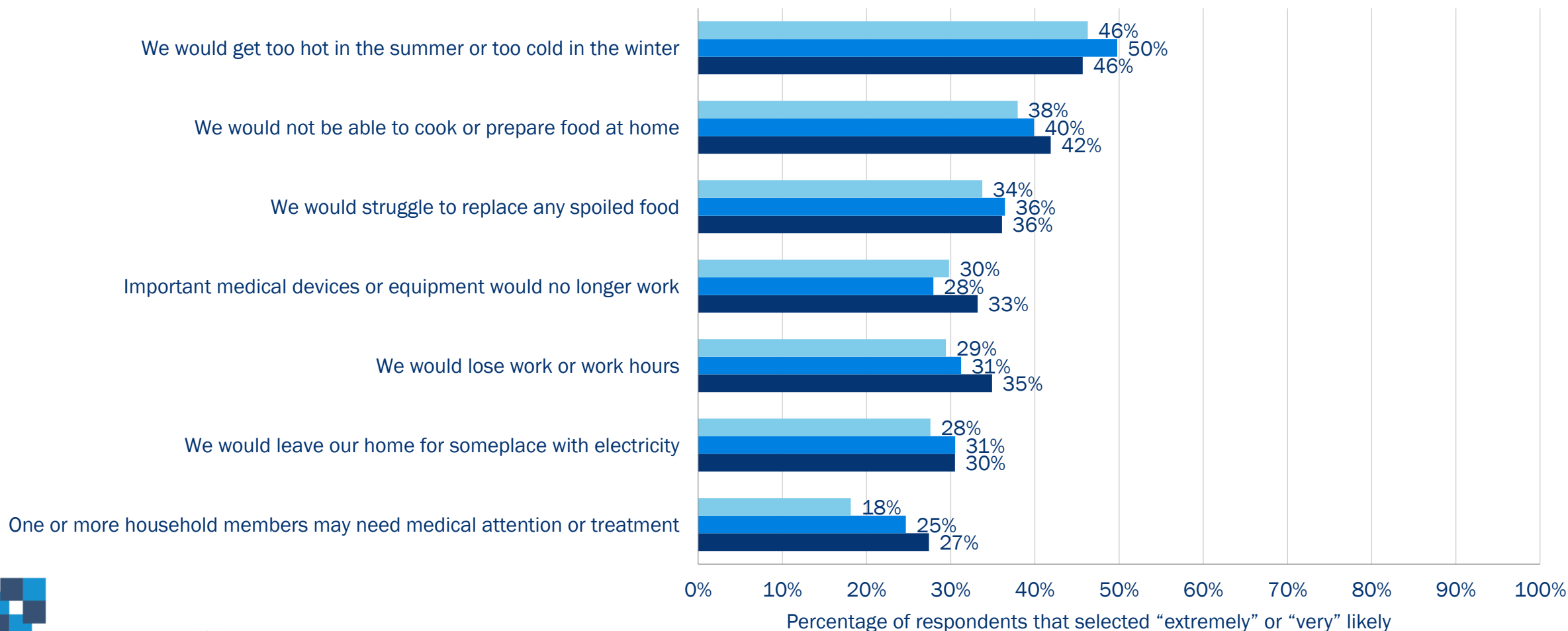
■ August 2021 (n=500) ■ July 2021 (n=506) ■ June 2021 (n=469)



Power Outage Impacts

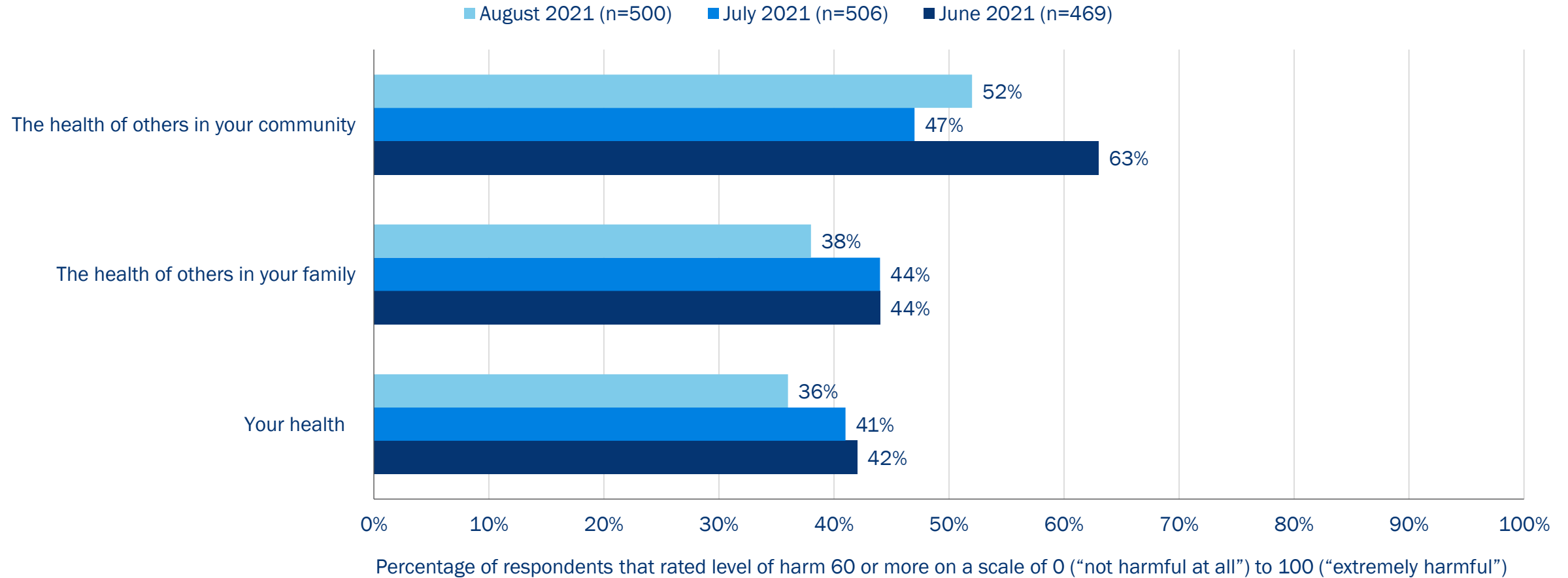
Please indicate the likelihood that each of the following would occur in your household if a power outage 24 hours or longer happened in your area.

■ August 2021 (n=500) ■ July 2021 (n=506) ■ June 2021 (n=469)



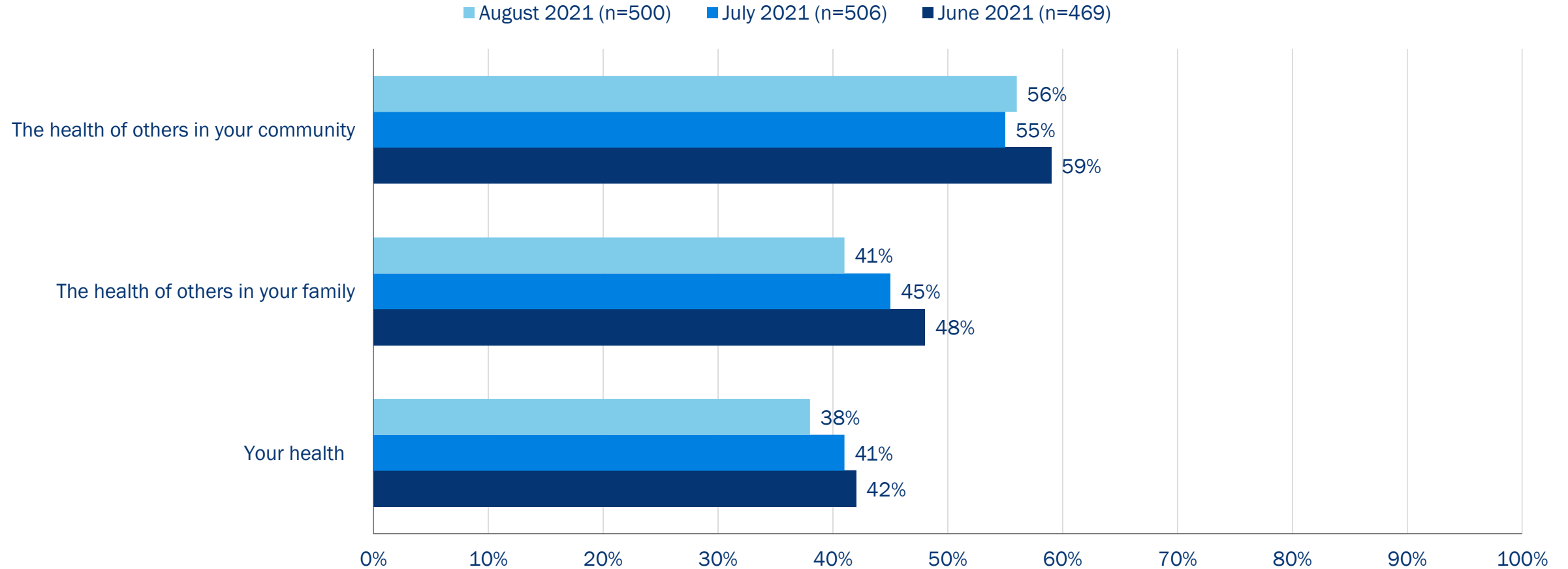
Level of Harm due to Power Outage

If a power outage due to a heat wave were to occur in your local area, how much, if at all, do you think it would harm the following?



Level of Worry about Effects of Power Outage

How worried, if at all, are you about the effects a power outage due to a heat wave on the following?



Percentage of respondents that rated level of worry 60 or more on a scale of 0 ("not worried at all") to 100 ("extremely worried")



Opinion **Dynamics**



FLEX ALERT INTENT



Likelihood of Taking Action during a Flex Alert

Please rate the likelihood of taking each action between 4 p.m. to 9 p.m. on hot days

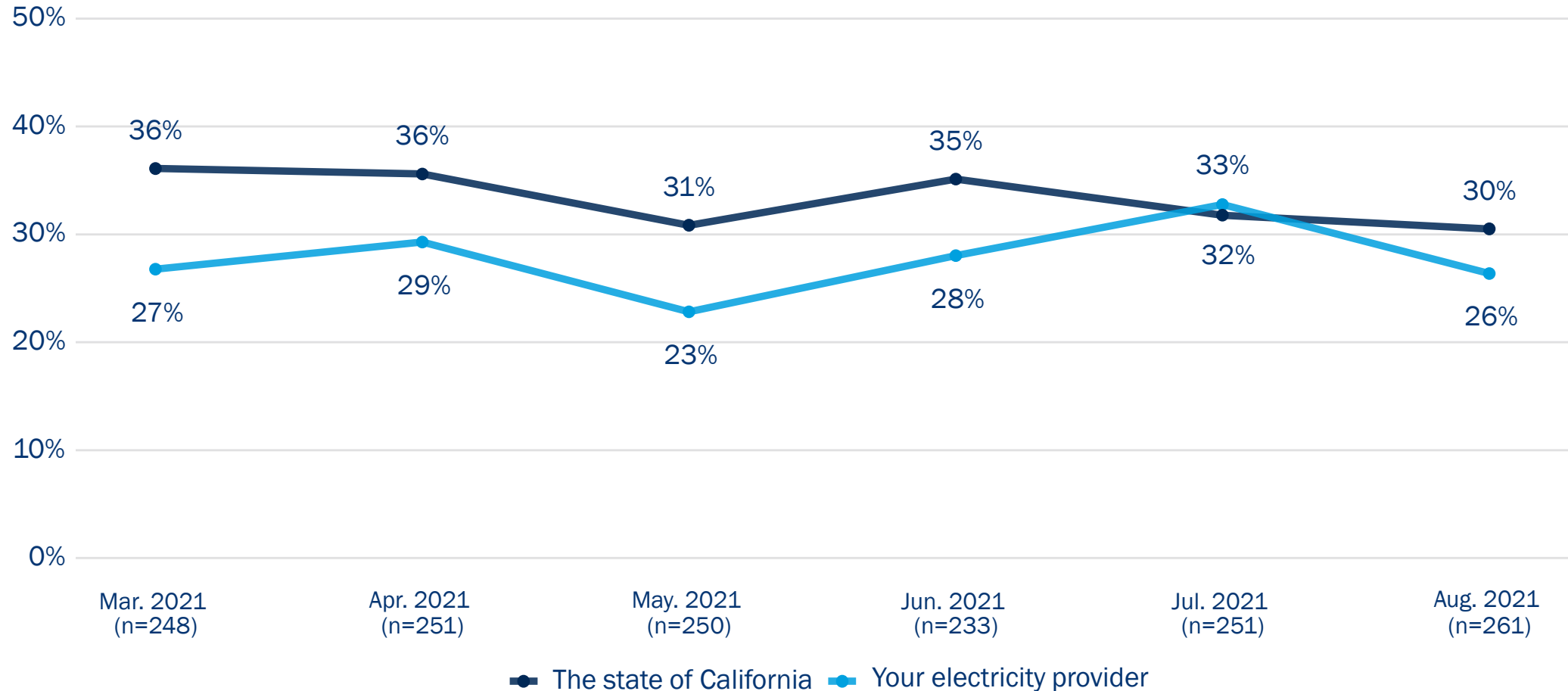
| Statement | Percentage of respondents that selected “extremely” or “very” likely | |
|--|--|---------------------|
| | July 2021 (n=506) | August 2021 (n=500) |
| Turn off all unnecessary lights between 4 p.m. and 9 p.m. | 77% | 73% |
| Close your window coverings before 4 p.m. | 66% | 67% |
| Do your dishes or laundry before 4 p.m. or after 9 p.m. | 66% | 65% |
| Charge your electronic devices before 4 p.m. or after 9 p.m. | 66% | 54% |
| Use fans for cooling between 4 p.m. and 9 p.m. | 62% | 55% |
| Use major appliances before 4 p.m. or after 9 p.m. | 57% | 58% |
| Unplug unused items between 4 p.m. and 9 p.m. | 57% | 53% |
| Pre-cool your home | 57% | 50% |
| Set thermostat to 78 degrees or higher between 4 p.m. and 9 p.m. | 51% | 52% |
| Run your AC cooler before 4 p.m. | 44% | 44% |
| Charge electric vehicles before 4 p.m. or after 9 p.m. | 24% | 23% |

Note: 1. The “pre-cool you home” statement was asked as a separate question, as the action needs to be taken before 4 p.m. instead of between 4 p.m. to 9 p.m.

2. We do not include a comparison to June because we changed some of the actions listed in the question for the subsequent waves

Likelihood to reduce electricity use

How likely would you be to reduce your electricity use if asked by the state/electricity provider?





Opinion **Dynamics**

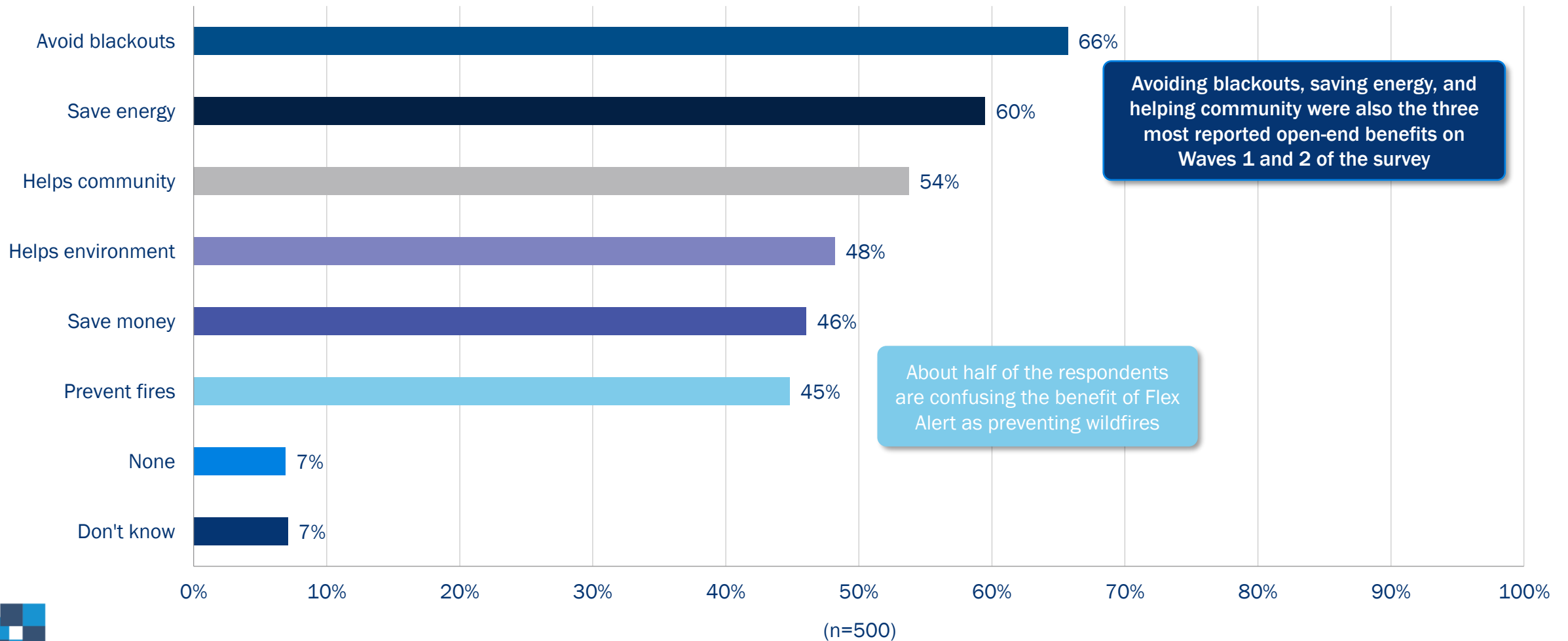


FLEX ALERT BENEFITS AND BARRIERS



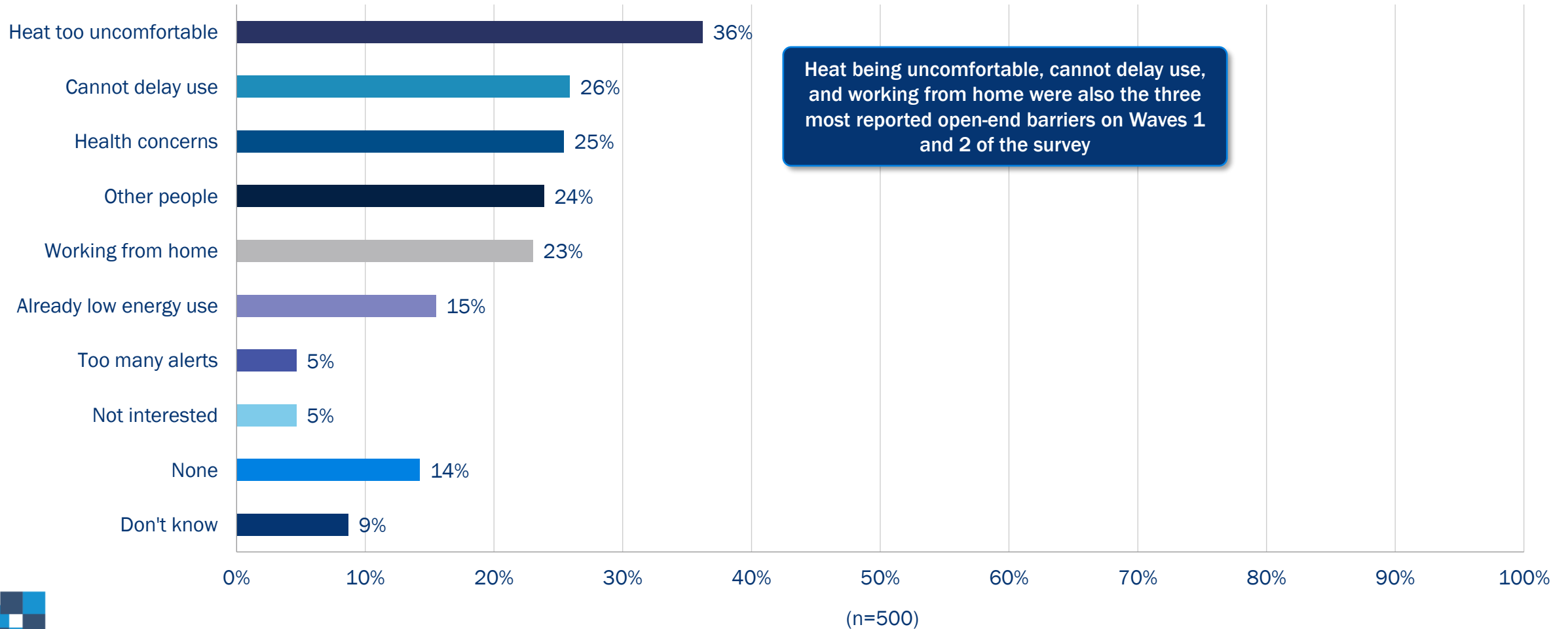
Flex Alert Benefits

What benefits do you see from taking action during a Flex Alert?



Flex Alert Barriers

What barriers do you see to taking action during a Flex Alert?





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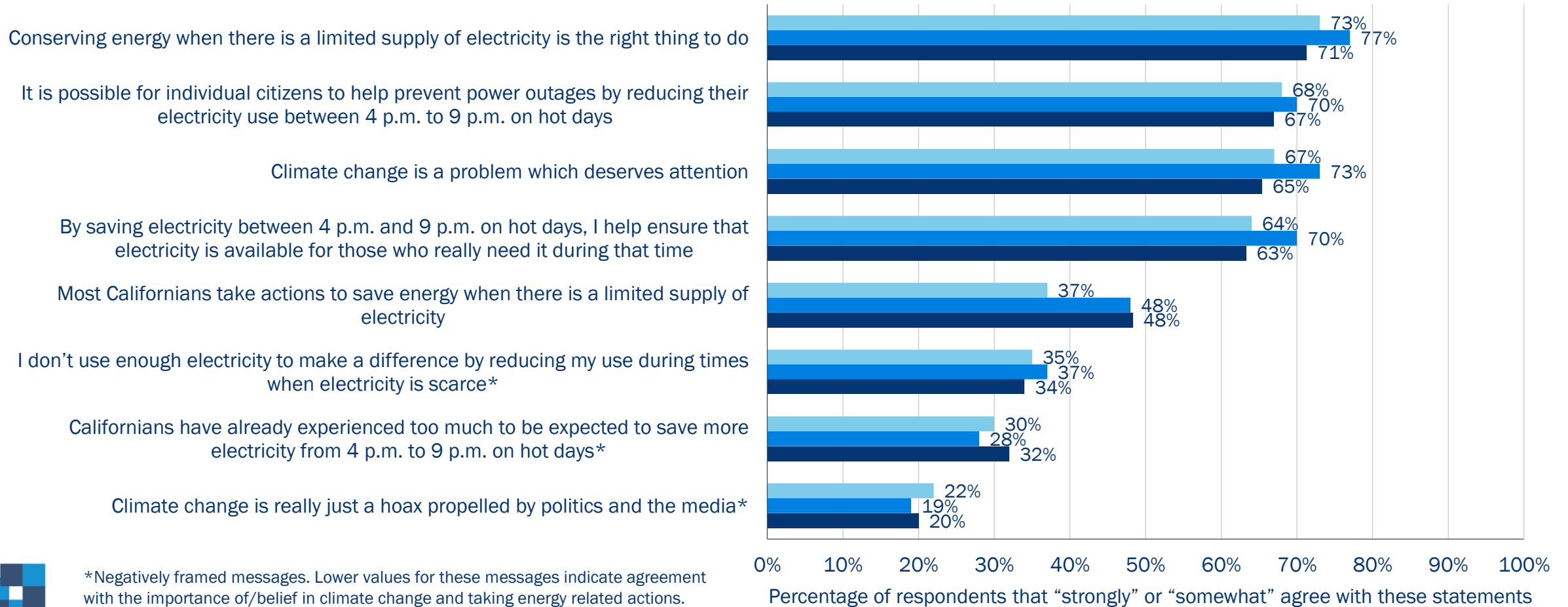
PSYCHOGRAPHICS



Agreement with Climate Change Statements

To what extent do you agree or disagree with the following statements?

■ August 2021 (n=500) ■ July 2021 (n=506) ■ June 2021 (n=469)



*Negatively framed messages. Lower values for these messages indicate agreement with the importance of/belief in climate change and taking energy related actions.



Opinion **Dynamics**

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